File: 16e\_GNB\_CH02\_TB, Chapter 2, Job-Order Costing: Calculating Unit Product Costs

**True/False**

[QUESTION]

1. A cost driver is a factor, such as machine-hours, beds occupied, computer time, or flight-hours, that causes direct costs.

Answer: F

Difficulty: 2 Medium

Learning Objective: 02-01

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

2. Job-order costing systems often use allocation bases that do not reflect how jobs actually use overhead resources.

Answer: T

Difficulty: 2 Medium

Learning Objective: 02-01

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

3. An employee time ticket is an hour-by-hour summary of the employee’s activities throughout the day.

Answer: T

Difficulty: 1 Easy

Learning Objective: 02-Other

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

4. The formula for computing the predetermined overhead rate is:

Predetermined overhead rate = Estimated total amount of the allocation base ÷ Estimated total manufacturing overhead cost

Answer: F

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Bloom’s: Remember

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

5. Generally speaking, when going through the process of computing a predetermined overhead rate, the estimated total manufacturing overhead cost is determined before estimating the amount of the allocation base.

Answer: F

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

6. If a job is not completed at year end, then no manufacturing overhead cost would be applied to that job when a predetermined overhead rate is used.

Answer: F

Difficulty: 2 Medium

Learning Objective: 02-02

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

7. Actual overhead costs are not assigned to jobs in a job costing system.

Answer: T

Difficulty: 1 Easy

Learning Objective: 02-02

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

8. The amount of overhead applied to a particular job equals the actual amount of overhead caused by the job.

Answer: F

Difficulty: 1 Easy

Learning Objective: 02-02

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

9. If the overhead rate is computed annually based on the actual costs and activity for the year, the manufacturing overhead assigned to any particular job can be computed as soon as the job is completed.

Answer: F

Difficulty: 1 Easy

Learning Objective: 02-02

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

10. Job cost sheets contain entries for actual direct material, actual direct labor, and actual manufacturing overhead cost incurred in completing a job.

Answer: F

Difficulty: 2 Medium

Learning Objective: 02-03

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

11. In a job-order cost system, indirect labor is assigned to a job using information from the employee time ticket.

Answer: F

Difficulty: 3 Hard

Learning Objective: 02-03

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

12. If the allocation base in the predetermined overhead rate does not drive overhead costs, it will nevertheless provide reasonably accurate unit product costs because of the averaging process.

Answer: F

Difficulty: 1 Easy

Learning Objective: 02-03

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

13. A job cost sheet is used to record how much a customer pays for the job once the job is completed.

Answer: F

Difficulty: 2 Medium

Learning Objective: 02-03

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

14. In a job-order costing system, costs are traced to individual units of product. The sum total of such traced costs is called the unit product cost.

Answer: F

Difficulty: 2 Medium

Learning Objective: 02-03

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

15. The fact that one department may be labor intensive while another department is machine intensive explains in part why multiple predetermined overhead rates are often used in larger companies.

Answer: T

Difficulty: 1 Easy

Learning Objective: 02-04

Topic Area:

Bloom’s: Remember

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

16. A company will improve job cost accuracy by using multiple overhead rates even if it cannot identify more than one overhead cost driver.

Answer: F

Difficulty: 2 Medium

Learning Objective: 02-04

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

17. The appeal of using multiple departmental overhead rates is that they presumably provide a more accurate accounting of the costs caused by jobs.

Answer: T

Difficulty: 1 Easy

Learning Objective: 02-04

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

18. The costs attached to products that have not been sold are included in ending inventory on the balance sheet.

Answer: T

Difficulty: 1 Easy

Learning Objective: 02-Other

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

19. In absorption costing, nonmanufacturing costs are assigned to units of product.

Answer: F

Difficulty: 1 Easy

Learning Objective: 02-Other

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

20. An employee time ticket is an hour-by-hour summary of the employee’s activities throughout the day.

Answer: T

Difficulty: 1 Easy

Learning Objective: 02-Other

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

21. A bill of materials is a document that lists the type and quantity of each type of direct material needed to complete a unit of product.

Answer: T

Difficulty: 1 Easy

Learning Objective: 02-Other

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

22. Most countries require some form of absorption costing for external reports.

Answer: T

Difficulty: 1 Easy

Learning Objective: 02-Other

Topic Area:

Bloom’s: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

**Multiple Choice**

[QUESTION]

23. In a job-order costing system that is based on machine-hours, which of the following formulas is correct?

A) Predetermined overhead rate = Actual manufacturing overhead ÷ Actual machine-hours

B) Predetermined overhead rate = Actual manufacturing overhead ÷ Estimated machine-hours

C) Predetermined overhead rate = Estimated manufacturing overhead ÷ Estimated machine-hours

D) Predetermined overhead rate = Estimated manufacturing overhead ÷ Actual machine-hours

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Remember

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

24. Which of the following is the correct formula to compute the predetermined overhead rate?

A) Predetermined overhead rate = Estimated total units in the allocation base ÷ Estimated total manufacturing overhead costs

B) Predetermined overhead rate = Estimated total manufacturing overhead costs ÷ Estimated total units in the allocation base

C) Predetermined overhead rate = Actual total manufacturing overhead costs ÷ Estimated total units in the allocation base

D) Predetermined overhead rate = Estimated total manufacturing overhead costs ÷ Actual total units in the allocation base.

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Remember

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

25. Assigning manufacturing overhead to a specific job is complicated by all of the below except:

A) Manufacturing overhead is an indirect cost that is either impossible or difficult to trace to a particular job.

B) Manufacturing overhead is incurred only to support some jobs.

C) Manufacturing overhead consists of both variable and fixed costs.

D) The average cost of actual fixed manufacturing overhead expenses will vary depending on how many units are produced in a period.

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-02

Topic Area:

Blooms: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

26. Which of the following statements about using a plantwide overhead rate based on direct labor is correct?

A) Using a plantwide overhead rate based on direct labor-hours will ensure that direct labor costs are correctly traced to jobs.

B) Using a plantwide overhead rate based on direct labor costs will ensure that direct labor costs will be correctly traced to jobs.

C) It is often overly simplistic and incorrect to assume that direct labor-hours is a company’s only manufacturing overhead cost driver.

D) The labor theory of value ensures that using a plantwide overhead rate based on direct labor will do a reasonably good job of assigning overhead costs to jobs.

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-03

Topic Area:

Blooms: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

27. Which of the following would usually be found on a job cost sheet under a normal cost system?

|  |  |  |
| --- | --- | --- |
|  | Actual direct material cost | Actual manufacturing overhead cost |
| A) | Yes | Yes |
| B) | Yes | No |
| C) | No | Yes |
| D) | No | No |

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-03

Topic Area:

Blooms: Remember

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

28. Which of the following statements is not correct concerning multiple overhead rate systems?

A) A multiple overhead rate system is more complex than a system based on a single plantwide overhead rate.

B) A multiple overhead rate system is usually more accurate than a system based on a single plantwide overhead rate.

C) A company may choose to create a separate overhead rate for each of its production departments.

D) In departments that are relatively labor-intensive, their overhead costs should be applied to jobs based on machine-hours rather than on direct labor-hours.

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-04

Topic Area:

Blooms: Understand

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

[QUESTION]

29. Johansen Corporation uses a predetermined overhead rate based on direct labor-hours to apply manufacturing overhead to jobs. The Corporation has provided the following estimated costs for the next year:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $6,000 |
|  | Direct labor | $20,000 |
|  | Rent on factory building | $15,000 |
|  | Sales salaries | $25,000 |
|  | Depreciation on factory equipment | $8,000 |
|  | Indirect labor | $12,000 |
|  | Production supervisor's salary | $15,000 |

Jameson estimates that 20,000 direct labor-hours will be worked during the year. The predetermined overhead rate per hour will be:

A) $2.00 per direct labor-hour

B) $2.79 per direct labor-hour

C) $3.00 per direct labor-hour

D) $4.00 per direct labor-hour

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

|  |  |  |
| --- | --- | --- |
|  | Rent on factory building | $15,000 |
|  | Depreciation on factory equipment | 8,000 |
|  | Indirect labor | 12,000 |
|  | Production supervisor's salary | 15,000 |
|  | Manufacturing overhead | $50,000 |

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base

Predetermined overhead rate = $50,000 ÷ 20,000 direct labor-hours = $2.50 per direct labor-hour

[QUESTION]

30. The Silver Corporation uses a predetermined overhead rate to apply manufacturing overhead to jobs. The predetermined overhead rate is based on labor cost in Dept. A and on machine-hours in Dept. B. At the beginning of the year, the Corporation made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Dept. A | Dept. B |
|  | Direct labor cost | $60,000 | $40,000 |
|  | Manufacturing overhead | $90,000 | $45,000 |
|  | Direct labor-hours | 6,000 | 9,000 |
|  | Machine-hours | 2,000 | 15,000 |

What predetermined overhead rates would be used in Dept. A and Dept. B, respectively?

A) 67% and $3.00

B) 150% and $5.00

C) 150% and $3.00

D) 67% and $5.00

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Dept. A

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base

Predetermined overhead rate = $90,000 ÷ $60,000 = 150% of direct labor cost

Dept. B

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base

Predetermined overhead rate = $45,000 ÷ 15,000 machine-hours = $3.00 per machine-hour

[QUESTION]

31. Purves Corporation is using a predetermined overhead rate that was based on estimated total fixed manufacturing overhead of $121,000 and 10,000 direct labor-hours for the period. The company incurred actual total fixed manufacturing overhead of $113,000 and 10,900 total direct labor-hours during the period. The predetermined overhead rate is closest to:

A) $10.37

B) $12.10

C) $11.10

D) $11.30

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

|  |  |  |
| --- | --- | --- |
|  | Estimated total fixed manufacturing overhead (a) | $121,000 |
|  | Estimated activity level (b) | 10,000 |
|  | Predetermined overhead rate (a) ÷ (b) | $12.10 |

[QUESTION]

32. Reamer Corporation uses a predetermined overhead rate based on machine-hours to apply manufacturing overhead to jobs. The Corporation has provided the following estimated costs for next year:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $1,000 |
|  | Direct labor | $3,000 |
|  | Sales commissions | $4,000 |
|  | Salary of production supervisor | $2,000 |
|  | Indirect materials | $400 |
|  | Advertising expense | $800 |
|  | Rent on factory equipment | $1,000 |

Reamer estimates that 500 direct labor-hours and 1,000 machine-hours will be worked during the year. The predetermined overhead rate per hour will be:

A) $6.80 per machine-hour

B) $6.00 per machine-hour

C) $3.00 per machine-hour

D) $3.40 per machine-hour

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

|  |  |  |
| --- | --- | --- |
|  | Salary of production supervisor | $2,000 |
|  | Indirect materials | 400 |
|  | Rent on factory equipment | 1,000 |
|  | Total manufacturing overhead | $3,400 |

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = $3,400 ÷ 1,000 machine-hours = $3.40 per machine-hour

[QUESTION]

33. Baj Corporation uses a predetermined overhead rate base on machine-hours that it recalculates at the beginning of each year. The company has provided the following data for the most recent year.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total fixed manufacturing overhead from the beginning of the year | $534,000 |  |
|  | Estimated activity level from the beginning of the year | 30,000 | machine-hours |
|  | Actual total fixed manufacturing overhead | $487,000 |  |
|  | Actual activity level | 27,400 | machine-hours |

The predetermined overhead rate per machine-hour would be closest to:

A) $17.80

B) $19.49

C) $16.23

D) $17.77

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

|  |  |  |
| --- | --- | --- |
|  | Estimated total fixed manufacturing overhead (a) | $534,000 |
|  | Estimated activity level (b) | 30,000 |
|  | Predetermined overhead rate (a) ÷ (b) | $17.80 |

[QUESTION]

34. Giannitti Corporation bases its predetermined overhead rate on the estimated machine-hours for the upcoming year. Data for the upcoming year appear below:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated machine-hours | 36,000 |  |
|  | Estimated variable manufacturing overhead | $3.01 | per machine-hour |
|  | Estimated total fixed manufacturing overhead | $1,058,040 |  |

The predetermined overhead rate for the recently completed year was closest to:

A) $29.39 per machine-hour

B) $32.40 per machine-hour

C) $32.81 per machine-hour

D) $3.01 per machine-hour

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Estimated total manufacturing overhead = $1,058,040 + ($3.01 per machine-hour × 36,000 machine-hours) = $1,166,400

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = $1,166,400 ÷ 36,000 machine-hours = $32.40 per machine-hour

[QUESTION]

35. Gilchrist Corporation bases its predetermined overhead rate on the estimated machine-hours for the upcoming year. At the beginning of the most recently completed year, the Corporation estimated the machine-hours for the upcoming year at 79,000 machine-hours. The estimated variable manufacturing overhead was $7.38 per machine-hour and the estimated total fixed manufacturing overhead was $2,347,090. The predetermined overhead rate for the recently completed year was closest to:

A) $37.09 per machine-hour

B) $36.07 per machine-hour

C) $7.38 per machine-hour

D) $29.71 per machine-hour

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Estimated total manufacturing overhead = $2,347,090 + ($7.38 per machine-hour × 79,000 machine-hours) = $2,930,110

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = $2,930,110 ÷ 79,000 machine-hours = $37.09 per machine-hour

[QUESTION]

36. Dearden Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of $144,000, variable manufacturing overhead of $2.00 per machine-hour, and 60,000 machine-hours. The predetermined overhead rate is closest to:

A) $2.40 per machine-hour

B) $6.40 per machine-hour

C) $4.40 per machine-hour

D) $2.00 per machine-hour

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $144,000 + ($2.00 per machine-hour × 60,000 machine-hours) = $144,000 + $120,000 = $264,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $264,000 ÷ 60,000 machine-hours = $4.40 per machine-hour

[QUESTION]

37. Longobardi Corporation bases its predetermined overhead rate on the estimated labor-hours for the upcoming year. At the beginning of the most recently completed year, the Corporation estimated the labor-hours for the upcoming year at 46,000 labor-hours. The estimated variable manufacturing overhead was $6.25 per labor-hour and the estimated total fixed manufacturing overhead was $1,026,260. The actual labor-hours for the year turned out to be 41,200 labor-hours. The predetermined overhead rate for the recently completed year was closest to:

A) $28.56 per labor-hour

B) $22.31 per labor-hour

C) $6.25 per labor-hour

D) $31.16 per labor-hour

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Estimated total manufacturing overhead = $1,026,260 + ($6.25 per labor-hour × 46,000 labor-hours) = $1,313,760

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = $1,313,760 ÷ 46,000 labor-hours = $28.56 per labor-hour

[QUESTION]

38. Valvano Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of $440,000, variable manufacturing overhead of $2.20 per machine-hour, and 50,000 machine-hours. The estimated total manufacturing overhead is closest to:

A) $440,000

B) $110,000

C) $440,002

D) $550,000

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $440,000 + ($2.20 per machine-hour × 50,000 machine-hours) = $440,000 + $110,000 = $550,000

[QUESTION]

39. Brothern Corporation bases its predetermined overhead rate on the estimated machine-hours for the upcoming year. Data for the most recently completed year appear below:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimates made at the beginning of the year: |  |  |
|  | Estimated machine-hours | 39,000 |  |
|  | Estimated variable manufacturing overhead | $6.76 | per machine-hour |
|  | Estimated total fixed manufacturing overhead | $794,430 |  |
|  | Actual machine-hours for the year | 42,700 |  |

The predetermined overhead rate for the recently completed year was closest to:

A) $25.37 per machine-hour

B) $27.13 per machine-hour

C) $6.76 per machine-hour

D) $20.37 per machine-hour

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Estimated total manufacturing overhead =$794,430 + ($6.76 per machine-hour × 39,000 machine-hours) = $1,058,070

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = $1,058,070 ÷ 39,000 machine-hours = $27.13 per machine-hour

[QUESTION]

40. Steele Corporation uses a predetermined overhead rate based on machine-hours to apply manufacturing overhead to jobs. Steele Corporation has provided the following estimated costs for next year:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $20,000 |
|  | Direct labor | $60,000 |
|  | Sales commissions | $80,000 |
|  | Salary of production supervisor | $40,000 |
|  | Indirect materials | $8,000 |
|  | Advertising expense | $16,000 |
|  | Rent on factory equipment | $20,000 |

Steele estimates that 10,000 direct labor-hours and 16,000 machine-hours will be worked during the year. The predetermined overhead rate per hour will be:

A) $4.25

B) $8.00

C) $9.00

D) $10.25

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

|  |  |  |
| --- | --- | --- |
|  | Salary of production supervisor | $40,000 |
|  | Indirect materials | 8,000 |
|  | Rent on factory equipment | 20,000 |
|  | Manufacturing overhead | $68,000 |

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base

Predetermined overhead rate = $68,000 ÷ 16,000 machine-hours = $4.25 per machine-hour

[QUESTION]

41. Helland Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total direct labor-hours | 30,000 |
|  | Total fixed manufacturing overhead cost | $189,000 |
|  | Variable manufacturing overhead per direct labor-hour | $2.50 |

The predetermined overhead rate is closest to:

A) $2.50 per direct labor-hour

B) $11.30 per direct labor-hour

C) $6.30 per direct labor-hour

D) $8.80 per direct labor-hour

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $189,000 + ($2.50 per direct labor-hour × 30,000 direct labor-hours) = $189,000 + $75,000 = $264,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $264,000 ÷ 30,000 direct labor-hours = $8.80 per direct labor-hour

[QUESTION]

42. Laflame Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 70,000 |
|  | Total fixed manufacturing overhead cost | $357,000 |
|  | Variable manufacturing overhead per machine-hour | $3.90 |

The estimated total manufacturing overhead is closest to:

A) $273,000

B) $630,000

C) $357,004

D) $357,000

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $357,000 + ($3.90 per machine-hour × 70,000 machine-hours) = $357,000 + $273,000 = $630,000

[QUESTION]

43. Almaraz Corporation has two manufacturing departments--Forming and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Forming | Finishing | Total |
|  | Estimated total machine-hours (MHs) | 7,000 | 3,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $40,600 | $8,100 | $48,700 |
|  | Estimated variable manufacturing overhead cost per MH | $1.30 | $2.80 |  |

Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. That predetermined manufacturing overhead rate is closest to:

A) $6.62

B) $4.87

C) $4.10

D) $7.10

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Forming

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $40,600 |
|  | Estimated variable manufacturing overhead ($1.30 per MH × 7,000 MHs) | 9,100 |
|  | Estimated total manufacturing overhead cost | $49,700 |

Finishing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $8,100 |
|  | Estimated variable manufacturing overhead ($2.80 per MH × 3,000 MHs) | 8,400 |
|  | Estimated total manufacturing overhead cost | $16,500 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($49,700 + $16,500 = $66,200) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $66,200 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $6.62 | per MH |

[QUESTION]

44. Bernson Corporation is using a predetermined overhead rate that was based on estimated total fixed manufacturing overhead of $492,000 and 30,000 machine-hours for the period. The company incurred actual total fixed manufacturing overhead of $517,000 and 28,300 total machine-hours during the period. The amount of manufacturing overhead that would have been applied to all jobs during the period is closest to:

A) $464,120

B) $492,000

C) $487,703

D) $25,000

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

|  |  |  |
| --- | --- | --- |
|  | Estimated total fixed manufacturing overhead (a) | $492,000 |
|  | Estimated activity level (b) | 30,000 |
|  | Predetermined overhead rate (a) ÷ (b) | $16.40 |
|  | Actual activity level | 28,300 |
|  | Manufacturing overhead applied | $464,120 |

[QUESTION]

45. Beat Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 40,000 |
|  | Total fixed manufacturing overhead cost | $344,000 |
|  | Variable manufacturing overhead per machine-hour | $3.90 |

Recently, Job M759 was completed. It required 60 machine-hours. The amount of overhead applied to Job M759 is closest to:

A) $750

B) $516

C) $984

D) $234

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $344,000 + ($3.90 per machine-hour × 40,000 machine-hours) = $344,000 + $156,000 = $500,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $500,000 ÷ 40,000 machine-hours = $12.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $12.50 per machine-hour × 60 machine-hours = $750

[QUESTION]

46. Mundorf Corporation has two manufacturing departments--Forming and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Forming | Assembly | Total |
|  | Estimated total machine-hours (MHs) | 9,000 | 1,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $52,200 | $2,400 | $54,600 |
|  | Estimated variable manufacturing overhead cost per MH | $2.00 | $2.10 |  |

During the most recent month, the company started and completed two jobs--Job B and Job H. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job B | Job H |
|  | Forming machine-hours | 6,100 | 2,900 |
|  | Assembly machine-hours | 400 | 600 |

Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. The amount of manufacturing overhead applied to Job B is closest to:

A) $48,555

B) $35,490

C) $2,988

D) $45,567

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Forming

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $52,200 |
|  | Estimated variable manufacturing overhead ($2.00 per MH × 9,000 MHs) | 18,000 |
|  | Estimated total manufacturing overhead cost | $70,200 |

Assembly

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $2,400 |
|  | Estimated variable manufacturing overhead ($2.10 per MH × 1,000 MHs) | 2,100 |
|  | Estimated total manufacturing overhead cost | $4,500 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($70,200 + $4,500 = $74,700) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $74,700 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $7.47 | per MH |

The overhead applied to Job B is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $7.47 per MH x (6,100 MHs + 400 MHs)

= $7.47 per MH x (6,500 MHs)

= $48,555

[QUESTION]

47. Parido Corporation has two manufacturing departments--Casting and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Casting | Assembly | Total |
|  | Estimated total machine-hours (MHs) | 8,000 | 2,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $44,000 | $4,200 | $48,200 |
|  | Estimated variable manufacturing overhead cost per MH | $1.90 | $3.00 |  |

During the most recent month, the company started and completed two jobs--Job A and Job H. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job A | Job H |
|  | Casting machine-hours | 5,400 | 2,600 |
|  | Assembly machine-hours | 800 | 1,200 |

Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. The amount of manufacturing overhead applied to Job H is closest to:

A) $8,328

B) $26,372

C) $18,316

D) $18,044

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Casting

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $44,000 |
|  | Estimated variable manufacturing overhead ($1.90 per MH × 8,000 MHs) | 15,200 |
|  | Estimated total manufacturing overhead cost | $59,200 |

Assembly

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $4,200 |
|  | Estimated variable manufacturing overhead ($3.00 per MH × 2,000 MHs) | 6,000 |
|  | Estimated total manufacturing overhead cost | $10,200 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($59,200 + $10,200 = $69,400) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $69,400 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $6.94 | per MH |

The overhead applied to Job H is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $6.94 per MH x (2,600 MHs + 1,200 MHs)

= $6.94 per MH x (3,800 MHs)

= $26,372

[QUESTION]

48. Juanita Corporation uses a job-order costing system and applies overhead on the basis of direct labor cost. At the end of October, Juanita had one job still in process. The job cost sheet for this job contained the following information:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $480 |
|  | Direct labor | $150 |
|  | Manufacturing overhead applied | $600 |

An additional $100 of labor was needed in November to complete this job. For this job, how much should Juanita have transferred to finished goods inventory in November when it was completed?

A) $1,330

B) $500

C) $1,230

D) $1,730

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Overhead applied = Predetermined overhead rate × Amount of the allocation base incurred

$600 = Predetermined overhead rate × $150

Predetermined overhead rate = $600 ÷ $150 = 4.0

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $480 |
|  | Direct labor ($150 + $100) | 250 |
|  | Manufacturing overhead applied (4.0 × $250) | 1,000 |
|  | Total product cost | $1,730 |

[QUESTION]

49. Carradine Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of $105,000, variable manufacturing overhead of $3.00 per machine-hour, and 70,000 machine-hours. The company recently completed Job P233 which required 60 machine-hours. The amount of overhead applied to Job P233 is closest to:

A) $90

B) $270

C) $450

D) $180

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $105,000 + ($3.00 per machine-hour × 70,000 machine-hours) = $105,000 + $210,000 = $315,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $315,000 ÷ 70,000 machine-hours = $4.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $4.50 per machine-hour × 60 machine-hours = $270

[QUESTION]

50. Fusaro Corporation uses a predetermined overhead rate base on machine-hours that it recalculates at the beginning of each year. The company has provided the following data for the most recent year.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total fixed manufacturing overhead from the beginning of the year | $684,000 |  |
|  | Estimated activity level from the beginning of the year | 40,000 | machine-hours |
|  | Actual total fixed manufacturing overhead | $616,000 |  |
|  | Actual activity level | 37,700 | machine-hours |

The amount of manufacturing overhead that would have been applied to all jobs during the period is closest to:

A) $644,670

B) $684,000

C) $68,000

D) $580,580

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

|  |  |  |
| --- | --- | --- |
|  | Estimated total fixed manufacturing overhead (a) | $684,000 |
|  | Estimated activity level (b) | 40,000 |
|  | Predetermined overhead rate (a) ÷ (b) | $17.10 |
|  | Actual activity level | 37,700 |
|  | Manufacturing overhead applied | $644,670 |

[QUESTION]

51. Koelsch Corporation has two manufacturing departments--Molding and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Molding | Customizing | Total |
|  | Estimated total machine-hours (MHs) | 1,000 | 9,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $4,000 | $25,200 | $29,200 |
|  | Estimated variable manufacturing overhead cost per MH | $2.00 | $3.00 |  |

During the most recent month, the company started and completed two jobs--Job F and Job K. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job F | Job K |
|  | Direct materials | $12,300 | $8,400 |
|  | Direct labor cost | $18,200 | $6,800 |
|  | Molding machine-hours | 700 | 300 |
|  | Customizing machine-hours | 3,600 | 5,400 |

Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 50% on manufacturing cost to establish selling prices. The calculated selling price for Job K is closest to:

A) $72,561

B) $79,817

C) $24,187

D) $48,374

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Molding

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $4,000 |
|  | Estimated variable manufacturing overhead ($2.00 per MH × 1,000 MHs) | 2,000 |
|  | Estimated total manufacturing overhead cost | $6,000 |

Customizing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $25,200 |
|  | Estimated variable manufacturing overhead ($3.00 per MH × 9,000 MHs) | 27,000 |
|  | Estimated total manufacturing overhead cost | $52,200 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($6,000 + $52,200 = $58,200) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $58,200 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $5.82 | per MH |

The overhead applied to Job K is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.82 per MH x (300 MHs + 5,400 MHs)

= $5.82 per MH x (5,700 MHs)

= $33,174

Job K’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $8,400 |
|  | Direct labor cost | 6,800 |
|  | Manufacturing overhead applied | 33,174 |
|  | Total manufacturing cost | $48,374 |

The selling price for Job K:

|  |  |  |
| --- | --- | --- |
|  | Total manufacturing cost | $48,374 |
|  | Markup (50%) | 24,187 |
|  | Selling price | $72,561 |

[QUESTION]

52. Thach Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of $665,000, variable manufacturing overhead of $3.00 per machine-hour, and 70,000 machine-hours. Recently, Job T321 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 30 |
|  | Total machine-hours | 90 |
|  | Direct materials | $630 |
|  | Direct labor cost | $2,880 |

The unit product cost for Job T321 is closest to:

A) $117.00

B) $58.50

C) $154.50

D) $51.50

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $665,000 + ($3.00 per machine-hour × 70,000 machine-hours) = $665,000 + $210,000 = $875,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $875,000 ÷ 70,000 machine-hours = $12.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $12.50 per machine-hour × 90 machine-hours = $1,125

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $630 |
|  | Direct labor | 2,880 |
|  | Manufacturing overhead applied | 1,125 |
|  | Total cost of Job T321 | $4,635 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job T321 (a) | $4,635 |
|  | Number of units (b) | 30 |
|  | Unit product cost (a) ÷ (b) | $154.50 |

[QUESTION]

53. Tancredi Corporation has two manufacturing departments--Machining and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Machining | Customizing | Total |
|  | Estimated total machine-hours (MHs) | 5,000 | 5,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $22,000 | $11,500 | $33,500 |
|  | Estimated variable manufacturing overhead cost per MH | $1.80 | $3.00 |  |

During the most recent month, the company started and completed two jobs--Job E and Job J. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job E | Job J |
|  | Direct materials | $12,800 | $7,000 |
|  | Direct labor cost | $17,600 | $7,700 |
|  | Machining machine-hours | 3,400 | 1,600 |
|  | Customizing machine-hours | 2,000 | 3,000 |

Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. If both jobs are sold during the month, the company's cost of goods sold for the month would be closest to:

A) $61,450

B) $41,150

C) $110,808

D) $102,600

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $22,000 |
|  | Estimated variable manufacturing overhead ($1.80 per MH × 5,000 MHs) | 9,000 |
|  | Estimated total manufacturing overhead cost | $31,000 |

Customizing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $11,500 |
|  | Estimated variable manufacturing overhead ($3.00 per MH × 5,000 MHs) | 15,000 |
|  | Estimated total manufacturing overhead cost | $26,500 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($31,000 + $26,500 = $57,500) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $57,500 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $5.75 | per MH |

The overhead applied to Job E is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.75 per MH x (3,400 MHs + 2,000 MHs)

= $5.75 per MH x (5,400 MHs)

= $31,050

Job E’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $12,800 |
|  | Direct labor cost | 17,600 |
|  | Manufacturing overhead applied | 31,050 |
|  | Total manufacturing cost | $61,450 |

The overhead applied to Job J is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.75 per MH x (1,600 MHs + 3,000 MHs)

= $5.75 per MH x (4,600 MHs)

= $26,450

Job J’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $7,000 |
|  | Direct labor cost | 7,700 |
|  | Manufacturing overhead applied | 26,450 |
|  | Total manufacturing cost | $41,150 |

|  |  |  |
| --- | --- | --- |
|  | Total manufacturing cost assigned to Job E | $61,450 |
|  | Total manufacturing cost assigned to Job J | 41,150 |
|  | Cost of goods sold | $102,600 |

[QUESTION]

54. Session Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total direct labor-hours | 70,000 |
|  | Total fixed manufacturing overhead cost | $511,000 |
|  | Variable manufacturing overhead per direct labor-hour | $2.10 |

Recently, Job K913 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Total direct labor-hours | 150 |
|  | Direct materials | $705 |
|  | Direct labor cost | $4,650 |

The total job cost for Job K913 is closest to:

A) $6,060

B) $2,115

C) $6,765

D) $5,355

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $511,000 + ($2.10 per direct labor-hour × 70,000 direct labor-hours) = $511,000 + $147,000 = $658,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $658,000 ÷ 70,000 direct labor-hours = $9.40 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $9.40 per direct labor-hour × 150 direct labor-hours = $1,410

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $705 |
|  | Direct labor | 4,650 |
|  | Manufacturing overhead applied | 1,410 |
|  | Total cost of Job K913 | $6,765 |

[QUESTION]

55. Pebbles Corporation has two manufacturing departments--Casting and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Casting | Finishing | Total |
|  | Estimated total machine-hours (MHs) | 2,000 | 3,000 | 5,000 |
|  | Estimated total fixed manufacturing overhead cost | $9,800 | $6,300 | $16,100 |
|  | Estimated variable manufacturing overhead cost per MH | $2.00 | $2.40 |  |

During the most recent month, the company started and completed two jobs--Job A and Job L. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job A | Job L |
|  | Direct materials | $15,400 | $9,600 |
|  | Direct labor cost | $24,900 | $6,200 |
|  | Casting machine-hours | 1,400 | 600 |
|  | Finishing machine-hours | 1,200 | 1,800 |

Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. The total manufacturing cost assigned to Job L is closest to:

A) $9,600

B) $6,200

C) $28,904

D) $13,104

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Casting

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $9,800 |
|  | Estimated variable manufacturing overhead ($2.00 per MH × 2,000 MHs) | 4,000 |
|  | Estimated total manufacturing overhead cost | $13,800 |

Finishing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $6,300 |
|  | Estimated variable manufacturing overhead ($2.40 per MH × 3,000 MHs) | 7,200 |
|  | Estimated total manufacturing overhead cost | $13,500 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($13,800 + $13,500 = $27,300) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $27,300 |  |
|  | Estimated total machine hours | 5,000 | MHs |
|  | Predetermined overhead rate | $5.46 | per MH |

The overhead applied to Job L is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.46 per MH x (600 MHs + 1,800 MHs)

= $5.46 per MH x (2,400 MHs)

= $13,104

Job L’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $9,600 |
|  | Direct labor cost | 6,200 |
|  | Manufacturing overhead applied | 13,104 |
|  | Total manufacturing cost | $28,904 |

[QUESTION]

56. Stockmaster Corporation has two manufacturing departments--Forming and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Forming | Assembly | Total |
|  | Estimated total machine-hours (MHs) | 5,000 | 5,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $27,000 | $10,500 | $37,500 |
|  | Estimated variable manufacturing overhead cost per MH | $1.10 | $2.80 |  |

During the most recent month, the company started and completed two jobs--Job C and Job H. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job C | Job H |
|  | Direct materials | $11,200 | $7,500 |
|  | Direct labor cost | $21,000 | $7,800 |
|  | Forming machine-hours | 3,400 | 1,600 |
|  | Assembly machine-hours | 2,000 | 3,000 |

Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 40% on manufacturing cost to establish selling prices. The calculated selling price for Job C is closest to:

A) $96,989

B) $88,172

C) $25,192

D) $62,980

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Forming

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $27,000 |
|  | Estimated variable manufacturing overhead ($1.10 per MH × 5,000 MHs) | 5,500 |
|  | Estimated total manufacturing overhead cost | $32,500 |

Assembly

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $10,500 |
|  | Estimated variable manufacturing overhead ($2.80 per MH × 5,000 MHs) | 14,000 |
|  | Estimated total manufacturing overhead cost | $24,500 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($32,500 + $24,500 = $57,000) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $57,000 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $5.70 | per MH |

The overhead applied to Job C is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.70 per MH x (3,400 MHs + 2,000 MHs)

= $5.70 per MH x (5,400 MHs)

= $30,780

Job C’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $11,200 |
|  | Direct labor cost | 21,000 |
|  | Manufacturing overhead applied | 30,780 |
|  | Total manufacturing cost | $62,980 |

The selling price for Job C:

|  |  |  |
| --- | --- | --- |
|  | Total manufacturing cost | $62,980 |
|  | Markup (40%) | 25,192 |
|  | Selling price | $88,172 |

[QUESTION]

57. Atteberry Corporation has two manufacturing departments--Machining and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Machining | Finishing | Total |
|  | Estimated total machine-hours (MHs) | 6,000 | 4,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $30,000 | $11,200 | $41,200 |
|  | Estimated variable manufacturing overhead cost per MH | $2.00 | $2.40 |  |

During the most recent month, the company started and completed two jobs--Job E and Job L. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job E | Job L |
|  | Direct materials | $13,400 | $9,100 |
|  | Direct labor cost | $24,500 | $7,000 |
|  | Machining machine-hours | 4,100 | 1,900 |
|  | Finishing machine-hours | 1,600 | 2,400 |

Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. The total manufacturing cost assigned to Job E is closest to:

A) $24,500

B) $35,796

C) $13,400

D) $73,696

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Fee The first step is to calculate the estimated total overhead costs in the two departments.

Machining

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $30,000 |
|  | Estimated variable manufacturing overhead ($2.00 per MH × 6,000 MHs) | 12,000 |
|  | Estimated total manufacturing overhead cost | $42,000 |

Finishing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $11,200 |
|  | Estimated variable manufacturing overhead ($2.40 per MH × 4,000 MHs) | 9,600 |
|  | Estimated total manufacturing overhead cost | $20,800 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($42,000 + $20,800 = $62,800) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $62,800 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $6.28 | per MH |

The overhead applied to Job E is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $6.28 per MH x (4,100 MHs + 1,600 MHs)

= $6.28 per MH x (5,700 MHs)

= $35,796

Job E’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $13,400 |
|  | Direct labor cost | 24,500 |
|  | Manufacturing overhead applied | 35,796 |
|  | Total manufacturing cost | $73,696 |

[QUESTION]

58. Coates Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of $249,000, variable manufacturing overhead of $3.80 per machine-hour, and 30,000 machine-hours. The company has provided the following data concerning Job X784 which was recently completed:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 50 |
|  | Total machine-hours | 250 |
|  | Direct materials | $470 |
|  | Direct labor cost | $5,500 |

If the company marks up its unit product costs by 30% then the selling price for a unit in Job X784 is closest to:

A) $253.87

B) $233.87

C) $53.97

D) $155.22

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $249,000 + ($3.80 per machine-hour × 30,000 machine-hours) = $249,000 + $114,000 = $363,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $363,000 ÷ 30,000 machine-hours = $12.10 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $12.10 per machine-hour × 250 machine-hours = $3,025

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $470 |
|  | Direct labor | 5,500 |
|  | Manufacturing overhead applied | 3,025 |
|  | Total cost of Job X784 | $8,995 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job X784 (a) | $8,995 |
|  | Number of units (b) | 50 |
|  | Unit product cost (a) ÷ (b) | $179.90 |

|  |  |  |
| --- | --- | --- |
|  | Unit product cost for Job X784 | $179.90 |
|  | Markup (30% × $179.90) | 53.97 |
|  | Selling price | $233.87 |

[QUESTION]

59. Sutter Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 10,000 |
|  | Total fixed manufacturing overhead cost | $35,000 |
|  | Variable manufacturing overhead per machine-hour | $2.20 |

Recently, Job T369 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 10 |
|  | Total machine-hours | 40 |
|  | Direct materials | $750 |
|  | Direct labor cost | $1,560 |

If the company marks up its unit product costs by 20% then the selling price for a unit in Job T369 is closest to:

A) $324.56

B) $304.56

C) $277.20

D) $50.76

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $35,000 + ($2.20 per machine-hour × 10,000 machine-hours) = $35,000 + $22,000 = $57,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $57,000 ÷ 10,000 machine-hours = $5.70 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $5.70 per machine-hour × 40 machine-hours = $228

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $750 |
|  | Direct labor | 1,560 |
|  | Manufacturing overhead applied | 228 |
|  | Total cost of Job T369 | $2,538 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job T369 (a) | $2,538 |
|  | Number of units (b) | 10 |
|  | Unit product cost (a) ÷ (b) | $253.80 |

|  |  |  |
| --- | --- | --- |
|  | Unit product cost for Job T369 | $253.80 |
|  | Markup (20% × $253.80) | 50.76 |
|  | Selling price | $304.56 |

[QUESTION]

60. Doakes Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total direct labor-hours | 60,000 |
|  | Total fixed manufacturing overhead cost | $378,000 |
|  | Variable manufacturing overhead per direct labor-hour | $2.20 |

Recently, Job M843 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 60 |
|  | Total direct labor-hours | 120 |
|  | Direct materials | $630 |
|  | Direct labor cost | $2,400 |

The unit product cost for Job M843 is closest to:

A) $33.75

B) $67.50

C) $27.50

D) $50.50

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $378,000 + ($2.20 per direct labor-hour × 60,000 direct labor-hours) = $378,000 + $132,000 = $510,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $510,000 ÷ 60,000 direct labor-hours = $8.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $8.50 per direct labor-hour × 120 direct labor-hours = $1,020

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $630 |
|  | Direct labor | 2,400 |
|  | Manufacturing overhead applied | 1,020 |
|  | Total cost of Job M843 | $4,050 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job M843 (a) | $4,050 |
|  | Number of units (b) | 60 |
|  | Unit product cost (a) ÷ (b) | $67.50 |

[QUESTION]

61. Placker Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of $155,000, variable manufacturing overhead of $3.40 per machine-hour, and 50,000 machine-hours. Recently, Job A881 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 100 |
|  | Direct materials | $645 |
|  | Direct labor cost | $2,300 |

The total job cost for Job A881 is closest to:

A) $3,595

B) $2,945

C) $2,950

D) $1,295

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $155,000 + ($3.40 per machine-hour × 50,000 machine-hours) = $155,000 + $170,000 = $325,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $325,000 ÷ 50,000 machine-hours = $6.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $6.50 per machine-hour × 100 machine-hours = $650

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $645 |
|  | Direct labor | 2,300 |
|  | Manufacturing overhead applied | 650 |
|  | Total cost of Job A881 | $3,595 |

[QUESTION]

62. Tomey Corporation has two production departments, Forming and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department’s predetermined overhead rate is based on machine-hours and the Finishing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Forming | Finishing |
|  | Machine-hours | 18,000 | 14,000 |
|  | Direct labor-hours | 2,000 | 8,000 |
|  | Total fixed manufacturing overhead cost | $99,000 | $70,400 |
|  | Variable manufacturing overhead per machine-hour | $2.10 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.70 |

During the current month the company started and finished Job T617. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job T617: | Forming | Finishing |
|  | Machine-hours | 90 | 20 |
|  | Direct labor-hours | 30 | 60 |
|  | Direct materials | $940 | $350 |
|  | Direct labor cost | $960 | $1,920 |

The total job cost for Job T617 is closest to:

A) $5,604

B) $2,584

C) $684

D) $3,020

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $99,000 + ($2.10 per machine-hour × 18,000 machine-hours)

= $99,000 +$37,800 = $136,800

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $136,800 ÷ 18,000 machine-hours = $7.60 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $7.60 per machine-hour × 90 machine-hours = $684

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $70,400 + ($3.70 per direct labor-hour × 8,000 direct labor-hours)

= $70,400 + $29,600 = $100,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $100,000 ÷8,000 direct labor-hours = $12.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $12.50 per direct labor-hour × 60 direct labor-hours = $750

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Forming | Finishing | Total |
|  | Direct materials | $940 | $350 | $1,290 |
|  | Direct labor | $960 | $1,920 | 2,880 |
|  | Manufacturing overhead applied | $684 | $750 | 1,434 |
|  | Total cost of Job T617 |  |  | $5,604 |

[QUESTION]

63. Molash Corporation has two manufacturing departments--Machining and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Machining | Assembly | Total |
|  | Estimated total machine-hours (MHs) | 2,000 | 3,000 | 5,000 |
|  | Estimated total fixed manufacturing overhead cost | $9,400 | $8,100 | $17,500 |
|  | Estimated variable manufacturing overhead cost per MH | $1.80 | $2.40 |  |

During the most recent month, the company started and completed two jobs--Job B and Job L. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job B | Job L |
|  | Direct materials | $14,400 | $7,100 |
|  | Direct labor cost | $23,500 | $6,700 |
|  | Machining machine-hours | 1,400 | 600 |
|  | Assembly machine-hours | 1,200 | 1,800 |

Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 50% on manufacturing cost to establish selling prices. The calculated selling price for Job L is closest to:

A) $40,320

B) $41,933

C) $13,440

D) $26,880

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Machining Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $9,400 |  |
|  | Estimated variable manufacturing overhead ($1.80 per MH × 2,000 MHs) | 3,600 |  |
|  | Estimated total manufacturing overhead cost (a) | $13,000 |  |
|  | Estimated total machine-hours (b) | 2,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $6.50 | per MH |

Assembly Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $8,100 |  |
|  | Estimated variable manufacturing overhead ($2.40 per MH × 3,000 MHs) | 7,200 |  |
|  | Estimated total manufacturing overhead cost (a) | $15,300 |  |
|  | Estimated total machine-hours (b) | 3,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.10 | per MH |

Manufacturing overhead applied to Job L:

|  |  |  |
| --- | --- | --- |
|  | Machining ($6.50 per MH × 600 MHs) | $3,900 |
|  | Assembly ($5.10 per MH × 1,800 MHs) | 9,180 |
|  | Total manufacturing overhead applied | $13,080 |

The selling price for Job L would be calculated as follows:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $7,100 |
|  | Direct labor cost | 6,700 |
|  | Manufacturing overhead applied | 13,080 |
|  | Total manufacturing cost | $26,880 |
|  | Markup (50%) | 13,440 |
|  | Selling price | $40,320 |

[QUESTION]

64. Columbo Corporation has two production departments, Forming and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department’s predetermined overhead rate is based on machine-hours and the Finishing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Forming | Finishing |
|  | Machine-hours | 17,000 | 10,000 |
|  | Direct labor-hours | 1,000 | 9,000 |
|  | Total fixed manufacturing overhead cost | $110,500 | $78,300 |
|  | Variable manufacturing overhead per machine-hour | $1.60 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.30 |

During the current month the company started and finished Job A948. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job A948: | Forming | Finishing |
|  | Machine-hours | 70 | 30 |
|  | Direct labor-hours | 10 | 50 |
|  | Direct materials | $650 | $330 |
|  | Direct labor cost | $380 | $1,900 |

If the company marks up its manufacturing costs by 40% then the selling price for Job A948 would be closest to:

A) $6,197.80

B) $1,770.80

C) $4,427.00

D) $6,818.00

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $110,500 + ($1.60 per machine-hour × 17,000 machine-hours)

= $110,500 +$27,200 = $137,700

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $137,700 ÷ 17,000 machine-hours = $8.10 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $8.10 per machine-hour × 70 machine-hours = $567

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $78,300 + ($3.30 per direct labor-hour × 9,000 direct labor-hours)

= $78,300 + $29,700 = $108,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $108,000 ÷9,000 direct labor-hours = $12.00 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $12.00 per direct labor-hour × 50 direct labor-hours = $600

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Forming | Finishing | Total |
|  | Direct materials | $650 | $330 | $980 |
|  | Direct labor | $380 | $1,900 | 2,280 |
|  | Manufacturing overhead applied | $567 | $600 | 1,167 |
|  | Total cost of Job A948 |  |  | $4,427 |

|  |  |  |
| --- | --- | --- |
|  | Total cost of Job A948 | $4,427.00 |
|  | Markup ($4,427.00 × 40%) | 1,770.80 |
|  | Selling price | $6,197.80 |

[QUESTION]

65. Lotz Corporation has two manufacturing departments--Casting and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Casting | Finishing | Total |
|  | Estimated total machine-hours (MHs) | 2,000 | 8,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $10,200 | $19,200 | $29,400 |
|  | Estimated variable manufacturing overhead cost per MH | $1.20 | $2.20 |  |

During the most recent month, the company started and completed two jobs--Job F and Job K. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job F | Job K |
|  | Direct materials | $14,400 | $7,100 |
|  | Direct labor cost | $22,500 | $6,600 |
|  | Casting machine-hours | 1,400 | 600 |
|  | Finishing machine-hours | 3,200 | 4,800 |

Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 50% on manufacturing cost to establish selling prices. The calculated selling price for Job F is closest to:

A) $30,220

B) $90,660

C) $60,440

D) $96,100

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Casting Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $10,200 |  |
|  | Estimated variable manufacturing overhead ($1.20 per MH × 2,000 MHs) | 2,400 |  |
|  | Estimated total manufacturing overhead cost (a) | $12,600 |  |
|  | Estimated total machine-hours (b) | 2,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $6.30 | per MH |

Finishing Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $19,200 |  |
|  | Estimated variable manufacturing overhead ($2.20 per MH × 8,000 MHs) | 17,600 |  |
|  | Estimated total manufacturing overhead cost (a) | $36,800 |  |
|  | Estimated total machine-hours (b) | 8,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $4.60 | per MH |

Manufacturing overhead applied to Job F:

|  |  |  |
| --- | --- | --- |
|  | Casting ($6.30 per MH × 1,400 MHs) | $8,820 |
|  | Finishing ($4.60 per MH × 3,200 MHs) | 14,720 |
|  | Total manufacturing overhead applied | $23,540 |

The selling price for Job F would be calculated as follows:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $14,400 |
|  | Direct labor cost | 22,500 |
|  | Manufacturing overhead applied | 23,540 |
|  | Total manufacturing cost | $60,440 |
|  | Markup (50%) | 30,220 |
|  | Selling price | $90,660 |

[QUESTION]

66. Ashe Corporation has two manufacturing departments--Machining and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Machining | Customizing | Total |
|  | Estimated total machine-hours (MHs) | 1,000 | 4,000 | 5,000 |
|  | Estimated total fixed manufacturing overhead cost | $4,700 | $9,200 | $13,900 |
|  | Estimated variable manufacturing overhead cost per MH | $1.10 | $2.60 |  |

During the most recent month, the company started and completed two jobs--Job B and Job K. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job B | Job K |
|  | Machining machine-hours | 700 | 300 |
|  | Customizing machine-hours | 1,600 | 2,400 |

Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. The manufacturing overhead applied to Job K is closest to:

A) $11,760

B) $1,740

C) $13,716

D) $13,500

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Machining Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $4,700 |  |
|  | Estimated variable manufacturing overhead ($1.10 per MH × 1,000 MHs) | 1,100 |  |
|  | Estimated total manufacturing overhead cost (a) | $5,800 |  |
|  | Estimated total machine-hours (b) | 1,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.80 | per MH |

Customizing Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $9,200 |  |
|  | Estimated variable manufacturing overhead ($2.60 per MH × 4,000 MHs) | 10,400 |  |
|  | Estimated total manufacturing overhead cost (a) | $19,600 |  |
|  | Estimated total machine-hours (b) | 4,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $4.90 | per MH |

Manufacturing overhead applied to Job K:

|  |  |  |
| --- | --- | --- |
|  | Machining ($5.80 per MH × 300 MHs) | $1,740 |
|  | Customizing ($4.90 per MH × 2,400 MHs) | 11,760 |
|  | Total manufacturing overhead applied | $13,500 |

[QUESTION]

67. Boward Corporation has two production departments, Milling and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department’s predetermined overhead rate is based on machine-hours and the Assembly Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Milling | Assembly |
|  | Machine-hours | 18,000 | 12,000 |
|  | Direct labor-hours | 2,000 | 7,000 |
|  | Total fixed manufacturing overhead cost | $120,600 | $76,300 |
|  | Variable manufacturing overhead per machine-hour | $2.00 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $4.30 |

During the current month the company started and finished Job T818. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job T818: | Milling | Assembly |
|  | Machine-hours | 50 | 30 |
|  | Direct labor-hours | 10 | 40 |

The total amount of overhead applied in both departments to Job T818 is closest to:

A) $1,651

B) $608

C) $435

D) $1,043

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Milling Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $120,600 + ($2.00 per machine-hour × 18,000 machine-hours)

= $120,600 +$36,000 = $156,600

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $156,600 ÷ 18,000 machine-hours = $8.70 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $8.70 per machine-hour × 50 machine-hours = $435

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $76,300 + ($4.30 per direct labor-hour × 7,000 direct labor-hours)

= $76,300 + $30,100 = $106,400

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $106,400 ÷7,000 direct labor-hours = $15.20 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $15.20 per direct labor-hour × 40 direct labor-hours = $608

Overhead applied to Job T818

|  |  |  |
| --- | --- | --- |
|  | Milling Department | $435 |
|  | Assembly Department | 608 |
|  | Total | $1,043 |

[QUESTION]

68. Malakan Corporation has two production departments, Machining and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department’s predetermined overhead rate is based on machine-hours and the Finishing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Machining | Finishing |
|  | Machine-hours | 18,000 | 11,000 |
|  | Direct labor-hours | 2,000 | 9,000 |
|  | Total fixed manufacturing overhead cost | $102,600 | $96,300 |
|  | Variable manufacturing overhead per machine-hour | $2.10 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.90 |

During the current month the company started and finished Job K368. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job K368: | Machining | Finishing |
|  | Machine-hours | 80 | 30 |
|  | Direct labor-hours | 20 | 40 |

The amount of overhead applied in the Machining Department to Job K368 is closest to:

A) $856.00

B) $168.00

C) $624.00

D) $140,400.00

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $102,600 + ($2.10 per machine-hour × 18,000 machine-hours)

= $102,600 +$37,800 = $140,400

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $140,400 ÷ 18,000 machine-hours = $7.80 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $7.80 per machine-hour × 80 machine-hours = $624

[QUESTION]

69. Mahon Corporation has two production departments, Casting and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department’s predetermined overhead rate is based on machine-hours and the Customizing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Casting | Customizing |
|  | Machine-hours | 18,000 | 14,000 |
|  | Direct labor-hours | 2,000 | 7,000 |
|  | Total fixed manufacturing overhead cost | $124,200 | $68,600 |
|  | Variable manufacturing overhead per machine-hour | $1.90 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.80 |

During the current month the company started and finished Job T138. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job T138: | Casting | Customizing |
|  | Machine-hours | 70 | 30 |
|  | Direct labor-hours | 10 | 60 |

The amount of overhead applied in the Customizing Department to Job T138 is closest to:

A) $588.00

B) $95,200.00

C) $816.00

D) $228.00

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $68,600 + ($3.80 per direct labor-hour × 7,000 direct labor-hours)

= $68,600 + $26,600 = $95,200

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $95,200 ÷7,000 direct labor-hours = $13.60 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $13.60 per direct labor-hour × 60 direct labor-hours = $816

[QUESTION]

70. Marioni Corporation has two manufacturing departments--Forming and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Forming | Assembly | Total |
|  | Estimated total machine-hours (MHs) | 7,000 | 3,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $37,100 | $9,000 | $46,100 |
|  | Estimated variable manufacturing overhead cost per MH | $1.70 | $2.60 |  |

During the most recent month, the company started and completed two jobs--Job B and Job H. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job B | Job H |
|  | Forming machine-hours | 4,800 | 2,200 |
|  | Assembly machine-hours | 1,200 | 1,800 |

Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. The manufacturing overhead applied to Job B is closest to:

A) $6,720

B) $33,600

C) $40,320

D) $39,480

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Forming Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $37,100 |  |
|  | Estimated variable manufacturing overhead ($1.70 per MH × 7,000 MHs) | 11,900 |  |
|  | Estimated total manufacturing overhead cost (a) | $49,000 |  |
|  | Estimated total machine-hours (b) | 7,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $7.00 | per MH |

Assembly Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $9,000 |  |
|  | Estimated variable manufacturing overhead ($2.60 per MH × 3,000 MHs) | 7,800 |  |
|  | Estimated total manufacturing overhead cost (a) | $16,800 |  |
|  | Estimated total machine-hours (b) | 3,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.60 | per MH |

Manufacturing overhead applied to Job B:

|  |  |  |
| --- | --- | --- |
|  | Forming ($7.00 per MH × 4,800 MHs) | $33,600 |
|  | Assembly ($5.60 per MH × 1,200 MHs) | 6,720 |
|  | Total manufacturing overhead applied | $40,320 |

[QUESTION]

71. Bassett Corporation has two production departments, Milling and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department’s predetermined overhead rate is based on machine-hours and the Customizing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Milling | Customizing |
|  | Machine-hours | 16,000 | 12,000 |
|  | Direct labor-hours | 2,000 | 8,000 |
|  | Total fixed manufacturing overhead cost | $118,400 | $87,200 |
|  | Variable manufacturing overhead per machine-hour | $2.10 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.30 |

The predetermined overhead rate for the Milling Department is closest to:

A) $19.00 per machine-hour

B) $2.10 per machine-hour

C) $9.50 per machine-hour

D) $7.40 per machine-hour

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Milling Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $118,400 + ($2.10 per machine-hour × 16,000 machine-hours)

= $118,400 +$33,600 = $152,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $152,000 ÷ 16,000 machine-hours = $9.50 per machine-hour

[QUESTION]

72. Fatzinger Corporation has two production departments, Milling and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department’s predetermined overhead rate is based on machine-hours and the Assembly Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Milling | Assembly |
|  | Machine-hours | 20,000 | 14,000 |
|  | Direct labor-hours | 2,000 | 7,000 |
|  | Total fixed manufacturing overhead cost | $132,000 | $57,400 |
|  | Variable manufacturing overhead per machine-hour | $2.30 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.40 |

The predetermined overhead rate for the Assembly Department is closest to:

A) $8.20 per direct labor-hour

B) $3.40 per direct labor-hour

C) $4.06 per direct labor-hour

D) $11.60 per direct labor-hour

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $57,400 + ($3.40 per direct labor-hour × 7,000 direct labor-hours)

= $57,400 + $23,800 = $81,200

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $81,200 ÷7,000 direct labor-hours = $11.60 per direct labor-hour

[QUESTION]

73. Swango Corporation has two production departments, Casting and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department’s predetermined overhead rate is based on machine-hours and the Customizing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Casting | Customizing |
|  | Machine-hours | 19,000 | 11,000 |
|  | Direct labor-hours | 1,000 | 8,000 |
|  | Total fixed manufacturing overhead cost | $138,700 | $86,400 |
|  | Variable manufacturing overhead per machine-hour | $1.60 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.00 |

The estimated total manufacturing overhead for the Customizing Department is closest to:

A) $24,000

B) $110,400

C) $86,400

D) $60,379

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $86,400 + ($3.00 per direct labor-hour × 8,000 direct labor-hours)

= $86,400 + $24,000 = $110,400

[QUESTION]

74. Tarrant Corporation has two manufacturing departments--Casting and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Casting | Finishing | Total |
|  | Estimated total machine-hours (MHs) | 1,000 | 4,000 | 5,000 |
|  | Estimated total fixed manufacturing overhead cost | $5,700 | $11,200 | $16,900 |
|  | Estimated variable manufacturing overhead cost per MH | $1.30 | $2.90 |  |

Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both departments. The *departmental* predetermined overhead rate in the Casting Department is closest to:

A) $5.70

B) $1.30

C) $5.96

D) $7.00

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Casting Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $5,700 |  |
|  | Estimated variable manufacturing overhead ($1.30 per MH × 1,000 MHs) | 1,300 |  |
|  | Estimated total manufacturing overhead cost (a) | $7,000 |  |
|  | Estimated total machine-hours (b) | 1,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $7.00 | per MH |

[QUESTION]

75. Prayer Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department’s predetermined overhead rate is based on machine-hours and the Customizing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Machining | Customizing |
|  | Machine-hours | 19,000 | 13,000 |
|  | Direct labor-hours | 1,000 | 8,000 |
|  | Total fixed manufacturing overhead cost | $110,200 | $68,800 |
|  | Variable manufacturing overhead per machine-hour | $2.00 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.60 |

The estimated total manufacturing overhead for the Machining Department is closest to:

A) $148,200

B) $110,200

C) $38,000

D) $299,725

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $110,200 + ($2.00 per machine-hour × 19,000 machine-hours)

= $110,200 +$38,000 = $148,200

[QUESTION]

76. Camm Corporation has two manufacturing departments--Forming and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Forming | Assembly | Total |
|  | Estimated total machine-hours (MHs) | 3,000 | 2,000 | 5,000 |
|  | Estimated total fixed manufacturing overhead cost | $12,600 | $4,600 | $17,200 |
|  | Estimated variable manufacturing overhead cost per MH | $1.70 | $2.50 |  |

Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both departments. The *departmental* predetermined overhead rate in the Assembly Department is closest to:

A) $2.50

B) $2.30

C) $4.80

D) $5.46

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Assembly Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $4,600 |  |
|  | Estimated variable manufacturing overhead ($2.50 per MH × 2,000 MHs) | 5,000 |  |
|  | Estimated total manufacturing overhead cost (a) | $9,600 |  |
|  | Estimated total machine-hours (b) | 2,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $4.80 | per MH |

[QUESTION]

77. Huang Aerospace Corporation manufactures aviation control panels in two departments, Fabrication and Assembly. In the Fabrication department, Huang uses a predetermined overhead rate of $30 per machine-hour. In the Assembly department, Huang uses a predetermined overhead rate of $12 per direct labor-hour. During the current year, Job #X2984 incurred the following number of hours in each department:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Fabrication | Assembly |
|  | Machine-hours | 40 | 12 |
|  | Direct labor-hours | 3 | 25 |

What is the total amount of manufacturing overhead that Huang should have applied to Job #X2984 during the current year?

A) $1,200

B) $1,500

C) $1,560

D) $1,734

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Manufacturing overhead applied to Work in Process:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Fabrication | Assembly | Total |
|  | Predetermined overhead rate (a) | $30 per MH | $12 per DLH |  |
|  | Actual total amount of the allocation base (b) | 40 MHs | 25 DLHs |  |
|  | Manufacturing overhead applied (a) × (b) | $1,200 | $300 | $1,500 |

[QUESTION]

78. Sargent Corporation applies overhead cost to jobs on the basis of 80% of direct labor cost. If Job 210 shows $10,000 of manufacturing overhead cost applied, how much was the direct labor cost on the job?

A) $12,500

B) $11,000

C) $8,000

D) $10,000

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Manufacturing overhead applied = Predetermined overhead rate × Amount of the allocation base incurred

$10,000 = 0.80 × Direct labor cost

Direct labor cost = $10,000 ÷ 0.80 = $12,500

[QUESTION]

79. Kreuzer Corporation is using a predetermined overhead rate of $22.30 per machine-hour that was based on estimated total fixed manufacturing overhead of $446,000 and 20,000 machine-hours for the period. The company incurred actual total fixed manufacturing overhead of $409,000 and 18,200 total machine-hours during the period. The amount of manufacturing overhead that would have been applied to all jobs during the period is closest to:

A) $446,000

B) $37,000

C) $372,190

D) $405,860

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

|  |  |  |
| --- | --- | --- |
|  | Predetermined overhead rate (a) | $22.30 |
|  | Actual activity level (b) | 18,200 |
|  | Manufacturing overhead applied (a) x (b) | $405,860 |

[QUESTION]

80. Kavin Corporation uses a predetermined overhead rate base on machine-hours that it recalculates at the beginning of each year. The company has provided the following data for the most recent year.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Predetermined overhead rate | $23.60 | per machine-hour |
|  | Estimated total fixed manufacturing overhead from the beginning of the year | $708,000 |  |
|  | Estimated activity level from the beginning of the year | 30,000 | machine-hours |
|  | Actual total fixed manufacturing overhead | $752,000 |  |
|  | Actual activity level | 28,100 | machine-hours |

The amount of manufacturing overhead that would have been applied to all jobs during the period is closest to:

A) $663,160

B) $708,000

C) $44,000

D) $704,373

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

|  |  |  |
| --- | --- | --- |
|  | Predetermined overhead rate | $23.60 |
|  | Actual activity level | 28,100 |
|  | Manufacturing overhead applied | $663,160 |

[QUESTION]

81. Job 910 was recently completed. The following data have been recorded on its job cost sheet:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Direct materials | $3,193 |  |
|  | Direct labor-hours | 21 | labor-hours |
|  | Direct labor wage rate | $12 | per labor-hour |
|  | Machine-hours | 166 | machine-hours |

The Corporation applies manufacturing overhead on the basis of machine-hours. The predetermined overhead rate is $15 per machine-hour. The total cost that would be recorded on the job cost sheet for Job 910 would be:

A) $3,220

B) $3,760

C) $5,935

D) $3,445

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $3,193 |
|  | Direct labor (21 direct labor-hours × $12.00 per direct labor-hour) | 252 |
|  | Overhead (166 machine-hours × $15.00 per machine-hour) | 2,490 |
|  | Total manufacturing cost for Job 910 | $5,935 |

[QUESTION]

82. Grib Corporation uses a predetermined overhead rate based on direct labor cost to apply manufacturing overhead to jobs. The predetermined overhead rates for the year are 200% of direct labor cost for Department A and 50% of direct labor cost for Department B. Job 436, started and completed during the year, was charged with the following costs:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Dept. A | Dept. B |
|  | Direct materials | $50,000 | $10,000 |
|  | Direct labor | ? | $60,000 |
|  | Manufacturing overhead | $80,000 | ? |

The total manufacturing cost assigned to Job 436 was:

A) $360,000

B) $390,000

C) $270,000

D) $480,000

Answer: C

Difficulty: 3 Hard

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Department A manufacturing overhead = Predetermined overhead rate × Amount of the allocation base incurred

$80,000 = 200% x Direct labor

Direct labor = $40,000

Department B manufacturing overhead = Predetermined overhead rate × Amount of the allocation base incurred = 50% x $60,000 = $30,000

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Dept. A | Dept. B | Total |
|  | Direct materials | $50,000 | $10,000 |  |
|  | Direct labor | 40,000 | 60,000 |  |
|  | Manufacturing overhead | 80,000 | 30,000 |  |
|  | Total product cost | $170,000 | $100,000 | $270,000 |

[QUESTION]

83. The following data have been recorded for recently completed Job 450 on its job cost sheet. Direct materials cost was $3,044. A total of 46 direct labor-hours and 104 machine-hours were worked on the job. The direct labor wage rate is $15 per labor-hour. The Corporation applies manufacturing overhead on the basis of machine-hours. The predetermined overhead rate is $13 per machine-hour. The total cost for the job on its job cost sheet would be:

A) $4,332

B) $3,734

C) $3,072

D) $5,086

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $3,044 |
|  | Direct labor (46 direct labor-hours × $15.00 per direct labor-hour) | 690 |
|  | Overhead (104 machine-hours × $13.00 per machine-hour) | 1,352 |
|  | Total manufacturing cost for Job 450 | $5,086 |

Reference: CH02-Ref1

Dejarnette Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 80,000 |
|  | Total fixed manufacturing overhead cost | $416,000 |
|  | Variable manufacturing overhead per machine-hour | $3.10 |

[QUESTION]

84. The estimated total manufacturing overhead is closest to:

A) $416,003

B) $248,000

C) $664,000

D) $416,000

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref1

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $416,000 + ($3.10 per machine-hour × 80,000 machine-hours) = $416,000 + $248,000 = $664,000

[QUESTION]

85. The predetermined overhead rate is closest to:

A) $8.30 per machine-hour

B) $11.40 per machine-hour

C) $5.20 per machine-hour

D) $3.10 per machine-hour

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref1

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $416,000 + ($3.10 per machine-hour × 80,000 machine-hours) = $416,000 + $248,000 = $664,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $664,000 ÷ 80,000 machine-hours = $8.30 per machine-hour

Reference: CH02-Ref2

Odonnel Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of $36,000, variable manufacturing overhead of $2.80 per direct labor-hour, and 10,000 direct labor-hours.

[QUESTION]

86. The estimated total manufacturing overhead is closest to:

A) $64,000

B) $36,000

C) $28,000

D) $36,003

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref2

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $36,000 + ($2.80 per direct labor-hour × 10,000 direct labor-hours) = $36,000 + $28,000 = $64,000

[QUESTION]

87. The predetermined overhead rate is closest to:

A) $2.80 per direct labor-hour

B) $6.40 per direct labor-hour

C) $3.60 per direct labor-hour

D) $9.20 per direct labor-hour

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref2

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $36,000 + ($2.80 per direct labor-hour × 10,000 direct labor-hours) = $36,000 + $28,000 = $64,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $64,000 ÷ 10,000 direct labor-hours = $6.40 per direct labor-hour

Reference: CH02-Ref3

Morataya Corporation has two manufacturing departments--Machining and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Machining | Assembly | Total |
|  | Estimated total machine-hours (MHs) | 7,000 | 3,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $39,200 | $6,600 | $45,800 |
|  | Estimated variable manufacturing overhead cost per MH | $1.90 | $2.10 |  |

During the most recent month, the company started and completed two jobs--Job B and Job G. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job B | Job G |
|  | Direct materials | $14,800 | $8,300 |
|  | Direct labor cost | $22,000 | $8,900 |
|  | Machining machine-hours | 4,800 | 2,200 |
|  | Assembly machine-hours | 1,200 | 1,800 |

[QUESTION]

88. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. That predetermined manufacturing overhead rate is closest to:

A) $4.00

B) $7.50

C) $4.58

D) $6.54

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref3

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $39,200 |
|  | Estimated variable manufacturing overhead ($1.90 per MH × 7,000 MHs) | 13,300 |
|  | Estimated total manufacturing overhead cost | $52,500 |

Assembly

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $6,600 |
|  | Estimated variable manufacturing overhead ($2.10 per MH × 3,000 MHs) | 6,300 |
|  | Estimated total manufacturing overhead cost | $12,900 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($52,500 + $12,900 = $65,400) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $65,400 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $6.54 | per MH |

[QUESTION]

89. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. The amount of manufacturing overhead applied to Job B is closest to:

A) $31,392

B) $27,480

C) $39,240

D) $7,848

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref3

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $39,200 |
|  | Estimated variable manufacturing overhead ($1.90 per MH × 7,000 MHs) | 13,300 |
|  | Estimated total manufacturing overhead cost | $52,500 |

Assembly

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $6,600 |
|  | Estimated variable manufacturing overhead ($2.10 per MH × 3,000 MHs) | 6,300 |
|  | Estimated total manufacturing overhead cost | $12,900 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($52,500 + $12,900 = $65,400) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $65,400 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $6.54 | per MH |

The overhead applied to Job B is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $6.54 per MH x (4,800 MHs + 1,200 MHs)

= $6.54 per MH x (6,000 MHs)

= $39,240

[QUESTION]

90. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. The amount of manufacturing overhead applied to Job G is closest to:

A) $14,388

B) $26,160

C) $11,772

D) $18,320

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref3

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $39,200 |
|  | Estimated variable manufacturing overhead ($1.90 per MH × 7,000 MHs) | 13,300 |
|  | Estimated total manufacturing overhead cost | $52,500 |

Assembly

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $6,600 |
|  | Estimated variable manufacturing overhead ($2.10 per MH × 3,000 MHs) | 6,300 |
|  | Estimated total manufacturing overhead cost | $12,900 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($52,500 + $12,900 = $65,400) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $65,400 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $6.54 | per MH |

The overhead applied to Job G is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $6.54 per MH x (2,200 MHs + 1,800 MHs)

= $6.54 per MH x (4,000 MHs)

= $26,160

Reference: CH02-Ref4

Housholder Corporation uses a predetermined overhead rate base on machine-hours that it recalculates at the beginning of each year. The company has provided the following data for the most recent year.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total fixed manufacturing overhead from the beginning of the year | $310,000 |  |
|  | Estimated activity level from the beginning of the year | 20,000 | machine-hours |
|  | Actual total fixed manufacturing overhead | $338,000 |  |
|  | Actual activity level | 18,300 | machine-hours |

[QUESTION]

91. The predetermined overhead rate is closest to:

A) $18.47

B) $16.94

C) $16.90

D) $15.50

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref4

Feedback:

|  |  |  |
| --- | --- | --- |
|  | Estimated total fixed manufacturing overhead (a) | $310,000 |
|  | Estimated activity level (b) | 20,000 |
|  | Predetermined overhead rate (a) ÷ (b) | $15.50 |

[QUESTION]

92. The amount of manufacturing overhead that would have been applied to all jobs during the period is closest to:

A) $28,000

B) $309,270

C) $310,000

D) $283,650

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref4

Feedback:

|  |  |  |
| --- | --- | --- |
|  | Estimated total fixed manufacturing overhead (a) | $310,000 |
|  | Estimated activity level (b) | 20,000 |
|  | Predetermined overhead rate (a) ÷ (b) | $15.50 |
|  | Actual activity level | 18,300 |
|  | Manufacturing overhead applied | $283,650 |

Reference: CH02-Ref5

Gerstein Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of $90,000, variable manufacturing overhead of $3.70 per direct labor-hour, and 50,000 direct labor-hours. The company recently completed Job M800 which required 150 direct labor-hours.

[QUESTION]

93. The estimated total manufacturing overhead is closest to:

A) $90,000

B) $275,000

C) $185,000

D) $90,004

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref5

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $90,000 + ($3.70 per direct labor-hour × 50,000 direct labor-hours) = $90,000 + $185,000 = $275,000

[QUESTION]

94. The predetermined overhead rate is closest to:

A) $1.80 per direct labor-hour

B) $5.50 per direct labor-hour

C) $9.20 per direct labor-hour

D) $3.70 per direct labor-hour

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref5

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $90,000 + ($3.70 per direct labor-hour × 50,000 direct labor-hours) = $90,000 + $185,000 = $275,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $275,000 ÷ 50,000 direct labor-hours = $5.50 per direct labor-hour

[QUESTION]

95. The amount of overhead applied to Job M800 is closest to:

A) $270

B) $1,380

C) $825

D) $555

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref5

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $90,000 + ($3.70 per direct labor-hour × 50,000 direct labor-hours) = $90,000 + $185,000 = $275,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $275,000 ÷ 50,000 direct labor-hours = $5.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $5.50 per direct labor-hour × 150 direct labor-hours = $825

Reference: CH02-Ref6

Krier Corporation uses a predetermined overhead rate that was based on estimated total fixed manufacturing overhead of $738,000 and 30,000 direct labor-hours for the period. The company incurred actual total fixed manufacturing overhead of $792,000 and 31,500 total direct labor-hours during the period.

[QUESTION]

96. The predetermined overhead rate is closest to:

A) $26.40

B) $25.14

C) $23.43

D) $24.60

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref6

Feedback:

|  |  |  |
| --- | --- | --- |
|  | Estimated total fixed manufacturing overhead (a) | $738,000 |
|  | Estimated activity level (b) | 30,000 |
|  | Predetermined overhead rate (a) ÷ (b) | $24.60 |

[QUESTION]

97. The amount of manufacturing overhead that would have been applied to all jobs during the period is closest to:

A) $831,600

B) $54,000

C) $774,900

D) $738,000

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref6

Feedback:

|  |  |  |
| --- | --- | --- |
|  | Estimated total fixed manufacturing overhead (a) | $738,000 |
|  | Estimated activity level (b) | 30,000 |
|  | Predetermined overhead rate (a) ÷ (b) | $24.60 |
|  | Actual activity level | 31,500 |
|  | Manufacturing overhead applied | $774,900 |

Reference: CH02-Ref7

Harootunian Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 80,000 |
|  | Total fixed manufacturing overhead cost | $312,000 |
|  | Variable manufacturing overhead per machine-hour | $2.10 |

Recently, Job T629 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 50 |
|  | Total machine-hours | 200 |

[QUESTION]

98. The estimated total manufacturing overhead is closest to:

A) $168,000

B) $312,002

C) $312,000

D) $480,000

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref7

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $312,000 + ($2.10 per machine-hour × 80,000 machine-hours) = $312,000 + $168,000 = $480,000

[QUESTION]

99. The predetermined overhead rate is closest to:

A) $8.10 per machine-hour

B) $2.10 per machine-hour

C) $3.90 per machine-hour

D) $6.00 per machine-hour

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref7

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $312,000 + ($2.10 per machine-hour × 80,000 machine-hours) = $312,000 + $168,000 = $480,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $480,000 ÷ 80,000 machine-hours = $6.00 per machine-hour

[QUESTION]

100. The amount of overhead applied to Job T629 is closest to:

A) $1,620

B) $780

C) $1,200

D) $420

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref7

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $312,000 + ($2.10 per machine-hour × 80,000 machine-hours) = $312,000 + $168,000 = $480,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $480,000 ÷ 80,000 machine-hours = $6.00 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $6.00 per machine-hour × 200 machine-hours = $1,200

Reference: CH02-Ref8

Dehner Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total direct labor-hours | 40,000 |
|  | Total fixed manufacturing overhead cost | $96,000 |
|  | Variable manufacturing overhead per direct labor-hour | $3.00 |

Recently, Job P951 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 20 |
|  | Total direct labor-hours | 100 |
|  | Direct materials | $755 |
|  | Direct labor cost | $4,000 |

[QUESTION]

101. The estimated total manufacturing overhead is closest to:

A) $120,000

B) $96,003

C) $96,000

D) $216,000

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref8

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $96,000 + ($3.00 per direct labor-hour × 40,000 direct labor-hours) = $96,000 + $120,000 = $216,000

[QUESTION]

102. The predetermined overhead rate is closest to:

A) $2.40 per direct labor-hour

B) $3.00 per direct labor-hour

C) $8.40 per direct labor-hour

D) $5.40 per direct labor-hour

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref8

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $96,000 + ($3.00 per direct labor-hour × 40,000 direct labor-hours) = $96,000 + $120,000 = $216,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $216,000 ÷ 40,000 direct labor-hours = $5.40 per direct labor-hour

[QUESTION]

103. The amount of overhead applied to Job P951 is closest to:

A) $840

B) $300

C) $540

D) $240

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref8

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $96,000 + ($3.00 per direct labor-hour × 40,000 direct labor-hours) = $96,000 + $120,000 = $216,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $216,000 ÷ 40,000 direct labor-hours = $5.40 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $5.40 per direct labor-hour × 100 direct labor-hours = $540

[QUESTION]

104. The total job cost for Job P951 is closest to:

A) $4,540

B) $4,755

C) $1,295

D) $5,295

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref8

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $96,000 + ($3.00 per direct labor-hour × 40,000 direct labor-hours) = $96,000 + $120,000 = $216,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $216,000 ÷ 40,000 direct labor-hours = $5.40 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $5.40 per direct labor-hour × 100 direct labor-hours = $540

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $755 |
|  | Direct labor | 4,000 |
|  | Manufacturing overhead applied | 540 |
|  | Total cost of Job P951 | $5,295 |

[QUESTION]

105. The unit product cost for Job P951 is closest to:

A) $237.75

B) $264.75

C) $64.75

D) $52.95

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref8

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $96,000 + ($3.00 per direct labor-hour × 40,000 direct labor-hours) = $96,000 + $120,000 = $216,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $216,000 ÷ 40,000 direct labor-hours = $5.40 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $5.40 per direct labor-hour × 100 direct labor-hours = $540

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $755 |
|  | Direct labor | 4,000 |
|  | Manufacturing overhead applied | 540 |
|  | Total cost of Job P951 | $5,295 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job P951 (a) | $5,295 |
|  | Number of units (b) | 20 |
|  | Unit product cost (a) ÷ (b) | $264.75 |

Reference: CH02-Ref9

Branin Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of $160,000, variable manufacturing overhead of $3.40 per direct labor-hour, and 80,000 direct labor-hours. The company has provided the following data concerning Job A578 which was recently completed:

|  |  |  |
| --- | --- | --- |
|  | Total direct labor-hours | 250 |
|  | Direct materials | $715 |
|  | Direct labor cost | $9,000 |

[QUESTION]

106. The estimated total manufacturing overhead is closest to:

A) $272,000

B) $160,000

C) $432,000

D) $160,003

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref9

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $160,000 + ($3.40 per direct labor-hour × 80,000 direct labor-hours) = $160,000 + $272,000 = $432,000

[QUESTION]

107. The predetermined overhead rate is closest to:

A) $8.80 per direct labor-hour

B) $2.00 per direct labor-hour

C) $3.40 per direct labor-hour

D) $5.40 per direct labor-hour

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref9

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $160,000 + ($3.40 per direct labor-hour × 80,000 direct labor-hours) = $160,000 + $272,000 = $432,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $432,000 ÷ 80,000 direct labor-hours = $5.40 per direct labor-hour

[QUESTION]

108. The amount of overhead applied to Job A578 is closest to:

A) $500

B) $1,350

C) $2,200

D) $850

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref9

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $160,000 + ($3.40 per direct labor-hour × 80,000 direct labor-hours) = $160,000 + $272,000 = $432,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $432,000 ÷ 80,000 direct labor-hours = $5.40 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $5.40 per direct labor-hour × 250 direct labor-hours = $1,350

[QUESTION]

109. The total job cost for Job A578 is closest to:

A) $11,065

B) $10,350

C) $2,065

D) $9,715

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref9

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $160,000 + ($3.40 per direct labor-hour × 80,000 direct labor-hours) = $160,000 + $272,000 = $432,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $432,000 ÷ 80,000 direct labor-hours = $5.40 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $5.40 per direct labor-hour × 250 direct labor-hours = $1,350

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $715 |
|  | Direct labor | 9,000 |
|  | Manufacturing overhead applied | 1,350 |
|  | Total cost of Job A578 | $11,065 |

Reference: CH02-Ref10

Spang Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 20,000 |
|  | Total fixed manufacturing overhead cost | $176,000 |
|  | Variable manufacturing overhead per machine-hour | $2.20 |

Recently, Job P505 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 200 |
|  | Direct materials | $540 |
|  | Direct labor cost | $7,200 |

[QUESTION]

110. The amount of overhead applied to Job P505 is closest to:

A) $2,200

B) $1,760

C) $2,640

D) $440

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref10

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $176,000 + ($2.20 per machine-hour × 20,000 machine-hours) = $176,000 + $44,000 = $220,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $220,000 ÷ 20,000 machine-hours = $11.00 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $11.00 per machine-hour × 200 machine-hours = $2,200

[QUESTION]

111. The total job cost for Job P505 is closest to:

A) $9,400

B) $9,940

C) $7,740

D) $2,740

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref10

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $176,000 + ($2.20 per machine-hour × 20,000 machine-hours) = $176,000 + $44,000 = $220,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $220,000 ÷ 20,000 machine-hours = $11.00 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $11.00 per machine-hour × 200 machine-hours = $2,200

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $540 |
|  | Direct labor | 7,200 |
|  | Manufacturing overhead applied | 2,200 |
|  | Total cost of Job P505 | $9,940 |

Reference: CH02-Ref11

Opunui Corporation has two manufacturing departments--Molding and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Molding | Finishing | Total |
|  | Estimated total machine-hours (MHs) | 4,000 | 1,000 | 5,000 |
|  | Estimated total fixed manufacturing overhead cost | $19,600 | $2,400 | $22,000 |
|  | Estimated variable manufacturing overhead cost per MH | $1.10 | $2.10 |  |

During the most recent month, the company started and completed two jobs--Job A and Job M. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job A | Job M |
|  | Direct materials | $13,600 | $7,500 |
|  | Direct labor cost | $20,700 | $7,400 |
|  | Molding machine-hours | 2,700 | 1,300 |
|  | Finishing machine-hours | 400 | 600 |

[QUESTION]

112. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. The total manufacturing cost assigned to Job M is closest to:

A) $10,830

B) $7,400

C) $25,730

D) $7,500

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref11

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Molding

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $19,600 |
|  | Estimated variable manufacturing overhead ($1.10 per MH × 4,000 MHs) | 4,400 |
|  | Estimated total manufacturing overhead cost | $24,000 |

Finishing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $2,400 |
|  | Estimated variable manufacturing overhead ($2.10 per MH × 1,000 MHs) | 2,100 |
|  | Estimated total manufacturing overhead cost | $4,500 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($24,000 + $4,500 = $28,500) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $28,500 |  |
|  | Estimated total machine hours | 5,000 | MHs |
|  | Predetermined overhead rate | $5.70 | per MH |

The overhead applied to Job M is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.70 per MH x (1,300 MHs + 600 MHs)

= $5.70 per MH x (1,900 MHs)

= $10,830

Job M’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $7,500 |
|  | Direct labor cost | 7,400 |
|  | Manufacturing overhead applied | 10,830 |
|  | Total manufacturing cost | $25,730 |

[QUESTION]

113. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 40% on manufacturing cost to establish selling prices. The calculated selling price for Job A is closest to:

A) $51,970

B) $72,758

C) $80,034

D) $20,788

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref11

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Molding

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $19,600 |
|  | Estimated variable manufacturing overhead ($1.10 per MH × 4,000 MHs) | 4,400 |
|  | Estimated total manufacturing overhead cost | $24,000 |

Finishing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $2,400 |
|  | Estimated variable manufacturing overhead ($2.10 per MH × 1,000 MHs) | 2,100 |
|  | Estimated total manufacturing overhead cost | $4,500 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($24,000 + $4,500 = $28,500) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $28,500 |  |
|  | Estimated total machine hours | 5,000 | MHs |
|  | Predetermined overhead rate | $5.70 | per MH |

The overhead applied to Job A is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.70 per MH x (2,700 MHs + 400 MHs)

= $5.70 per MH x (3,100 MHs)

= $17,670

Job A’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $13,600 |
|  | Direct labor cost | 20,700 |
|  | Manufacturing overhead applied | 17,670 |
|  | Total manufacturing cost | $51,970 |

The selling price for Job A:

|  |  |  |
| --- | --- | --- |
|  | Total manufacturing cost | $51,970 |
|  | Markup (40%) | 20,788 |
|  | Selling price | $72,758 |

Reference: CH02-Ref12

Lueckenhoff Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of $497,000, variable manufacturing overhead of $2.40 per direct labor-hour, and 70,000 direct labor-hours. The company has provided the following data concerning Job T498 which was recently completed:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 40 |
|  | Total direct labor-hours | 80 |
|  | Direct materials | $950 |
|  | Direct labor cost | $2,720 |

[QUESTION]

114. The estimated total manufacturing overhead is closest to:

A) $665,000

B) $497,002

C) $497,000

D) $168,000

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref12

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $497,000 + ($2.40 per direct labor-hour × 70,000 direct labor-hours) = $497,000 + $168,000 = $665,000

[QUESTION]

115. The predetermined overhead rate is closest to:

A) $11.90 per direct labor-hour

B) $7.10 per direct labor-hour

C) $9.50 per direct labor-hour

D) $2.40 per direct labor-hour

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref12

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $497,000 + ($2.40 per direct labor-hour × 70,000 direct labor-hours) = $497,000 + $168,000 = $665,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $665,000 ÷ 70,000 direct labor-hours = $9.50 per direct labor-hour

[QUESTION]

116. The amount of overhead applied to Job T498 is closest to:

A) $568

B) $192

C) $760

D) $952

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref12

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $497,000 + ($2.40 per direct labor-hour × 70,000 direct labor-hours) = $497,000 + $168,000 = $665,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $665,000 ÷ 70,000 direct labor-hours = $9.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $9.50 per direct labor-hour × 80 direct labor-hours = $760

[QUESTION]

117. The total job cost for Job T498 is closest to:

A) $4,430

B) $3,670

C) $1,710

D) $3,480

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref12

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $497,000 + ($2.40 per direct labor-hour × 70,000 direct labor-hours) = $497,000 + $168,000 = $665,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $665,000 ÷ 70,000 direct labor-hours = $9.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $9.50 per direct labor-hour × 80 direct labor-hours = $760

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $950 |
|  | Direct labor | 2,720 |
|  | Manufacturing overhead applied | 760 |
|  | Total cost of Job T498 | $4,430 |

[QUESTION]

118. The unit product cost for Job T498 is closest to:

A) $55.38

B) $42.75

C) $91.75

D) $110.75

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref12

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $497,000 + ($2.40 per direct labor-hour × 70,000 direct labor-hours) = $497,000 + $168,000 = $665,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $665,000 ÷ 70,000 direct labor-hours = $9.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $9.50 per direct labor-hour × 80 direct labor-hours = $760

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $950 |
|  | Direct labor | 2,720 |
|  | Manufacturing overhead applied | 760 |
|  | Total cost of Job T498 | $4,430 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job T498 (a) | $4,430 |
|  | Number of units (b) | 40 |
|  | Unit product cost (a) ÷ (b) | $110.75 |

Reference: CH02-Ref13

Nielsen Corporation has two manufacturing departments--Machining and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Machining | Assembly | Total |
|  | Estimated total machine-hours (MHs) | 1,000 | 4,000 | 5,000 |
|  | Estimated total fixed manufacturing overhead cost | $4,700 | $10,800 | $15,500 |
|  | Estimated variable manufacturing overhead cost per MH | $1.20 | $2.20 |  |

During the most recent month, the company started and completed two jobs--Job F and Job M. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job F | Job M |
|  | Direct materials | $13,000 | $7,400 |
|  | Direct labor cost | $20,400 | $8,800 |
|  | Machining machine-hours | 700 | 300 |
|  | Assembly machine-hours | 1,600 | 2,400 |

[QUESTION]

119. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. The total manufacturing cost assigned to Job F is closest to:

A) $13,000

B) $20,400

C) $45,130

D) $11,730

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref13

Fee The first step is to calculate the estimated total overhead costs in the two departments.

Machining

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $4,700 |
|  | Estimated variable manufacturing overhead ($1.20 per MH × 1,000 MHs) | 1,200 |
|  | Estimated total manufacturing overhead cost | $5,900 |

Assembly

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $10,800 |
|  | Estimated variable manufacturing overhead ($2.20 per MH × 4,000 MHs) | 8,800 |
|  | Estimated total manufacturing overhead cost | $19,600 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($5,900 + $19,600 = $25,500) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $25,500 |  |
|  | Estimated total machine hours | 5,000 | MHs |
|  | Predetermined overhead rate | $5.10 | per MH |

The overhead applied to Job F is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.10 per MH x (700 MHs + 1,600 MHs)

= $5.10 per MH x (2,300 MHs)

= $11,730

Job F’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $13,000 |
|  | Direct labor cost | 20,400 |
|  | Manufacturing overhead applied | 11,730 |
|  | Total manufacturing cost | $45,130 |

[QUESTION]

120. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 40% on manufacturing cost to establish selling prices. The calculated selling price for Job M is closest to:

A) $46,154

B) $41,958

C) $29,970

D) $11,988

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref13

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $4,700 |
|  | Estimated variable manufacturing overhead ($1.20 per MH × 1,000 MHs) | 1,200 |
|  | Estimated total manufacturing overhead cost | $5,900 |

Assembly

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $10,800 |
|  | Estimated variable manufacturing overhead ($2.20 per MH × 4,000 MHs) | 8,800 |
|  | Estimated total manufacturing overhead cost | $19,600 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($5,900 + $19,600 = $25,500) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $25,500 |  |
|  | Estimated total machine hours | 5,000 | MHs |
|  | Predetermined overhead rate | $5.10 | per MH |

The overhead applied to Job M is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.10 per MH x (300 MHs + 2,400 MHs)

= $5.10 per MH x (2,700 MHs)

= $13,770

Job M’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $7,400 |
|  | Direct labor cost | 8,800 |
|  | Manufacturing overhead applied | 13,770 |
|  | Total manufacturing cost | $29,970 |

The selling price for Job M:

|  |  |  |
| --- | --- | --- |
|  | Total manufacturing cost | $29,970 |
|  | Markup (40%) | 11,988 |
|  | Selling price | $41,958 |

Reference: CH02-Ref14

Decorte Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total direct labor-hours | 10,000 |
|  | Total fixed manufacturing overhead cost | $33,000 |
|  | Variable manufacturing overhead per direct labor-hour | $2.50 |

Recently, Job K332 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 70 |
|  | Total direct labor-hours | 140 |
|  | Direct materials | $455 |
|  | Direct labor cost | $5,320 |

[QUESTION]

121. The amount of overhead applied to Job K332 is closest to:

A) $812

B) $350

C) $462

D) $1,162

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref14

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $33,000 + ($2.50 per direct labor-hour × 10,000 direct labor-hours) = $33,000 + $25,000 = $58,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $58,000 ÷ 10,000 direct labor-hours = $5.80 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $5.80 per direct labor-hour × 140 direct labor-hours = $812

[QUESTION]

122. The total job cost for Job K332 is closest to:

A) $5,775

B) $6,132

C) $6,587

D) $1,267

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref14

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $33,000 + ($2.50 per direct labor-hour × 10,000 direct labor-hours) = $33,000 + $25,000 = $58,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $58,000 ÷ 10,000 direct labor-hours = $5.80 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $5.80 per direct labor-hour × 140 direct labor-hours = $812

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $455 |
|  | Direct labor | 5,320 |
|  | Manufacturing overhead applied | 812 |
|  | Total cost of Job K332 | $6,587 |

[QUESTION]

123. The unit product cost for Job K332 is closest to:

A) $94.10

B) $18.10

C) $82.50

D) $47.05

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref14

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $33,000 + ($2.50 per direct labor-hour × 10,000 direct labor-hours) = $33,000 + $25,000 = $58,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $58,000 ÷ 10,000 direct labor-hours = $5.80 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $5.80 per direct labor-hour × 140 direct labor-hours = $812

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $455 |
|  | Direct labor | 5,320 |
|  | Manufacturing overhead applied | 812 |
|  | Total cost of Job K332 | $6,587 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job K332 (a) | $6,587 |
|  | Number of units (b) | 70 |
|  | Unit product cost (a) ÷ (b) | $94.10 |

Reference: CH02-Ref15

Beans Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of $162,000, variable manufacturing overhead of $2.80 per direct labor-hour, and 60,000 direct labor-hours. Recently, Job K818 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 10 |
|  | Total direct labor-hours | 50 |
|  | Direct materials | $920 |
|  | Direct labor cost | $1,400 |

[QUESTION]

124. The estimated total manufacturing overhead is closest to:

A) $330,000

B) $162,000

C) $168,000

D) $162,003

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref15

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $162,000 + ($2.80 per direct labor-hour × 60,000 direct labor-hours) = $162,000 + $168,000 = $330,000

[QUESTION]

125. The predetermined overhead rate is closest to:

A) $5.50 per direct labor-hour

B) $8.30 per direct labor-hour

C) $2.80 per direct labor-hour

D) $2.70 per direct labor-hour

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref15

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $162,000 + ($2.80 per direct labor-hour × 60,000 direct labor-hours) = $162,000 + $168,000 = $330,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $330,000 ÷ 60,000 direct labor-hours = $5.50 per direct labor-hour

[QUESTION]

126. The amount of overhead applied to Job K818 is closest to:

A) $135

B) $140

C) $415

D) $275

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref15

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $162,000 + ($2.80 per direct labor-hour × 60,000 direct labor-hours) = $162,000 + $168,000 = $330,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $330,000 ÷ 60,000 direct labor-hours = $5.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $5.50 per direct labor-hour × 50 direct labor-hours = $275

[QUESTION]

127. The total job cost for Job K818 is closest to:

A) $1,675

B) $2,595

C) $1,195

D) $2,320

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref15

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $162,000 + ($2.80 per direct labor-hour × 60,000 direct labor-hours) = $162,000 + $168,000 = $330,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $330,000 ÷ 60,000 direct labor-hours = $5.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $5.50 per direct labor-hour × 50 direct labor-hours = $275

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $920 |
|  | Direct labor | 1,400 |
|  | Manufacturing overhead applied | 275 |
|  | Total cost of Job K818 | $2,595 |

[QUESTION]

128. The unit product cost for Job K818 is closest to:

A) $51.90

B) $259.50

C) $232.00

D) $119.50

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref15

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $162,000 + ($2.80 per direct labor-hour × 60,000 direct labor-hours) = $162,000 + $168,000 = $330,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $330,000 ÷ 60,000 direct labor-hours = $5.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $5.50 per direct labor-hour × 50 direct labor-hours = $275

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $920 |
|  | Direct labor | 1,400 |
|  | Manufacturing overhead applied | 275 |
|  | Total cost of Job K818 | $2,595 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job K818 (a) | $2,595 |
|  | Number of units (b) | 10 |
|  | Unit product cost (a) ÷ (b) | $259.50 |

[QUESTION]

129. If the company marks up its unit product costs by 40% then the selling price for a unit in Job K818 is closest to:

A) $363.30

B) $103.80

C) $383.30

D) $324.80

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref15

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $162,000 + ($2.80 per direct labor-hour × 60,000 direct labor-hours) = $162,000 + $168,000 = $330,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $330,000 ÷ 60,000 direct labor-hours = $5.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $5.50 per direct labor-hour × 50 direct labor-hours = $275

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $920 |
|  | Direct labor | 1,400 |
|  | Manufacturing overhead applied | 275 |
|  | Total cost of Job K818 | $2,595 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job K818 (a) | $2,595 |
|  | Number of units (b) | 10 |
|  | Unit product cost (a) ÷ (b) | $259.50 |

|  |  |  |
| --- | --- | --- |
|  | Unit product cost for Job K818 | $259.50 |
|  | Markup (40% × $259.50) | 103.80 |
|  | Selling price | $363.30 |

Reference: CH02-Ref16

Lupo Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 30,000 |
|  | Total fixed manufacturing overhead cost | $252,000 |
|  | Variable manufacturing overhead per machine-hour | $2.10 |

Recently, Job T687 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 10 |
|  | Total machine-hours | 30 |
|  | Direct materials | $675 |
|  | Direct labor cost | $1,050 |

[QUESTION]

130. The estimated total manufacturing overhead is closest to:

A) $315,000

B) $252,000

C) $252,002

D) $63,000

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref16

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $252,000 + ($2.10 per machine-hour × 30,000 machine-hours) = $252,000 + $63,000 = $315,000

[QUESTION]

131. The predetermined overhead rate is closest to:

A) $12.60 per machine-hour

B) $10.50 per machine-hour

C) $8.40 per machine-hour

D) $2.10 per machine-hour

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref16

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $252,000 + ($2.10 per machine-hour × 30,000 machine-hours) = $252,000 + $63,000 = $315,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $315,000 ÷ 30,000 machine-hours = $10.50 per machine-hour

[QUESTION]

132. The amount of overhead applied to Job T687 is closest to:

A) $315

B) $252

C) $378

D) $63

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref16

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $252,000 + ($2.10 per machine-hour × 30,000 machine-hours) = $252,000 + $63,000 = $315,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $315,000 ÷ 30,000 machine-hours = $10.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $10.50 per machine-hour × 30 machine-hours = $315

[QUESTION]

133. The total job cost for Job T687 is closest to:

A) $1,365

B) $1,725

C) $990

D) $2,040

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref16

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $252,000 + ($2.10 per machine-hour × 30,000 machine-hours) = $252,000 + $63,000 = $315,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $315,000 ÷ 30,000 machine-hours = $10.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $10.50 per machine-hour × 30 machine-hours = $315

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $675 |
|  | Direct labor | 1,050 |
|  | Manufacturing overhead applied | 315 |
|  | Total cost of Job T687 | $2,040 |

[QUESTION]

134. The unit product cost for Job T687 is closest to:

A) $99.00

B) $68.00

C) $172.50

D) $204.00

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref16

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $252,000 + ($2.10 per machine-hour × 30,000 machine-hours) = $252,000 + $63,000 = $315,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $315,000 ÷ 30,000 machine-hours = $10.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $10.50 per machine-hour × 30 machine-hours = $315

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $675 |
|  | Direct labor | 1,050 |
|  | Manufacturing overhead applied | 315 |
|  | Total cost of Job T687 | $2,040 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job T687 (a) | $2,040 |
|  | Number of units (b) | 10 |
|  | Unit product cost (a) ÷ (b) | $204.00 |

[QUESTION]

135. If the company marks up its unit product costs by 40% then the selling price for a unit in Job T687 is closest to:

A) $81.60

B) $305.60

C) $285.60

D) $241.50

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref16

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $252,000 + ($2.10 per machine-hour × 30,000 machine-hours) = $252,000 + $63,000 = $315,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $315,000 ÷ 30,000 machine-hours = $10.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $10.50 per machine-hour × 30 machine-hours = $315

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $675 |
|  | Direct labor | 1,050 |
|  | Manufacturing overhead applied | 315 |
|  | Total cost of Job T687 | $2,040 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job T687 (a) | $2,040 |
|  | Number of units (b) | 10 |
|  | Unit product cost (a) ÷ (b) | $204.00 |

|  |  |  |
| --- | --- | --- |
|  | Unit product cost for Job T687 | $204.00 |
|  | Markup (40% × $204.00) | 81.60 |
|  | Selling price | $285.60 |

Reference: CH02-Ref17

Ronson Corporation has two manufacturing departments--Casting and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Casting | Customizing | Total |
|  | Estimated total machine-hours (MHs) | 5,000 | 5,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $27,500 | $10,500 | $38,000 |
|  | Estimated variable manufacturing overhead cost per MH | $1.70 | $2.60 |  |

During the most recent month, the company started and completed two jobs--Job C and Job G. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job C | Job G |
|  | Direct materials | $10,600 | $6,800 |
|  | Direct labor cost | $23,700 | $7,900 |
|  | Casting machine-hours | 3,400 | 1,600 |
|  | Customizing machine-hours | 2,000 | 3,000 |

[QUESTION]

136. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. The amount of manufacturing overhead applied to Job C is closest to:

A) $32,130

B) $11,900

C) $20,230

D) $20,520

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref17

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Casting

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $27,500 |
|  | Estimated variable manufacturing overhead ($1.70 per MH × 5,000 MHs) | 8,500 |
|  | Estimated total manufacturing overhead cost | $36,000 |

Customizing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $10,500 |
|  | Estimated variable manufacturing overhead ($2.60 per MH × 5,000 MHs) | 13,000 |
|  | Estimated total manufacturing overhead cost | $23,500 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($36,000 + $23,500 = $59,500) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $59,500 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $5.95 | per MH |

The overhead applied to Job C is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.95 per MH x (3,400 MHs + 2,000 MHs)

= $5.95 per MH x (5,400 MHs)

= $32,130

[QUESTION]

137. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. The total manufacturing cost assigned to Job G is closest to:

A) $42,070

B) $27,370

C) $6,800

D) $7,900

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref17

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Casting

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $27,500 |
|  | Estimated variable manufacturing overhead ($1.70 per MH × 5,000 MHs) | 8,500 |
|  | Estimated total manufacturing overhead cost | $36,000 |

Customizing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $10,500 |
|  | Estimated variable manufacturing overhead ($2.60 per MH × 5,000 MHs) | 13,000 |
|  | Estimated total manufacturing overhead cost | $23,500 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($36,000 + $23,500 = $59,500) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $59,500 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $5.95 | per MH |

The overhead applied to Job G is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.95 per MH x (1,600 MHs + 3,000 MHs)

= $5.95 per MH x (4,600 MHs)

= $27,370

Job G’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $6,800 |
|  | Direct labor cost | 7,900 |
|  | Manufacturing overhead applied | 27,370 |
|  | Total manufacturing cost | $42,070 |

Reference: CH02-Ref18

Sivret Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 80,000 |
|  | Total fixed manufacturing overhead cost | $624,000 |
|  | Variable manufacturing overhead per machine-hour | $3.10 |

Recently, Job M598 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 60 |
|  | Total machine-hours | 300 |
|  | Direct materials | $645 |
|  | Direct labor cost | $9,000 |

[QUESTION]

138. The amount of overhead applied to Job M598 is closest to:

A) $930

B) $4,200

C) $2,340

D) $3,270

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref18

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $624,000 + ($3.10 per machine-hour × 80,000 machine-hours) = $624,000 + $248,000 = $872,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $872,000 ÷ 80,000 machine-hours = $10.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $10.90 per machine-hour × 300 machine-hours = $3,270

[QUESTION]

139. The total job cost for Job M598 is closest to:

A) $12,270

B) $9,645

C) $3,915

D) $12,915

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref18

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $624,000 + ($3.10 per machine-hour × 80,000 machine-hours) = $624,000 + $248,000 = $872,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $872,000 ÷ 80,000 machine-hours = $10.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $10.90 per machine-hour × 300 machine-hours = $3,270

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $645 |
|  | Direct labor | 9,000 |
|  | Manufacturing overhead applied | 3,270 |
|  | Total cost of Job M598 | $12,915 |

[QUESTION]

140. The unit product cost for Job M598 is closest to:

A) $65.25

B) $160.75

C) $215.25

D) $43.05

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref18

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $624,000 + ($3.10 per machine-hour × 80,000 machine-hours) = $624,000 + $248,000 = $872,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $872,000 ÷ 80,000 machine-hours = $10.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $10.90 per machine-hour × 300 machine-hours = $3,270

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $645 |
|  | Direct labor | 9,000 |
|  | Manufacturing overhead applied | 3,270 |
|  | Total cost of Job M598 | $12,915 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job M598 (a) | $12,915 |
|  | Number of units (b) | 60 |
|  | Unit product cost (a) ÷ (b) | $215.25 |

[QUESTION]

141. If the company marks up its unit product costs by 40% then the selling price for a unit in Job M598 is closest to:

A) $321.35

B) $225.05

C) $86.10

D) $301.35

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref18

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $624,000 + ($3.10 per machine-hour × 80,000 machine-hours) = $624,000 + $248,000 = $872,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $872,000 ÷ 80,000 machine-hours = $10.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $10.90 per machine-hour × 300 machine-hours = $3,270

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $645 |
|  | Direct labor | 9,000 |
|  | Manufacturing overhead applied | 3,270 |
|  | Total cost of Job M598 | $12,915 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job M598 (a) | $12,915 |
|  | Number of units (b) | 60 |
|  | Unit product cost (a) ÷ (b) | $215.25 |

|  |  |  |
| --- | --- | --- |
|  | Unit product cost for Job M598 | $215.25 |
|  | Markup (40% × $215.25) | 86.10 |
|  | Selling price | $301.35 |

Reference: CH02-Ref19

Levron Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of $58,000, variable manufacturing overhead of $2.00 per machine-hour, and 20,000 machine-hours. The company has provided the following data concerning Job P978 which was recently completed:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 20 |
|  | Total machine-hours | 80 |
|  | Direct materials | $500 |
|  | Direct labor cost | $2,640 |

[QUESTION]

142. The predetermined overhead rate is closest to:

A) $2.90 per machine-hour

B) $2.00 per machine-hour

C) $4.90 per machine-hour

D) $6.90 per machine-hour

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref19

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $58,000 + ($2.00 per machine-hour × 20,000 machine-hours) = $58,000 + $40,000 = $98,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $98,000 ÷ 20,000 machine-hours = $4.90 per machine-hour

[QUESTION]

143. The amount of overhead applied to Job P978 is closest to:

A) $232

B) $160

C) $392

D) $552

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref19

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $58,000 + ($2.00 per machine-hour × 20,000 machine-hours) = $58,000 + $40,000 = $98,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $98,000 ÷ 20,000 machine-hours = $4.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $4.90 per machine-hour × 80 machine-hours = $392

[QUESTION]

144. The total job cost for Job P978 is closest to:

A) $3,140

B) $892

C) $3,532

D) $3,032

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref19

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $58,000 + ($2.00 per machine-hour × 20,000 machine-hours) = $58,000 + $40,000 = $98,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $98,000 ÷ 20,000 machine-hours = $4.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $4.90 per machine-hour × 80 machine-hours = $392

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $500 |
|  | Direct labor | 2,640 |
|  | Manufacturing overhead applied | 392 |
|  | Total cost of Job P978 | $3,532 |

[QUESTION]

145. The unit product cost for Job P978 is closest to:

A) $176.60

B) $157.00

C) $44.60

D) $44.15

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref19

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $58,000 + ($2.00 per machine-hour × 20,000 machine-hours) = $58,000 + $40,000 = $98,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $98,000 ÷ 20,000 machine-hours = $4.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $4.90 per machine-hour × 80 machine-hours = $392

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $500 |
|  | Direct labor | 2,640 |
|  | Manufacturing overhead applied | 392 |
|  | Total cost of Job P978 | $3,532 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job P978 (a) | $3,532 |
|  | Number of units (b) | 20 |
|  | Unit product cost (a) ÷ (b) | $176.60 |

[QUESTION]

146. If the company marks up its unit product costs by 30% then the selling price for a unit in Job P978 is closest to:

A) $249.58

B) $229.58

C) $204.10

D) $52.98

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref19

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $58,000 + ($2.00 per machine-hour × 20,000 machine-hours) = $58,000 + $40,000 = $98,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $98,000 ÷ 20,000 machine-hours = $4.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $4.90 per machine-hour × 80 machine-hours = $392

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $500 |
|  | Direct labor | 2,640 |
|  | Manufacturing overhead applied | 392 |
|  | Total cost of Job P978 | $3,532 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job P978 (a) | $3,532 |
|  | Number of units (b) | 20 |
|  | Unit product cost (a) ÷ (b) | $176.60 |

|  |  |  |
| --- | --- | --- |
|  | Unit product cost for Job P978 | $176.60 |
|  | Markup (30% × $176.60) | 52.98 |
|  | Selling price | $229.58 |

Reference: CH02-Ref20

Bolander Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 70,000 |
|  | Total fixed manufacturing overhead cost | $294,000 |
|  | Variable manufacturing overhead per machine-hour | $2.30 |

Recently, Job M825 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 20 |
|  | Total machine-hours | 80 |
|  | Direct materials | $665 |
|  | Direct labor cost | $1,840 |

[QUESTION]

147. The predetermined overhead rate is closest to:

A) $8.80 per machine-hour

B) $6.50 per machine-hour

C) $2.30 per machine-hour

D) $4.20 per machine-hour

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref20

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $294,000 + ($2.30 per machine-hour × 70,000 machine-hours) = $294,000 + $161,000 = $455,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $455,000 ÷ 70,000 machine-hours = $6.50 per machine-hour

[QUESTION]

148. The amount of overhead applied to Job M825 is closest to:

A) $184

B) $520

C) $704

D) $336

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref20

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $294,000 + ($2.30 per machine-hour × 70,000 machine-hours) = $294,000 + $161,000 = $455,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $455,000 ÷ 70,000 machine-hours = $6.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $6.50 per machine-hour × 80 machine-hours = $520

[QUESTION]

149. The total job cost for Job M825 is closest to:

A) $2,360

B) $2,505

C) $1,185

D) $3,025

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref20

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $294,000 + ($2.30 per machine-hour × 70,000 machine-hours) = $294,000 + $161,000 = $455,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $455,000 ÷ 70,000 machine-hours = $6.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $6.50 per machine-hour × 80 machine-hours = $520

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $665 |
|  | Direct labor | 1,840 |
|  | Manufacturing overhead applied | 520 |
|  | Total cost of Job M825 | $3,025 |

[QUESTION]

150. The unit product cost for Job M825 is closest to:

A) $37.81

B) $59.25

C) $151.25

D) $125.25

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref20

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $294,000 + ($2.30 per machine-hour × 70,000 machine-hours) = $294,000 + $161,000 = $455,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $455,000 ÷ 70,000 machine-hours = $6.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $6.50 per machine-hour × 80 machine-hours = $520

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $665 |
|  | Direct labor | 1,840 |
|  | Manufacturing overhead applied | 520 |
|  | Total cost of Job M825 | $3,025 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job M825 (a) | $3,025 |
|  | Number of units (b) | 20 |
|  | Unit product cost (a) ÷ (b) | $151.25 |

[QUESTION]

151. If the company marks up its unit product costs by 40% then the selling price for a unit in Job M825 is closest to:

A) $60.50

B) $175.35

C) $211.75

D) $231.75

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref20

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $294,000 + ($2.30 per machine-hour × 70,000 machine-hours) = $294,000 + $161,000 = $455,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $455,000 ÷ 70,000 machine-hours = $6.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $6.50 per machine-hour × 80 machine-hours = $520

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $665 |
|  | Direct labor | 1,840 |
|  | Manufacturing overhead applied | 520 |
|  | Total cost of Job M825 | $3,025 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job M825 (a) | $3,025 |
|  | Number of units (b) | 20 |
|  | Unit product cost (a) ÷ (b) | $151.25 |

|  |  |  |
| --- | --- | --- |
|  | Unit product cost for Job M825 | $151.25 |
|  | Markup (40% × $151.25) | 60.50 |
|  | Selling price | $211.75 |

Reference: CH02-Ref21

Cull Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of $462,000, variable manufacturing overhead of $2.20 per machine-hour, and 60,000 machine-hours. The company has provided the following data concerning Job X455 which was recently completed:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 20 |
|  | Total machine-hours | 80 |
|  | Direct materials | $940 |
|  | Direct labor cost | $2,240 |

[QUESTION]

152. The amount of overhead applied to Job X455 is closest to:

A) $176

B) $792

C) $968

D) $616

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref21

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $462,000 + ($2.20 per machine-hour × 60,000 machine-hours) = $462,000 + $132,000 = $594,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $594,000 ÷ 60,000 machine-hours = $9.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $9.90 per machine-hour × 80 machine-hours = $792

[QUESTION]

153. The total job cost for Job X455 is closest to:

A) $3,972

B) $1,732

C) $3,180

D) $3,032

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref21

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $462,000 + ($2.20 per machine-hour × 60,000 machine-hours) = $462,000 + $132,000 = $594,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $594,000 ÷ 60,000 machine-hours = $9.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $9.90 per machine-hour × 80 machine-hours = $792

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $940 |
|  | Direct labor | 2,240 |
|  | Manufacturing overhead applied | 792 |
|  | Total cost of Job X455 | $3,972 |

[QUESTION]

154. The unit product cost for Job X455 is closest to:

A) $86.60

B) $159.00

C) $198.60

D) $49.65

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref21

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $462,000 + ($2.20 per machine-hour × 60,000 machine-hours) = $462,000 + $132,000 = $594,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $594,000 ÷ 60,000 machine-hours = $9.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $9.90 per machine-hour × 80 machine-hours = $792

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $940 |
|  | Direct labor | 2,240 |
|  | Manufacturing overhead applied | 792 |
|  | Total cost of Job X455 | $3,972 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job X455 (a) | $3,972 |
|  | Number of units (b) | 20 |
|  | Unit product cost (a) ÷ (b) | $198.60 |

[QUESTION]

155. If the company marks up its unit product costs by 20% then the selling price for a unit in Job X455 is closest to:

A) $258.32

B) $190.80

C) $39.72

D) $238.32

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref21

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $462,000 + ($2.20 per machine-hour × 60,000 machine-hours) = $462,000 + $132,000 = $594,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $594,000 ÷ 60,000 machine-hours = $9.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $9.90 per machine-hour × 80 machine-hours = $792

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $940 |
|  | Direct labor | 2,240 |
|  | Manufacturing overhead applied | 792 |
|  | Total cost of Job X455 | $3,972 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job X455 (a) | $3,972 |
|  | Number of units (b) | 20 |
|  | Unit product cost (a) ÷ (b) | $198.60 |

|  |  |  |
| --- | --- | --- |
|  | Unit product cost for Job X455 | $198.60 |
|  | Markup (20% × $198.60) | 39.72 |
|  | Selling price | $238.32 |

Reference: CH02-Ref22

Kostelnik Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of $237,000, variable manufacturing overhead of $3.90 per machine-hour, and 30,000 machine-hours. The company has provided the following data concerning Job A496 which was recently completed:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 20 |
|  | Total machine-hours | 80 |
|  | Direct materials | $500 |
|  | Direct labor cost | $2,160 |

[QUESTION]

156. The amount of overhead applied to Job A496 is closest to:

A) $1,256

B) $632

C) $944

D) $312

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref22

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $237,000 + ($3.90 per machine-hour × 30,000 machine-hours) = $237,000 + $117,000 = $354,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $354,000 ÷ 30,000 machine-hours = $11.80 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $11.80 per machine-hour × 80 machine-hours = $944

[QUESTION]

157. The total job cost for Job A496 is closest to:

A) $2,660

B) $3,104

C) $3,604

D) $1,444

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref22

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $237,000 + ($3.90 per machine-hour × 30,000 machine-hours) = $237,000 + $117,000 = $354,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $354,000 ÷ 30,000 machine-hours = $11.80 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $11.80 per machine-hour × 80 machine-hours = $944

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $500 |
|  | Direct labor | 2,160 |
|  | Manufacturing overhead applied | 944 |
|  | Total cost of Job A496 | $3,604 |

[QUESTION]

158. The unit product cost for Job A496 is closest to:

A) $133.00

B) $72.20

C) $45.05

D) $180.20

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref22

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $237,000 + ($3.90 per machine-hour × 30,000 machine-hours) = $237,000 + $117,000 = $354,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $354,000 ÷ 30,000 machine-hours = $11.80 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $11.80 per machine-hour × 80 machine-hours = $944

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $500 |
|  | Direct labor | 2,160 |
|  | Manufacturing overhead applied | 944 |
|  | Total cost of Job A496 | $3,604 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job A496 (a) | $3,604 |
|  | Number of units (b) | 20 |
|  | Unit product cost (a) ÷ (b) | $180.20 |

[QUESTION]

159. If the company marks up its unit product costs by 40% then the selling price for a unit in Job A496 is closest to:

A) $186.20

B) $272.28

C) $72.08

D) $252.28

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref22

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $237,000 + ($3.90 per machine-hour × 30,000 machine-hours) = $237,000 + $117,000 = $354,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $354,000 ÷ 30,000 machine-hours = $11.80 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $11.80 per machine-hour × 80 machine-hours = $944

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $500 |
|  | Direct labor | 2,160 |
|  | Manufacturing overhead applied | 944 |
|  | Total cost of Job A496 | $3,604 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job A496 (a) | $3,604 |
|  | Number of units (b) | 20 |
|  | Unit product cost (a) ÷ (b) | $180.20 |

|  |  |  |
| --- | --- | --- |
|  | Unit product cost for Job A496 | $180.20 |
|  | Markup (40% × $180.20) | 72.08 |
|  | Selling price | $252.28 |

Reference: CH02-Ref23

Halbur Corporation has two manufacturing departments--Machining and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Machining | Customizing | Total |
|  | Estimated total machine-hours (MHs) | 6,000 | 4,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $33,600 | $10,000 | $43,600 |
|  | Estimated variable manufacturing overhead cost per MH | $1.80 | $2.80 |  |

During the most recent month, the company started and completed two jobs--Job C and Job J. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job C | Job J |
|  | Direct materials | $11,300 | $8,100 |
|  | Direct labor cost | $18,500 | $6,300 |
|  | Machining machine-hours | 4,100 | 1,900 |
|  | Customizing machine-hours | 1,600 | 2,400 |

[QUESTION]

160. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. The amount of manufacturing overhead applied to Job J is closest to:

A) $28,208

B) $18,748

C) $12,464

D) $15,744

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref23

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $33,600 |
|  | Estimated variable manufacturing overhead ($1.80 per MH × 6,000 MHs) | 10,800 |
|  | Estimated total manufacturing overhead cost | $44,400 |

Customizing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $10,000 |
|  | Estimated variable manufacturing overhead ($2.80 per MH × 4,000 MHs) | 11,200 |
|  | Estimated total manufacturing overhead cost | $21,200 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($44,400 + $21,200 = $65,600) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $65,600 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $6.56 | per MH |

The overhead applied to Job J is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $6.56 per MH x (1,900 MHs + 2,400 MHs)

= $6.56 per MH x (4,300 MHs)

= $28,208

[QUESTION]

161. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. The total manufacturing cost assigned to Job C is closest to:

A) $18,500

B) $67,192

C) $11,300

D) $37,392

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref23

Fee The first step is to calculate the estimated total overhead costs in the two departments.

Machining

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $33,600 |
|  | Estimated variable manufacturing overhead ($1.80 per MH × 6,000 MHs) | 10,800 |
|  | Estimated total manufacturing overhead cost | $44,400 |

Customizing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $10,000 |
|  | Estimated variable manufacturing overhead ($2.80 per MH × 4,000 MHs) | 11,200 |
|  | Estimated total manufacturing overhead cost | $21,200 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($44,400 + $21,200 = $65,600) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $65,600 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $6.56 | per MH |

The overhead applied to Job C is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $6.56 per MH x (4,100 MHs + 1,600 MHs)

= $6.56 per MH x (5,700 MHs)

= $37,392

Job C’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $11,300 |
|  | Direct labor cost | 18,500 |
|  | Manufacturing overhead applied | 37,392 |
|  | Total manufacturing cost | $67,192 |

Reference: CH02-Ref24

Prather Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total direct labor-hours | 50,000 |
|  | Total fixed manufacturing overhead cost | $285,000 |
|  | Variable manufacturing overhead per direct labor-hour | $3.80 |

Recently, Job P513 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 10 |
|  | Total direct labor-hours | 20 |
|  | Direct materials | $710 |
|  | Direct labor cost | $500 |

[QUESTION]

162. The estimated total manufacturing overhead is closest to:

A) $475,000

B) $285,000

C) $190,000

D) $285,004

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref24

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $285,000 + ($3.80 per direct labor-hour × 50,000 direct labor-hours) = $285,000 + $190,000 = $475,000

[QUESTION]

163. The predetermined overhead rate is closest to:

A) $13.30 per direct labor-hour

B) $3.80 per direct labor-hour

C) $9.50 per direct labor-hour

D) $5.70 per direct labor-hour

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref24

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $285,000 + ($3.80 per direct labor-hour × 50,000 direct labor-hours) = $285,000 + $190,000 = $475,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $475,000 ÷ 50,000 direct labor-hours = $9.50 per direct labor-hour

[QUESTION]

164. The amount of overhead applied to Job P513 is closest to:

A) $76

B) $190

C) $266

D) $114

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref24

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $285,000 + ($3.80 per direct labor-hour × 50,000 direct labor-hours) = $285,000 + $190,000 = $475,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $475,000 ÷ 50,000 direct labor-hours = $9.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $9.50 per direct labor-hour × 20 direct labor-hours = $190

[QUESTION]

165. The total job cost for Job P513 is closest to:

A) $690

B) $900

C) $1,400

D) $1,210

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref24

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $285,000 + ($3.80 per direct labor-hour × 50,000 direct labor-hours) = $285,000 + $190,000 = $475,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $475,000 ÷ 50,000 direct labor-hours = $9.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $9.50 per direct labor-hour × 20 direct labor-hours = $190

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $710 |
|  | Direct labor | 500 |
|  | Manufacturing overhead applied | 190 |
|  | Total cost of Job P513 | $1,400 |

Reference: CH02-Ref25

Kubes Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of $90,000, variable manufacturing overhead of $3.50 per direct labor-hour, and 30,000 direct labor-hours. The company has provided the following data concerning Job A477 which was recently completed:

|  |  |  |
| --- | --- | --- |
|  | Total direct labor-hours | 100 |
|  | Direct materials | $520 |
|  | Direct labor cost | $2,800 |

[QUESTION]

166. The amount of overhead applied to Job A477 is closest to:

A) $300

B) $350

C) $650

D) $1,000

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref25

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $90,000 + ($3.50 per direct labor-hour × 30,000 direct labor-hours) = $90,000 + $105,000 = $195,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $195,000 ÷ 30,000 direct labor-hours = $6.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $6.50 per direct labor-hour × 100 direct labor-hours = $650

[QUESTION]

167. The total job cost for Job A477 is closest to:

A) $3,450

B) $1,170

C) $3,970

D) $3,320

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref25

Feedback:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $90,000 + ($3.50 per direct labor-hour × 30,000 direct labor-hours) = $90,000 + $105,000 = $195,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $195,000 ÷ 30,000 direct labor-hours = $6.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $6.50 per direct labor-hour × 100 direct labor-hours = $650

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $520 |
|  | Direct labor | 2,800 |
|  | Manufacturing overhead applied | 650 |
|  | Total cost of Job A477 | $3,970 |

Reference: CH02-Ref26

Deloria Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department’s predetermined overhead rate is based on machine-hours and the Assembly Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Forming | Assembly |
|  | Machine-hours | 19,000 | 15,000 |
|  | Direct labor-hours | 4,000 | 8,000 |
|  | Total fixed manufacturing overhead cost | $129,200 | $77,600 |
|  | Variable manufacturing overhead per machine-hour | $1.60 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.00 |

During the current month the company started and finished Job T288. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job T288: | Forming | Assembly |
|  | Machine-hours | 80 | 10 |
|  | Direct labor-hours | 30 | 40 |
|  | Direct materials | $730 | $380 |
|  | Direct labor cost | $900 | $1,200 |

[QUESTION]

168. The estimated total manufacturing overhead for the Assembly Department is closest to:

A) $77,600

B) $101,600

C) $56,674

D) $24,000

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref26

Feedback:

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $77,600 + ($3.00 per direct labor-hour × 8,000 direct labor-hours)

= $77,600 + $24,000 = $101,600

[QUESTION]

169. The predetermined overhead rate for the Assembly Department is closest to:

A) $3.00 per direct labor-hour

B) $12.70 per direct labor-hour

C) $9.70 per direct labor-hour

D) $5.35 per direct labor-hour

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref26

Feedback:

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $77,600 + ($3.00 per direct labor-hour × 8,000 direct labor-hours)

= $77,600 + $24,000 = $101,600

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $101,600 ÷8,000 direct labor-hours = $12.70 per direct labor-hour

[QUESTION]

170. The amount of overhead applied in the Assembly Department to Job T288 is closest to:

A) $508.00

B) $101,600.00

C) $388.00

D) $120.00

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $77,600 + ($3.00 per direct labor-hour × 8,000 direct labor-hours)

= $77,600 + $24,000 = $101,600

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $101,600 ÷8,000 direct labor-hours = $12.70 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $12.70 per direct labor-hour × 40 direct labor-hours = $508

[QUESTION]

171. The total amount of overhead applied in both departments to Job T288 is closest to:

A) $508

B) $672

C) $1,688

D) $1,180

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref26

Feedback:

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $129,200 + ($1.60 per machine-hour × 19,000 machine-hours)

= $129,200 +$30,400 = $159,600

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $159,600 ÷ 19,000 machine-hours = $8.40 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $8.40 per machine-hour × 80 machine-hours = $672

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $77,600 + ($3.00 per direct labor-hour × 8,000 direct labor-hours)

= $77,600 + $24,000 = $101,600

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $101,600 ÷8,000 direct labor-hours = $12.70 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $12.70 per direct labor-hour × 40 direct labor-hours = $508

Overhead applied to Job T288

|  |  |  |
| --- | --- | --- |
|  | Forming Department | $672 |
|  | Assembly Department | 508 |
|  | Total | $1,180 |

[QUESTION]

172. The total job cost for Job T288 is closest to:

A) $672

B) $2,088

C) $2,302

D) $4,390

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref26

Feedback:

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $129,200 + ($1.60 per machine-hour × 19,000 machine-hours)

= $129,200 +$30,400 = $159,600

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $159,600 ÷ 19,000 machine-hours = $8.40 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $8.40 per machine-hour × 80 machine-hours = $672

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $77,600 + ($3.00 per direct labor-hour × 8,000 direct labor-hours)

= $77,600 + $24,000 = $101,600

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $101,600 ÷8,000 direct labor-hours = $12.70 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $12.70 per direct labor-hour × 40 direct labor-hours = $508

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Forming | Assembly | Total |
|  | Direct materials | $730 | $380 | $1,110 |
|  | Direct labor | $900 | $1,200 | 2,100 |
|  | Manufacturing overhead applied | $672 | $508 | 1,180 |
|  | Total cost of Job T288 |  |  | $4,390 |

[QUESTION]

173. If the company marks up its manufacturing costs by 20% then the selling price for Job T288 would be closest to:

A) $4,390.00

B) $878.00

C) $5,268.00

D) $5,795.00

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref26

Feedback:

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $129,200 + ($1.60 per machine-hour × 19,000 machine-hours)

= $129,200 +$30,400 = $159,600

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $159,600 ÷ 19,000 machine-hours = $8.40 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $8.40 per machine-hour × 80 machine-hours = $672

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $77,600 + ($3.00 per direct labor-hour × 8,000 direct labor-hours)

= $77,600 + $24,000 = $101,600

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $101,600 ÷8,000 direct labor-hours = $12.70 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $12.70 per direct labor-hour × 40 direct labor-hours = $508

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Forming | Assembly | Total |
|  | Direct materials | $730 | $380 | $1,110 |
|  | Direct labor | $900 | $1,200 | 2,100 |
|  | Manufacturing overhead applied | $672 | $508 | 1,180 |
|  | Total cost of Job T288 |  |  | $4,390 |

|  |  |  |
| --- | --- | --- |
|  | Total cost of Job T288 | $4,390.00 |
|  | Markup ($4,390.00 × 20%) | 878.00 |
|  | Selling price | $5,268.00 |

Reference: CH02-Ref27

Macnamara Corporation has two manufacturing departments--Casting and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Casting | Finishing | Total |
|  | Estimated total machine-hours (MHs) | 1,000 | 4,000 | 5,000 |
|  | Estimated total fixed manufacturing overhead cost | $4,800 | $8,800 | $13,600 |
|  | Estimated variable manufacturing overhead cost per MH | $1.80 | $2.90 |  |

During the most recent month, the company started and completed two jobs--Job F and Job M. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job F | Job M |
|  | Direct materials | $11,500 | $9,000 |
|  | Direct labor cost | $18,400 | $7,400 |
|  | Casting machine-hours | 700 | 300 |
|  | Finishing machine-hours | 1,600 | 2,400 |

[QUESTION]

174. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. The manufacturing overhead applied to Job F is closest to:

A) $4,620

B) $12,780

C) $12,420

D) $8,160

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref27

Feedback:

Casting Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $4,800 |  |
|  | Estimated variable manufacturing overhead ($1.80 per MH × 1,000 MHs) | 1,800 |  |
|  | Estimated total manufacturing overhead cost (a) | $6,600 |  |
|  | Estimated total machine-hours (b) | 1,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $6.60 | per MH |

Finishing Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $8,800 |  |
|  | Estimated variable manufacturing overhead ($2.90 per MH × 4,000 MHs) | 11,600 |  |
|  | Estimated total manufacturing overhead cost (a) | $20,400 |  |
|  | Estimated total machine-hours (b) | 4,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.10 | per MH |

Manufacturing overhead applied to Job F:

|  |  |  |
| --- | --- | --- |
|  | Casting ($6.60 per MH × 700 MHs) | $4,620 |
|  | Finishing ($5.10 per MH × 1,600 MHs) | 8,160 |
|  | Total manufacturing overhead applied | $12,780 |

[QUESTION]

175. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 50% on manufacturing cost to establish selling prices. The calculated selling price for Job M is closest to:

A) $15,310

B) $47,767

C) $30,620

D) $45,930

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref27

Feedback:

Casting Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $4,800 |  |
|  | Estimated variable manufacturing overhead ($1.80 per MH × 1,000 MHs) | 1,800 |  |
|  | Estimated total manufacturing overhead cost (a) | $6,600 |  |
|  | Estimated total machine-hours (b) | 1,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $6.60 | per MH |

Finishing Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $8,800 |  |
|  | Estimated variable manufacturing overhead ($2.90 per MH × 4,000 MHs) | 11,600 |  |
|  | Estimated total manufacturing overhead cost (a) | $20,400 |  |
|  | Estimated total machine-hours (b) | 4,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.10 | per MH |

Manufacturing overhead applied to Job M:

|  |  |  |
| --- | --- | --- |
|  | Casting ($6.60 per MH × 300 MHs) | $1,980 |
|  | Finishing ($5.10 per MH × 2,400 MHs) | 12,240 |
|  | Total manufacturing overhead applied | $14,220 |

The selling price for Job M would be calculated as follows:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $9,000 |
|  | Direct labor cost | 7,400 |
|  | Manufacturing overhead applied | 14,220 |
|  | Total manufacturing cost | $30,620 |
|  | Markup (50%) | 15,310 |
|  | Selling price | $45,930 |

Reference: CH02-Ref28

Hickingbottom Corporation has two production departments, Forming and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department’s predetermined overhead rate is based on machine-hours and the Finishing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Forming | Finishing |
|  | Machine-hours | 17,000 | 15,000 |
|  | Direct labor-hours | 1,000 | 7,000 |
|  | Total fixed manufacturing overhead cost | $96,900 | $65,800 |
|  | Variable manufacturing overhead per machine-hour | $2.00 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.60 |

During the current month the company started and finished Job M381. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job M381: | Forming | Finishing |
|  | Machine-hours | 80 | 30 |
|  | Direct labor-hours | 30 | 40 |
|  | Direct materials | $840 | $350 |
|  | Direct labor cost | $750 | $1,000 |

[QUESTION]

176. The predetermined overhead rate for the Forming Department is closest to:

A) $5.70 per machine-hour

B) $7.70 per machine-hour

C) $2.00 per machine-hour

D) $18.70 per machine-hour

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref28

Feedback:

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $96,900 + ($2.00 per machine-hour × 17,000 machine-hours)

= $96,900 +$34,000 = $130,900

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $130,900 ÷ 17,000 machine-hours = $7.70 per machine-hour

[QUESTION]

177. The predetermined overhead rate for the Finishing Department is closest to:

A) $9.40 per direct labor-hour

B) $13.00 per direct labor-hour

C) $3.60 per direct labor-hour

D) $5.35 per direct labor-hour

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref28

Feedback:

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $65,800 + ($3.60 per direct labor-hour × 7,000 direct labor-hours)

= $65,800 + $25,200 = $91,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $91,000 ÷7,000 direct labor-hours = $13.00 per direct labor-hour

[QUESTION]

178. The total job cost for Job M381 is closest to:

A) $2,206

B) $616

C) $4,076

D) $1,870

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref28

Feedback:

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $96,900 + ($2.00 per machine-hour × 17,000 machine-hours)

= $96,900 +$34,000 = $130,900

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $130,900 ÷ 17,000 machine-hours = $7.70 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $7.70 per machine-hour × 80 machine-hours = $616

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $65,800 + ($3.60 per direct labor-hour × 7,000 direct labor-hours)

= $65,800 + $25,200 = $91,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $91,000 ÷7,000 direct labor-hours = $13.00 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $13.00 per direct labor-hour × 40 direct labor-hours = $520

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Forming | Finishing | Total |
|  | Direct materials | $840 | $350 | $1,190 |
|  | Direct labor | $750 | $1,000 | 1,750 |
|  | Manufacturing overhead applied | $616 | $520 | 1,136 |
|  | Total cost of Job M381 |  |  | $4,076 |

Reference: CH02-Ref29

Kalp Corporation has two production departments, Machining and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department’s predetermined overhead rate is based on machine-hours and the Finishing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Machining | Finishing |
|  | Machine-hours | 19,000 | 12,000 |
|  | Direct labor-hours | 2,000 | 8,000 |
|  | Total fixed manufacturing overhead cost | $136,800 | $69,600 |
|  | Variable manufacturing overhead per machine-hour | $1.80 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.20 |

During the current month the company started and finished Job K928. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job K928: | Machining | Finishing |
|  | Machine-hours | 90 | 10 |
|  | Direct labor-hours | 30 | 50 |
|  | Direct materials | $775 | $415 |
|  | Direct labor cost | $630 | $1,050 |

[QUESTION]

179. The estimated total manufacturing overhead for the Machining Department is closest to:

A) $136,800

B) $34,200

C) $171,000

D) $359,100

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref29

Feedback:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $136,800 + ($1.80 per machine-hour × 19,000 machine-hours)

= $136,800 +$34,200 = $171,000

[QUESTION]

180. The predetermined overhead rate for the Machining Department is closest to:

A) $7.20 per machine-hour

B) $9.00 per machine-hour

C) $21.38 per machine-hour

D) $1.80 per machine-hour

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref29

Feedback:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $136,800 + ($1.80 per machine-hour × 19,000 machine-hours)

= $136,800 +$34,200 = $171,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $171,000 ÷ 19,000 machine-hours = $9.00 per machine-hour

[QUESTION]

181. The amount of overhead applied in the Machining Department to Job K928 is closest to:

A) $783.00

B) $810.00

C) $162.00

D) $171,000.00

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref29

Feedback:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $136,800 + ($1.80 per machine-hour × 19,000 machine-hours)

= $136,800 +$34,200 = $171,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $171,000 ÷ 19,000 machine-hours = $9.00 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $9.00 per machine-hour × 90 machine-hours = $810

[QUESTION]

182. The total amount of overhead applied in both departments to Job K928 is closest to:

A) $1,405

B) $2,000

C) $810

D) $595

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref29

Feedback:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $136,800 + ($1.80 per machine-hour × 19,000 machine-hours)

= $136,800 +$34,200 = $171,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $171,000 ÷ 19,000 machine-hours = $9.00 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $9.00 per machine-hour × 90 machine-hours = $810

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $69,600 + ($3.20 per direct labor-hour × 8,000 direct labor-hours)

= $69,600 + $25,600 = $95,200

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $95,200 ÷8,000 direct labor-hours = $11.90 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $11.90 per direct labor-hour × 50 direct labor-hours = $595

Overhead applied to Job K928

|  |  |  |
| --- | --- | --- |
|  | Machining Department | $810 |
|  | Finishing Department | 595 |
|  | Total | $1,405 |

[QUESTION]

183. The total job cost for Job K928 is closest to:

A) $810

B) $4,275

C) $2,060

D) $2,215

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref29

Feedback:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $136,800 + ($1.80 per machine-hour × 19,000 machine-hours)

= $136,800 +$34,200 = $171,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $171,000 ÷ 19,000 machine-hours = $9.00 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $9.00 per machine-hour × 90 machine-hours = $810

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $69,600 + ($3.20 per direct labor-hour × 8,000 direct labor-hours)

= $69,600 + $25,600 = $95,200

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $95,200 ÷8,000 direct labor-hours = $11.90 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $11.90 per direct labor-hour × 50 direct labor-hours = $595

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Machining | Finishing | Total |
|  | Direct materials | $775 | $415 | $1,190 |
|  | Direct labor | $630 | $1,050 | 1,680 |
|  | Manufacturing overhead applied | $810 | $595 | 1,405 |
|  | Total cost of Job K928 |  |  | $4,275 |

[QUESTION]

184. If the company marks up its manufacturing costs by 20% then the selling price for Job K928 would be closest to:

A) $4,275.00

B) $5,643.00

C) $5,130.00

D) $855.00

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref29

Feedback:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $136,800 + ($1.80 per machine-hour × 19,000 machine-hours)

= $136,800 +$34,200 = $171,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $171,000 ÷ 19,000 machine-hours = $9.00 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $9.00 per machine-hour × 90 machine-hours = $810

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $69,600 + ($3.20 per direct labor-hour × 8,000 direct labor-hours)

= $69,600 + $25,600 = $95,200

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $95,200 ÷8,000 direct labor-hours = $11.90 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $11.90 per direct labor-hour × 50 direct labor-hours = $595

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Machining | Finishing | Total |
|  | Direct materials | $775 | $415 | $1,190 |
|  | Direct labor | $630 | $1,050 | 1,680 |
|  | Manufacturing overhead applied | $810 | $595 | 1,405 |
|  | Total cost of Job K928 |  |  | $4,275 |

|  |  |  |
| --- | --- | --- |
|  | Total cost of Job K928 | $4,275.00 |
|  | Markup ($4,275.00 × 20%) | 855.00 |
|  | Selling price | $5,130.00 |

Reference: CH02-Ref30

Janicki Corporation has two manufacturing departments--Machining and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Machining | Customizing | Total |
|  | Estimated total machine-hours (MHs) | 1,000 | 9,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $4,800 | $23,400 | $28,200 |
|  | Estimated variable manufacturing overhead cost per MH | $1.10 | $2.50 |  |

During the most recent month, the company started and completed two jobs--Job A and Job J. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job A | Job J |
|  | Direct materials | $12,000 | $7,700 |
|  | Direct labor cost | $20,700 | $6,400 |
|  | Machining machine-hours | 700 | 300 |
|  | Customizing machine-hours | 3,600 | 5,400 |

[QUESTION]

185. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 50% on manufacturing cost to establish selling prices. The calculated selling price for Job A is closest to:

A) $90,707

B) $27,487

C) $82,461

D) $54,974

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref30

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $4,800 |
|  | Estimated variable manufacturing overhead ($1.10 per MH × 1,000 MHs) | 1,100 |
|  | Estimated total manufacturing overhead cost | $5,900 |

Customizing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $23,400 |
|  | Estimated variable manufacturing overhead ($2.50 per MH × 9,000 MHs) | 22,500 |
|  | Estimated total manufacturing overhead cost | $45,900 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($5,900 + $45,900 = $51,800) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $51,800 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $5.18 | per MH |

The overhead applied to Job A is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.18 per MH x (700 MHs + 3,600 MHs)

= $5.18 per MH x (4,300 MHs)

= $22,274

Job A’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $12,000 |
|  | Direct labor cost | 20,700 |
|  | Manufacturing overhead applied | 22,274 |
|  | Total manufacturing cost | $54,974 |

The selling price for Job A:

|  |  |  |
| --- | --- | --- |
|  | Total manufacturing cost | $54,974 |
|  | Markup (50%) | 27,487 |
|  | Selling price | $82,461 |

[QUESTION]

186. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 50% on manufacturing cost to establish selling prices. The calculated selling price for Job J is closest to:

A) $71,983

B) $65,439

C) $43,626

D) $21,813

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref30

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $4,800 |
|  | Estimated variable manufacturing overhead ($1.10 per MH × 1,000 MHs) | 1,100 |
|  | Estimated total manufacturing overhead cost | $5,900 |

Customizing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $23,400 |
|  | Estimated variable manufacturing overhead ($2.50 per MH × 9,000 MHs) | 22,500 |
|  | Estimated total manufacturing overhead cost | $45,900 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($5,900 + $45,900 = $51,800) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $51,800 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $5.18 | per MH |

The overhead applied to Job J is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.18 per MH x (300 MHs + 5,400 MHs)

= $5.18 per MH x (5,700 MHs)

= $29,526

Job J’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $7,700 |
|  | Direct labor cost | 6,400 |
|  | Manufacturing overhead applied | 29,526 |
|  | Total manufacturing cost | $43,626 |

The selling price for Job J:

|  |  |  |
| --- | --- | --- |
|  | Total manufacturing cost | $43,626 |
|  | Markup (50%) | 21,813 |
|  | Selling price | $65,439 |

[QUESTION]

187. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 50% on manufacturing cost to establish selling prices. The calculated selling price for Job A is closest to:

A) $27,595

B) $87,752

C) $82,785

D) $55,190

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref30

Feedback:

Machining Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $4,800 |  |
|  | Estimated variable manufacturing overhead ($1.10 per MH × 1,000 MHs) | 1,100 |  |
|  | Estimated total manufacturing overhead cost (a) | $5,900 |  |
|  | Estimated total machine-hours (b) | 1,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.90 | per MH |

Customizing Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $23,400 |  |
|  | Estimated variable manufacturing overhead ($2.50 per MH × 9,000 MHs) | 22,500 |  |
|  | Estimated total manufacturing overhead cost (a) | $45,900 |  |
|  | Estimated total machine-hours (b) | 9,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.10 | per MH |

Manufacturing overhead applied to Job A:

|  |  |  |
| --- | --- | --- |
|  | Machining ($5.90 per MH × 700 MHs) | $4,130 |
|  | Customizing ($5.10 per MH × 3,600 MHs) | 18,360 |
|  | Total manufacturing overhead applied | $22,490 |

The selling price for Job A would be calculated as follows:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $12,000 |
|  | Direct labor cost | 20,700 |
|  | Manufacturing overhead applied | 22,490 |
|  | Total manufacturing cost | $55,190 |
|  | Markup (50%) | 27,595 |
|  | Selling price | $82,785 |

[QUESTION]

188. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 50% on manufacturing cost to establish selling prices. The calculated selling price for Job J is closest to:

A) $65,115

B) $67,720

C) $21,705

D) $43,410

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref30

Feedback:

Machining Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $4,800 |  |
|  | Estimated variable manufacturing overhead ($1.10 per MH × 1,000 MHs) | 1,100 |  |
|  | Estimated total manufacturing overhead cost (a) | $5,900 |  |
|  | Estimated total machine-hours (b) | 1,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.90 | per MH |

Customizing Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $23,400 |  |
|  | Estimated variable manufacturing overhead ($2.50 per MH × 9,000 MHs) | 22,500 |  |
|  | Estimated total manufacturing overhead cost (a) | $45,900 |  |
|  | Estimated total machine-hours (b) | 9,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.10 | per MH |

Manufacturing overhead applied to Job J:

|  |  |  |
| --- | --- | --- |
|  | Machining ($5.90 per MH × 300 MHs) | $1,770 |
|  | Customizing ($5.10 per MH × 5,400 MHs) | 27,540 |
|  | Total manufacturing overhead applied | $29,310 |

The selling price for Job J would be calculated as follows:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $7,700 |
|  | Direct labor cost | 6,400 |
|  | Manufacturing overhead applied | 29,310 |
|  | Total manufacturing cost | $43,410 |
|  | Markup (50%) | 21,705 |
|  | Selling price | $65,115 |

Reference: CH02-Ref31

Comans Corporation has two production departments, Milling and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department’s predetermined overhead rate is based on machine-hours and the Customizing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Milling | Customizing |
|  | Machine-hours | 18,000 | 13,000 |
|  | Direct labor-hours | 4,000 | 7,000 |
|  | Total fixed manufacturing overhead cost | $113,400 | $64,400 |
|  | Variable manufacturing overhead per machine-hour | $1.60 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.90 |

During the current month the company started and finished Job A319. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job A319: | Milling | Customizing |
|  | Machine-hours | 60 | 10 |
|  | Direct labor-hours | 20 | 60 |
|  | Direct materials | $655 | $305 |
|  | Direct labor cost | $400 | $1,200 |

[QUESTION]

189. The amount of overhead applied in the Milling Department to Job A319 is closest to:

A) $142,200.00

B) $552.00

C) $96.00

D) $474.00

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref31

Feedback:

Milling Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $113,400 + ($1.60 per machine-hour × 18,000 machine-hours)

= $113,400 +$28,800 = $142,200

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $142,200 ÷ 18,000 machine-hours = $7.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $7.90 per machine-hour × 60 machine-hours = $474

[QUESTION]

190. The amount of overhead applied in the Customizing Department to Job A319 is closest to:

A) $234.00

B) $786.00

C) $552.00

D) $91,700.00

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $64,400 + ($3.90 per direct labor-hour × 7,000 direct labor-hours)

= $64,400 + $27,300 = $91,700

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $91,700 ÷7,000 direct labor-hours = $13.10 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $13.10 per direct labor-hour × 60 direct labor-hours = $786

[QUESTION]

191. If the company marks up its manufacturing costs by 20% then the selling price for Job A319 would be closest to:

A) $5,042.00

B) $4,584.00

C) $3,820.00

D) $764.00

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref31

Feedback:

Milling Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $113,400 + ($1.60 per machine-hour × 18,000 machine-hours)

= $113,400 +$28,800 = $142,200

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $142,200 ÷ 18,000 machine-hours = $7.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $7.90 per machine-hour × 60 machine-hours = $474

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $64,400 + ($3.90 per direct labor-hour × 7,000 direct labor-hours)

= $64,400 + $27,300 = $91,700

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $91,700 ÷7,000 direct labor-hours = $13.10 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $13.10 per direct labor-hour × 60 direct labor-hours = $786

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Milling | Customizing | Total |
|  | Direct materials | $655 | $305 | $960 |
|  | Direct labor | $400 | $1,200 | 1,600 |
|  | Manufacturing overhead applied | $474 | $786 | 1,260 |
|  | Total cost of Job A319 |  |  | $3,820 |

|  |  |  |
| --- | --- | --- |
|  | Total cost of Job A319 | $3,820.00 |
|  | Markup ($3,820.00 × 20%) | 764.00 |
|  | Selling price | $4,584.00 |

Reference: CH02-Ref32

Sanderlin Corporation has two manufacturing departments--Machining and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Machining | Finishing | Total |
|  | Estimated total machine-hours (MHs) | 5,000 | 5,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $26,500 | $13,500 | $40,000 |
|  | Estimated variable manufacturing overhead cost per MH | $2.00 | $3.00 |  |

During the most recent month, the company started and completed two jobs--Job C and Job L. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job C | Job L |
|  | Direct materials | $12,500 | $8,200 |
|  | Direct labor cost | $20,200 | $6,400 |
|  | Machining machine-hours | 3,400 | 1,600 |
|  | Finishing machine-hours | 2,000 | 3,000 |

[QUESTION]

192. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. The manufacturing overhead applied to Job L is closest to:

A) $11,680

B) $28,780

C) $17,100

D) $29,900

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref32

Feedback:

Machining Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $26,500 |  |
|  | Estimated variable manufacturing overhead ($2.00 per MH × 5,000 MHs) | 10,000 |  |
|  | Estimated total manufacturing overhead cost (a) | $36,500 |  |
|  | Estimated total machine-hours (b) | 5,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $7.30 | per MH |

Finishing Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $13,500 |  |
|  | Estimated variable manufacturing overhead ($3.00 per MH × 5,000 MHs) | 15,000 |  |
|  | Estimated total manufacturing overhead cost (a) | $28,500 |  |
|  | Estimated total machine-hours (b) | 5,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.70 | per MH |

Manufacturing overhead applied to Job L:

|  |  |  |
| --- | --- | --- |
|  | Machining ($7.30 per MH × 1,600 MHs) | $11,680 |
|  | Finishing ($5.70 per MH × 3,000 MHs) | 17,100 |
|  | Total manufacturing overhead applied | $28,780 |

[QUESTION]

193. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 20% on manufacturing cost to establish selling prices. The calculated selling price for Job C is closest to:

A) $87,666

B) $68,920

C) $13,784

D) $82,704

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref32

Feedback:

Machining Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $26,500 |  |
|  | Estimated variable manufacturing overhead ($2.00 per MH × 5,000 MHs) | 10,000 |  |
|  | Estimated total manufacturing overhead cost (a) | $36,500 |  |
|  | Estimated total machine-hours (b) | 5,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $7.30 | per MH |

Finishing Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $13,500 |  |
|  | Estimated variable manufacturing overhead ($3.00 per MH × 5,000 MHs) | 15,000 |  |
|  | Estimated total manufacturing overhead cost (a) | $28,500 |  |
|  | Estimated total machine-hours (b) | 5,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.70 | per MH |

Manufacturing overhead applied to Job C:

|  |  |  |
| --- | --- | --- |
|  | Machining ($7.30 per MH × 3,400 MHs) | $24,820 |
|  | Finishing ($5.70 per MH × 2,000 MHs) | 11,400 |
|  | Total manufacturing overhead applied | $36,220 |

The selling price for Job C would be calculated as follows:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $12,500 |
|  | Direct labor cost | 20,200 |
|  | Manufacturing overhead applied | 36,220 |
|  | Total manufacturing cost | $68,920 |
|  | Markup (20%) | 13,784 |
|  | Selling price | $82,704 |

Reference: CH02-Ref33

Collini Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department’s predetermined overhead rate is based on machine-hours and the Customizing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Machining | Customizing |
|  | Machine-hours | 17,000 | 15,000 |
|  | Direct labor-hours | 3,000 | 6,000 |
|  | Total fixed manufacturing overhead cost | $102,000 | $61,200 |
|  | Variable manufacturing overhead per machine-hour | $1.70 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $4.10 |

During the current month the company started and finished Job T268. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job T268: | Machining | Customizing |
|  | Machine-hours | 80 | 30 |
|  | Direct labor-hours | 30 | 50 |
|  | Direct materials | $720 | $380 |
|  | Direct labor cost | $900 | $1,500 |

[QUESTION]

194. The total amount of overhead applied in both departments to Job T268 is closest to:

A) $616

B) $715

C) $2,046

D) $1,331

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref33

Feedback:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $102,000 + ($1.70 per machine-hour × 17,000 machine-hours)

= $102,000 +$28,900 = $130,900

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $130,900 ÷ 17,000 machine-hours = $7.70 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $7.70 per machine-hour × 80 machine-hours = $616

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $61,200 + ($4.10 per direct labor-hour × 6,000 direct labor-hours)

= $61,200 + $24,600 = $85,800

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $85,800 ÷6,000 direct labor-hours = $14.30 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $14.30 per direct labor-hour × 50 direct labor-hours = $715

Overhead applied to Job T268

|  |  |  |
| --- | --- | --- |
|  | Machining Department | $616 |
|  | Customizing Department | 715 |
|  | Total | $1,331 |

[QUESTION]

195. The total job cost for Job T268 is closest to:

A) $2,595

B) $616

C) $4,831

D) $2,236

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref33

Feedback:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $102,000 + ($1.70 per machine-hour × 17,000 machine-hours)

= $102,000 +$28,900 = $130,900

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $130,900 ÷ 17,000 machine-hours = $7.70 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $7.70 per machine-hour × 80 machine-hours = $616

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $61,200 + ($4.10 per direct labor-hour × 6,000 direct labor-hours)

= $61,200 + $24,600 = $85,800

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $85,800 ÷6,000 direct labor-hours = $14.30 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $14.30 per direct labor-hour × 50 direct labor-hours = $715

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Machining | Customizing | Total |
|  | Direct materials | $720 | $380 | $1,100 |
|  | Direct labor | $900 | $1,500 | 2,400 |
|  | Manufacturing overhead applied | $616 | $715 | 1,331 |
|  | Total cost of Job T268 |  |  | $4,831 |

[QUESTION]

196. If the company marks up its manufacturing costs by 40% then the selling price for Job T268 would be closest to:

A) $1,932.40

B) $6,763.40

C) $4,831.00

D) $7,440.00

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref33

Feedback:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $102,000 + ($1.70 per machine-hour × 17,000 machine-hours)

= $102,000 +$28,900 = $130,900

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $130,900 ÷ 17,000 machine-hours = $7.70 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $7.70 per machine-hour × 80 machine-hours = $616

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $61,200 + ($4.10 per direct labor-hour × 6,000 direct labor-hours)

= $61,200 + $24,600 = $85,800

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $85,800 ÷6,000 direct labor-hours = $14.30 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $14.30 per direct labor-hour × 50 direct labor-hours = $715

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Machining | Customizing | Total |
|  | Direct materials | $720 | $380 | $1,100 |
|  | Direct labor | $900 | $1,500 | 2,400 |
|  | Manufacturing overhead applied | $616 | $715 | 1,331 |
|  | Total cost of Job T268 |  |  | $4,831 |

|  |  |  |
| --- | --- | --- |
|  | Total cost of Job T268 | $4,831.00 |
|  | Markup ($4,831.00 × 40%) | 1,932.40 |
|  | Selling price | $6,763.40 |

Reference: CH02-Ref34

Heroux Corporation has two manufacturing departments--Forming and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Forming | Customizing | Total |
|  | Estimated total machine-hours (MHs) | 3,000 | 7,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $16,500 | $20,300 | $36,800 |
|  | Estimated variable manufacturing overhead cost per MH | $1.70 | $2.50 |  |

During the most recent month, the company started and completed two jobs--Job A and Job H. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job A | Job H |
|  | Direct materials | $12,800 | $6,700 |
|  | Direct labor cost | $24,300 | $7,800 |
|  | Forming machine-hours | 2,000 | 1,000 |
|  | Customizing machine-hours | 2,800 | 4,200 |

[QUESTION]

197. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. The amount of manufacturing overhead applied to Job A is closest to:

A) $28,512

B) $16,632

C) $11,880

D) $17,664

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref34

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Forming

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $16,500 |
|  | Estimated variable manufacturing overhead ($1.70 per MH × 3,000 MHs) | 5,100 |
|  | Estimated total manufacturing overhead cost | $21,600 |

Customizing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $20,300 |
|  | Estimated variable manufacturing overhead ($2.50 per MH × 7,000 MHs) | 17,500 |
|  | Estimated total manufacturing overhead cost | $37,800 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($21,600 + $37,800 = $59,400) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $59,400 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $5.94 | per MH |

The overhead applied to Job A is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.94 per MH x (2,000 MHs + 2,800 MHs)

= $5.94 per MH x (4,800 MHs)

= $28,512

[QUESTION]

198. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. The amount of manufacturing overhead applied to Job H is closest to:

A) $19,136

B) $5,940

C) $30,888

D) $24,948

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref34

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Forming

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $16,500 |
|  | Estimated variable manufacturing overhead ($1.70 per MH × 3,000 MHs) | 5,100 |
|  | Estimated total manufacturing overhead cost | $21,600 |

Customizing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $20,300 |
|  | Estimated variable manufacturing overhead ($2.50 per MH × 7,000 MHs) | 17,500 |
|  | Estimated total manufacturing overhead cost | $37,800 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($21,600 + $37,800 = $59,400) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $59,400 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $5.94 | per MH |

The overhead applied to Job H is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.94 per MH x (1,000 MHs + 4,200 MHs)

= $5.94 per MH x (5,200 MHs)

= $30,888

[QUESTION]

199. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. The manufacturing overhead applied to Job A is closest to:

A) $14,400

B) $15,120

C) $28,512

D) $29,520

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref34

Feedback:

Forming Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $16,500 |  |
|  | Estimated variable manufacturing overhead ($1.70 per MH × 3,000 MHs) | 5,100 |  |
|  | Estimated total manufacturing overhead cost (a) | $21,600 |  |
|  | Estimated total machine-hours (b) | 3,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $7.20 | per MH |

Customizing Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $20,300 |  |
|  | Estimated variable manufacturing overhead ($2.50 per MH × 7,000 MHs) | 17,500 |  |
|  | Estimated total manufacturing overhead cost (a) | $37,800 |  |
|  | Estimated total machine-hours (b) | 7,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.40 | per MH |

Manufacturing overhead applied to Job A:

|  |  |  |
| --- | --- | --- |
|  | Forming ($7.20 per MH × 2,000 MHs) | $14,400 |
|  | Customizing ($5.40 per MH × 2,800 MHs) | 15,120 |
|  | Total manufacturing overhead applied | $29,520 |

[QUESTION]

200. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. The manufacturing overhead applied to Job H is closest to:

A) $22,680

B) $30,888

C) $29,880

D) $7,200

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref34

Feedback:

Forming Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $16,500 |  |
|  | Estimated variable manufacturing overhead ($1.70 per MH × 3,000 MHs) | 5,100 |  |
|  | Estimated total manufacturing overhead cost (a) | $21,600 |  |
|  | Estimated total machine-hours (b) | 3,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $7.20 | per MH |

Customizing Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $20,300 |  |
|  | Estimated variable manufacturing overhead ($2.50 per MH × 7,000 MHs) | 17,500 |  |
|  | Estimated total manufacturing overhead cost (a) | $37,800 |  |
|  | Estimated total machine-hours (b) | 7,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.40 | per MH |

Manufacturing overhead applied to Job H:

|  |  |  |
| --- | --- | --- |
|  | Forming ($7.20 per MH × 1,000 MHs) | $7,200 |
|  | Customizing ($5.40 per MH × 4,200 MHs) | 22,680 |
|  | Total manufacturing overhead applied | $29,880 |

Reference: CH02-Ref35

Tiff Corporation has two production departments, Casting and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department’s predetermined overhead rate is based on machine-hours and the Assembly Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Casting | Assembly |
|  | Machine-hours | 17,000 | 10,000 |
|  | Direct labor-hours | 1,000 | 5,000 |
|  | Total fixed manufacturing overhead cost | $129,200 | $46,500 |
|  | Variable manufacturing overhead per machine-hour | $1.80 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.80 |

During the current month the company started and finished Job P131. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job P131: | Casting | Assembly |
|  | Machine-hours | 90 | 20 |
|  | Direct labor-hours | 20 | 60 |

[QUESTION]

201. The predetermined overhead rate for the Casting Department is closest to:

A) $9.40 per machine-hour

B) $7.60 per machine-hour

C) $1.80 per machine-hour

D) $31.96 per machine-hour

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref35

Feedback:

Casting Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $129,200 + ($1.80 per machine-hour × 17,000 machine-hours)

= $129,200 +$30,600 = $159,800

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $159,800 ÷ 17,000 machine-hours = $9.40 per machine-hour

[QUESTION]

202. The amount of overhead applied in the Assembly Department to Job P131 is closest to:

A) $228.00

B) $558.00

C) $65,500.00

D) $786.00

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $46,500 + ($3.80 per direct labor-hour × 5,000 direct labor-hours)

= $46,500 + $19,000 = $65,500

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $65,500 ÷5,000 direct labor-hours = $13.10 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $13.10 per direct labor-hour × 60 direct labor-hours = $786

Reference: CH02-Ref36

Eisentrout Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department’s predetermined overhead rate is based on machine-hours and the Customizing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Machining | Customizing |
|  | Machine-hours | 16,000 | 11,000 |
|  | Direct labor-hours | 2,000 | 6,000 |
|  | Total fixed manufacturing overhead cost | $104,000 | $56,400 |
|  | Variable manufacturing overhead per machine-hour | $2.10 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.30 |

During the current month the company started and finished Job T272. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job T272: | Machining | Customizing |
|  | Machine-hours | 60 | 30 |
|  | Direct labor-hours | 10 | 60 |

[QUESTION]

203. The estimated total manufacturing overhead for the Machining Department is closest to:

A) $137,600

B) $104,000

C) $33,600

D) $310,933

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref36

Feedback:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $104,000 + ($2.10 per machine-hour × 16,000 machine-hours)

= $104,000 +$33,600 = $137,600

[QUESTION]

204. The estimated total manufacturing overhead for the Customizing Department is closest to:

A) $40,950

B) $19,800

C) $56,400

D) $76,200

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref36

Feedback:

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $56,400 + ($3.30 per direct labor-hour × 6,000 direct labor-hours)

= $56,400 + $19,800 = $76,200

[QUESTION]

205. The predetermined overhead rate for the Machining Department is closest to:

A) $22.93 per machine-hour

B) $6.50 per machine-hour

C) $2.10 per machine-hour

D) $8.60 per machine-hour

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref36

Feedback:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $104,000 + ($2.10 per machine-hour × 16,000 machine-hours)

= $104,000 +$33,600 = $137,600

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $137,600 ÷ 16,000 machine-hours = $8.60 per machine-hour

[QUESTION]

206. The predetermined overhead rate for the Customizing Department is closest to:

A) $3.30 per direct labor-hour

B) $12.70 per direct labor-hour

C) $9.40 per direct labor-hour

D) $4.76 per direct labor-hour

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref36

Feedback:

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $56,400 + ($3.30 per direct labor-hour × 6,000 direct labor-hours)

= $56,400 + $19,800 = $76,200

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $76,200 ÷6,000 direct labor-hours = $12.70 per direct labor-hour

[QUESTION]

207. The amount of overhead applied in the Machining Department to Job T272 is closest to:

A) $137,600.00

B) $126.00

C) $516.00

D) $564.00

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref36

Feedback:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $104,000 + ($2.10 per machine-hour × 16,000 machine-hours)

= $104,000 +$33,600 = $137,600

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $137,600 ÷ 16,000 machine-hours = $8.60 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $8.60 per machine-hour × 60 machine-hours = $516

[QUESTION]

208. The amount of overhead applied in the Customizing Department to Job T272 is closest to:

A) $76,200.00

B) $762.00

C) $564.00

D) $198.00

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $56,400 + ($3.30 per direct labor-hour × 6,000 direct labor-hours)

= $56,400 + $19,800 = $76,200

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $76,200 ÷6,000 direct labor-hours = $12.70 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $12.70 per direct labor-hour × 60 direct labor-hours = $762

Reference: CH02-Ref37

Stoke Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department’s predetermined overhead rate is based on machine-hours and the Assembly Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Forming | Assembly |
|  | Machine-hours | 20,000 | 15,000 |
|  | Direct labor-hours | 2,000 | 7,000 |
|  | Total fixed manufacturing overhead cost | $138,000 | $58,100 |
|  | Variable manufacturing overhead per machine-hour | $2.30 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.00 |

During the current month the company started and finished Job A460. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job A460: | Forming | Assembly |
|  | Machine-hours | 80 | 10 |
|  | Direct labor-hours | 30 | 50 |

[QUESTION]

209. The amount of overhead applied in the Forming Department to Job A460 is closest to:

A) $184,000.00

B) $184.00

C) $736.00

D) $664.00

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref37

Feedback:

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $138,000 + ($2.30 per machine-hour × 20,000 machine-hours)

= $138,000 +$46,000 = $184,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $184,000 ÷ 20,000 machine-hours = $9.20 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $9.20 per machine-hour × 80 machine-hours = $736

[QUESTION]

210. The amount of overhead applied in the Assembly Department to Job A460 is closest to:

A) $415.00

B) $150.00

C) $565.00

D) $79,100.00

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $58,100 + ($3.00 per direct labor-hour × 7,000 direct labor-hours)

= $58,100 + $21,000 = $79,100

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $79,100 ÷7,000 direct labor-hours = $11.30 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $11.30 per direct labor-hour × 50 direct labor-hours = $565

Reference: CH02-Ref38

Vanliere Corporation has two production departments, Machining and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department’s predetermined overhead rate is based on machine-hours and the Finishing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Machining | Finishing |
|  | Machine-hours | 19,000 | 11,000 |
|  | Direct labor-hours | 3,000 | 6,000 |
|  | Total fixed manufacturing overhead cost | $138,700 | $52,800 |
|  | Variable manufacturing overhead per machine-hour | $1.90 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.80 |

During the current month the company started and finished Job A803. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job A803: | Machining | Finishing |
|  | Machine-hours | 90 | 20 |
|  | Direct labor-hours | 20 | 60 |

[QUESTION]

211. The predetermined overhead rate for the Finishing Department is closest to:

A) $8.80 per direct labor-hour

B) $3.98 per direct labor-hour

C) $12.60 per direct labor-hour

D) $3.80 per direct labor-hour

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref38

Feedback:

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $52,800 + ($3.80 per direct labor-hour × 6,000 direct labor-hours)

= $52,800 + $22,800 = $75,600

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $75,600 ÷6,000 direct labor-hours = $12.60 per direct labor-hour

[QUESTION]

212. The amount of overhead applied in the Machining Department to Job A803 is closest to:

A) $828.00

B) $792.00

C) $171.00

D) $174,800.00

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref38

Feedback:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $138,700 + ($1.90 per machine-hour × 19,000 machine-hours)

= $138,700 +$36,100 = $174,800

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $174,800 ÷ 19,000 machine-hours = $9.20 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $9.20 per machine-hour × 90 machine-hours = $828

Reference: CH02-Ref39

Ahlheim Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department’s predetermined overhead rate is based on machine-hours and the Assembly Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Forming | Assembly |
|  | Machine-hours | 16,000 | 15,000 |
|  | Direct labor-hours | 2,000 | 6,000 |
|  | Total fixed manufacturing overhead cost | $102,400 | $55,200 |
|  | Variable manufacturing overhead per machine-hour | $2.30 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $4.50 |

During the current month the company started and finished Job T924. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job T924: | Forming | Assembly |
|  | Machine-hours | 70 | 20 |
|  | Direct labor-hours | 30 | 40 |
|  | Direct materials | $870 | $385 |
|  | Direct labor cost | $630 | $840 |

[QUESTION]

213. The estimated total manufacturing overhead for the Forming Department is closest to:

A) $36,800

B) $102,400

C) $309,867

D) $139,200

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref39

Feedback:

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $102,400 + ($2.30 per machine-hour × 16,000 machine-hours)

= $102,400 +$36,800 = $139,200

[QUESTION]

214. The estimated total manufacturing overhead for the Assembly Department is closest to:

A) $27,000

B) $55,200

C) $82,200

D) $47,700

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref39

Feedback:

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $55,200 + ($4.50 per direct labor-hour × 6,000 direct labor-hours)

= $55,200 + $27,000 = $82,200

[QUESTION]

215. The total amount of overhead applied in both departments to Job T924 is closest to:

A) $1,157

B) $548

C) $609

D) $1,705

Answer: A

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref39

Feedback:

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $102,400 + ($2.30 per machine-hour × 16,000 machine-hours)

= $102,400 +$36,800 = $139,200

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $139,200 ÷ 16,000 machine-hours = $8.70 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $8.70 per machine-hour × 70 machine-hours = $609

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $55,200 + ($4.50 per direct labor-hour × 6,000 direct labor-hours)

= $55,200 + $27,000 = $82,200

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $82,200 ÷6,000 direct labor-hours = $13.70 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $13.70 per direct labor-hour × 40 direct labor-hours = $548

Overhead applied to Job T924

|  |  |  |
| --- | --- | --- |
|  | Forming Department | $609 |
|  | Assembly Department | 548 |
|  | Total | $1,157 |

Reference: CH02-Ref40

Merati Corporation has two manufacturing departments--Forming and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Forming | Assembly | Total |
|  | Estimated total machine-hours (MHs) | 5,000 | 5,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $28,000 | $10,500 | $38,500 |
|  | Estimated variable manufacturing overhead cost per MH | $1.80 | $2.60 |  |

During the most recent month, the company started and completed two jobs--Job B and Job L. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job B | Job L |
|  | Forming machine-hours | 3,400 | 1,600 |
|  | Assembly machine-hours | 2,000 | 3,000 |

[QUESTION]

216. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both departments. The *departmental* predetermined overhead rate in the Forming Department is closest to:

A) $5.60

B) $7.40

C) $1.80

D) $6.05

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref40

Feedback:

Forming Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $28,000 |  |
|  | Estimated variable manufacturing overhead ($1.80 per MH × 5,000 MHs) | 9,000 |  |
|  | Estimated total manufacturing overhead cost (a) | $37,000 |  |
|  | Estimated total machine-hours (b) | 5,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $7.40 | per MH |

[QUESTION]

217. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both departments. The *departmental* predetermined overhead rate in the Assembly Department is closest to:

A) $2.60

B) $4.70

C) $6.05

D) $2.10

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref40

Feedback:

Assembly Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $10,500 |  |
|  | Estimated variable manufacturing overhead ($2.60 per MH × 5,000 MHs) | 13,000 |  |
|  | Estimated total manufacturing overhead cost (a) | $23,500 |  |
|  | Estimated total machine-hours (b) | 5,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $4.70 | per MH |

[QUESTION]

218. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. The manufacturing overhead applied to Job B is closest to:

A) $9,400

B) $25,160

C) $32,670

D) $34,560

Answer: D

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref40

Feedback:

Forming Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $28,000 |  |
|  | Estimated variable manufacturing overhead ($1.80 per MH × 5,000 MHs) | 9,000 |  |
|  | Estimated total manufacturing overhead cost (a) | $37,000 |  |
|  | Estimated total machine-hours (b) | 5,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $7.40 | per MH |

Assembly Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $10,500 |  |
|  | Estimated variable manufacturing overhead ($2.60 per MH × 5,000 MHs) | 13,000 |  |
|  | Estimated total manufacturing overhead cost (a) | $23,500 |  |
|  | Estimated total machine-hours (b) | 5,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $4.70 | per MH |

Manufacturing overhead applied to Job B:

|  |  |  |
| --- | --- | --- |
|  | Forming ($7.40 per MH × 3,400 MHs) | $25,160 |
|  | Assembly ($4.70 per MH × 2,000 MHs) | 9,400 |
|  | Total manufacturing overhead applied | $34,560 |

[QUESTION]

219. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. The manufacturing overhead applied to Job L is closest to:

A) $27,830

B) $11,840

C) $25,940

D) $14,100

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref40

Feedback:

Forming Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $28,000 |  |
|  | Estimated variable manufacturing overhead ($1.80 per MH × 5,000 MHs) | 9,000 |  |
|  | Estimated total manufacturing overhead cost (a) | $37,000 |  |
|  | Estimated total machine-hours (b) | 5,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $7.40 | per MH |

Assembly Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $10,500 |  |
|  | Estimated variable manufacturing overhead ($2.60 per MH × 5,000 MHs) | 13,000 |  |
|  | Estimated total manufacturing overhead cost (a) | $23,500 |  |
|  | Estimated total machine-hours (b) | 5,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $4.70 | per MH |

Manufacturing overhead applied to Job L:

|  |  |  |
| --- | --- | --- |
|  | Forming ($7.40 per MH × 1,600 MHs) | $11,840 |
|  | Assembly ($4.70 per MH × 3,000 MHs) | 14,100 |
|  | Total manufacturing overhead applied | $25,940 |

Reference: CH02-Ref41

Barbeau Corporation has two production departments, Milling and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department’s predetermined overhead rate is based on machine-hours and the Customizing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Milling | Customizing |
|  | Machine-hours | 17,000 | 13,000 |
|  | Direct labor-hours | 2,000 | 5,000 |
|  | Total fixed manufacturing overhead cost | $119,000 | $42,000 |
|  | Variable manufacturing overhead per machine-hour | $1.60 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $4.30 |

During the current month the company started and finished Job A492. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job A492: | Milling | Customizing |
|  | Machine-hours | 90 | 20 |
|  | Direct labor-hours | 20 | 50 |

[QUESTION]

220. The estimated total manufacturing overhead for the Customizing Department is closest to:

A) $63,500

B) $21,500

C) $42,000

D) $33,853

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref41

Feedback:

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $42,000 + ($4.30 per direct labor-hour × 5,000 direct labor-hours)

= $42,000 + $21,500 = $63,500

[QUESTION]

221. The amount of overhead applied in the Milling Department to Job A492 is closest to:

A) $146,200.00

B) $144.00

C) $756.00

D) $774.00

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref41

Feedback:

Milling Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $119,000 + ($1.60 per machine-hour × 17,000 machine-hours)

= $119,000 +$27,200 = $146,200

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $146,200 ÷ 17,000 machine-hours = $8.60 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $8.60 per machine-hour × 90 machine-hours = $774

Reference: CH02-Ref42

Kroeker Corporation has two production departments, Milling and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department’s predetermined overhead rate is based on machine-hours and the Customizing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Milling | Customizing |
|  | Machine-hours | 17,000 | 12,000 |
|  | Direct labor-hours | 1,000 | 9,000 |
|  | Total fixed manufacturing overhead cost | $112,200 | $81,000 |
|  | Variable manufacturing overhead per machine-hour | $1.70 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $4.30 |

During the current month the company started and finished Job T898. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job T898: | Milling | Customizing |
|  | Machine-hours | 80 | 30 |
|  | Direct labor-hours | 20 | 50 |

[QUESTION]

222. The estimated total manufacturing overhead for the Milling Department is closest to:

A) $240,833

B) $141,100

C) $28,900

D) $112,200

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref42

Feedback:

Milling Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $112,200 + ($1.70 per machine-hour × 17,000 machine-hours)

= $112,200 +$28,900 = $141,100

[QUESTION]

223. The amount of overhead applied in the Customizing Department to Job T898 is closest to:

A) $450.00

B) $119,700.00

C) $665.00

D) $215.00

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Feedback:

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $81,000 + ($4.30 per direct labor-hour × 9,000 direct labor-hours)

= $81,000 + $38,700 = $119,700

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $119,700 ÷9,000 direct labor-hours = $13.30 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $13.30 per direct labor-hour × 50 direct labor-hours = $665

Reference: CH02-Ref43

Petty Corporation has two production departments, Milling and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department’s predetermined overhead rate is based on machine-hours and the Finishing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Milling | Finishing |
|  | Machine-hours | 20,000 | 14,000 |
|  | Direct labor-hours | 2,000 | 8,000 |
|  | Total fixed manufacturing overhead cost | $148,000 | $88,000 |
|  | Variable manufacturing overhead per machine-hour | $1.90 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.60 |

[QUESTION]

224. The estimated total manufacturing overhead for the Milling Department is closest to:

A) $408,000

B) $38,000

C) $148,000

D) $186,000

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref43

Feedback:

Milling Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $148,000 + ($1.90 per machine-hour × 20,000 machine-hours)

= $148,000 +$38,000 = $186,000

[QUESTION]

225. The predetermined overhead rate for the Finishing Department is closest to:

A) $5.84 per direct labor-hour

B) $3.60 per direct labor-hour

C) $11.00 per direct labor-hour

D) $14.60 per direct labor-hour

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref43

Feedback:

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $88,000 + ($3.60 per direct labor-hour × 8,000 direct labor-hours)

= $88,000 + $28,800 = $116,800

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $116,800 ÷8,000 direct labor-hours = $14.60 per direct labor-hour

Reference: CH02-Ref44

Garza Corporation has two production departments, Casting and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department’s predetermined overhead rate is based on machine-hours and the Customizing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Casting | Customizing |
|  | Machine-hours | 20,000 | 13,000 |
|  | Direct labor-hours | 1,000 | 7,000 |
|  | Total fixed manufacturing overhead cost | $152,000 | $68,600 |
|  | Variable manufacturing overhead per machine-hour | $2.10 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $4.30 |

[QUESTION]

226. The estimated total manufacturing overhead for the Customizing Department is closest to:

A) $54,110

B) $30,100

C) $98,700

D) $68,600

Answer: C

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref44

Feedback:

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $68,600 + ($4.30 per direct labor-hour × 7,000 direct labor-hours)

= $68,600 + $30,100 = $98,700

[QUESTION]

227. The predetermined overhead rate for the Casting Department is closest to:

A) $9.70 per machine-hour

B) $7.60 per machine-hour

C) $2.10 per machine-hour

D) $27.71 per machine-hour

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref44

Feedback:

Casting Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $152,000 + ($2.10 per machine-hour × 20,000 machine-hours)

= $152,000 +$42,000 = $194,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $194,000 ÷ 20,000 machine-hours = $9.70 per machine-hour

Reference: CH02-Ref45

Marciante Corporation has two production departments, Casting and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department’s predetermined overhead rate is based on machine-hours and the Finishing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Casting | Finishing |
|  | Machine-hours | 17,000 | 10,000 |
|  | Direct labor-hours | 2,000 | 5,000 |
|  | Total fixed manufacturing overhead cost | $105,400 | $52,000 |
|  | Variable manufacturing overhead per machine-hour | $1.70 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.90 |

[QUESTION]

228. The estimated total manufacturing overhead for the Casting Department is closest to:

A) $387,260

B) $134,300

C) $28,900

D) $105,400

Answer: B

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref45

Feedback:

Casting Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $105,400 + ($1.70 per machine-hour × 17,000 machine-hours)

= $105,400 +$28,900 = $134,300

[QUESTION]

229. The estimated total manufacturing overhead for the Finishing Department is closest to:

A) $71,500

B) $52,000

C) $34,794

D) $19,500

Answer: A

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref45

Feedback:

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $52,000 + ($3.90 per direct labor-hour × 5,000 direct labor-hours)

= $52,000 + $19,500 = $71,500

Reference: CH02-Ref46

Jurica Corporation has two production departments, Forming and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department’s predetermined overhead rate is based on machine-hours and the Customizing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Forming | Customizing |
|  | Machine-hours | 19,000 | 15,000 |
|  | Direct labor-hours | 4,000 | 6,000 |
|  | Total fixed manufacturing overhead cost | $100,700 | $63,000 |
|  | Variable manufacturing overhead per machine-hour | $2.00 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.90 |

[QUESTION]

230. The predetermined overhead rate for the Forming Department is closest to:

A) $23.12 per machine-hour

B) $2.00 per machine-hour

C) $5.30 per machine-hour

D) $7.30 per machine-hour

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref46

Feedback:

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $100,700 + ($2.00 per machine-hour × 19,000 machine-hours)

= $100,700 +$38,000 = $138,700

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $138,700 ÷ 19,000 machine-hours = $7.30 per machine-hour

[QUESTION]

231. The predetermined overhead rate for the Customizing Department is closest to:

A) $4.55 per direct labor-hour

B) $3.90 per direct labor-hour

C) $10.50 per direct labor-hour

D) $14.40 per direct labor-hour

Answer: D

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-04

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref46

Feedback:

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $63,000 + ($3.90 per direct labor-hour × 6,000 direct labor-hours)

= $63,000 + $23,400 = $86,400

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $86,400 ÷6,000 direct labor-hours = $14.40 per direct labor-hour

Reference: CH02-Ref47

Claybrooks Corporation has two manufacturing departments--Casting and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Casting | Assembly | Total |
|  | Estimated total machine-hours (MHs) | 3,000 | 2,000 | 5,000 |
|  | Estimated total fixed manufacturing overhead cost | $17,700 | $5,800 | $23,500 |
|  | Estimated variable manufacturing overhead cost per MH | $1.50 | $2.20 |  |

[QUESTION]

232. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. That predetermined manufacturing overhead rate is closest to:

A) $4.70

B) $7.40

C) $6.48

D) $3.70

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref47

Feedback:

The first step is to calculate the estimated total overhead costs in the two departments.

Casting

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $17,700 |
|  | Estimated variable manufacturing overhead ($1.50 per MH × 3,000 MHs) | 4,500 |
|  | Estimated total manufacturing overhead cost | $22,200 |

Assembly

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $5,800 |
|  | Estimated variable manufacturing overhead ($2.20 per MH × 2,000 MHs) | 4,400 |
|  | Estimated total manufacturing overhead cost | $10,200 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($22,200 + $10,200 = $32,400) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $32,400 |  |
|  | Estimated total machine hours | 5,000 | MHs |
|  | Predetermined overhead rate | $6.48 | per MH |

[QUESTION]

233. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both departments. The *departmental* predetermined overhead rate in the Casting Department is closest to:

A) $1.50

B) $7.40

C) $5.90

D) $6.48

Answer: B

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref47

Feedback:

Casting Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $17,700 |  |
|  | Estimated variable manufacturing overhead ($1.50 per MH × 3,000 MHs) | 4,500 |  |
|  | Estimated total manufacturing overhead cost (a) | $22,200 |  |
|  | Estimated total machine-hours (b) | 3,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $7.40 | per MH |

[QUESTION]

234. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both departments. The *departmental* predetermined overhead rate in the Assembly Department is closest to:

A) $2.90

B) $6.48

C) $5.10

D) $2.20

Answer: C

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-04

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Refer To: CH02-Ref47

Feedback:

Assembly Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $5,800 |  |
|  | Estimated variable manufacturing overhead ($2.20 per MH × 2,000 MHs) | 4,400 |  |
|  | Estimated total manufacturing overhead cost (a) | $10,200 |  |
|  | Estimated total machine-hours (b) | 2,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.10 | per MH |

**Essay**

[QUESTION]

235. Linnear Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 30,000 |
|  | Total fixed manufacturing overhead cost | $144,000 |
|  | Variable manufacturing overhead per machine-hour | $4.00 |

Required:

Calculate the estimated total manufacturing overhead for the year.

Answer:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $144,000 + ($4.00 per machine-hour × 30,000 machine-hours) = $144,000 + $120,000 = $264,000

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

236. Dallman Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 70,000 machine-hours, total fixed manufacturing overhead cost of $287,000, and a variable manufacturing overhead rate of $3.50 per machine-hour.

Required:

a. Calculate the estimated total manufacturing overhead for the year.

b. Calculate the predetermined overhead rate for the year.

Answer:

a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $287,000 + ($3.50 per machine-hour × 70,000 machine-hours) = $287,000 + $245,000 = $532,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $532,000 ÷ 70,000 machine-hours = $7.60 per machine-hour

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

237. Henkes Corporation bases its predetermined overhead rate on the estimated labor-hours for the upcoming year. At the beginning of the most recently completed year, the company estimated the labor-hours for the upcoming year at 66,000 labor-hours. The estimated variable manufacturing overhead was $8.41 per labor-hour and the estimated total fixed manufacturing overhead was $1,533,180. The actual labor-hours for the year turned out to be 68,400 labor-hours.

Required:

Compute the company's predetermined overhead rate for the recently completed year.

Answer:

Estimated total manufacturing overhead = $1,533,180 + ($8.41 per labor-hour × 66,000 labor-hours) = $2,088,240

Predetermined overhead rate = $2,088,240 ÷ 66,000 labor-hours = $31.64 per labor-hour

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

[QUESTION]

238. Crowson Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 50,000 |
|  | Total fixed manufacturing overhead cost | $390,000 |
|  | Variable manufacturing overhead per machine-hour | $3.60 |

Required:

Calculate the predetermined overhead rate for the year.

Answer:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $390,000 + ($3.60 per machine-hour × 50,000 machine-hours) = $390,000 + $180,000 = $570,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $570,000 ÷ 50,000 machine-hours = $11.40 per machine-hour

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

239. Cannizzaro Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 40,000 machine-hours, total fixed manufacturing overhead cost of $248,000, and a variable manufacturing overhead rate of $3.80 per machine-hour.

Required:

Calculate the predetermined overhead rate for the year.

Answer:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $248,000 + ($3.80 per machine-hour × 40,000 machine-hours) = $248,000 + $152,000 = $400,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $400,000 ÷ 40,000 machine-hours = $10.00 per machine-hour

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

240. Quiet Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 40,000 machine-hours, total fixed manufacturing overhead cost of $152,000, and a variable manufacturing overhead rate of $3.10 per machine-hour.

Required:

Calculate the estimated total manufacturing overhead for the year.

Answer:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $152,000 + ($3.10 per machine-hour × 40,000 machine-hours) = $152,000 + $124,000 = $276,000

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

241. Mccaughan Corporation bases its predetermined overhead rate on the estimated labor-hours for the upcoming year. Data for the most recently completed year appear below:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimates made at the beginning of the year: |  |  |
|  | Estimated labor-hours | 37,000 |  |
|  | Estimated variable manufacturing overhead | $4.43 | per labor-hour |
|  | Estimated total fixed manufacturing overhead | $705,220 |  |
|  | Actual labor-hours for the year | 32,100 |  |

Required:

Compute the company's predetermined overhead rate for the recently completed year.

Answer:

Estimated total manufacturing overhead = $705,220 + ($4.43 per labor-hour × 37,000 labor-hours) = $869,130

Predetermined overhead rate = $869,130 ÷ 37,000 labor-hours = $23.49 per labor-hour

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

[QUESTION]

242. Moscone Corporation bases its predetermined overhead rate on the estimated labor-hours for the upcoming year. At the beginning of the most recently completed year, the company estimated the labor-hours for the upcoming year at 78,000 labor-hours. The estimated variable manufacturing overhead was $9.99 per labor-hour and the estimated total fixed manufacturing overhead was $985,920.

Required:

Compute the company's predetermined overhead rate.

Answer:

Estimated total manufacturing overhead = $985,920 + ($9.99 per labor-hour × 78,000 labor-hours) = $1,765,140

Predetermined overhead rate = $1,765,140 ÷ 78,000 labor-hours = $22.63 per labor-hour

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

[QUESTION]

243. Lightner Corporation bases its predetermined overhead rate on the estimated machine-hours for the upcoming year. Data for the upcoming year appear below:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated machine-hours | 50,000 |  |
|  | Estimated variable manufacturing overhead | $8.82 | per machine-hour |
|  | Estimated total fixed manufacturing overhead | $1,077,000 |  |

Required:

Compute the company's predetermined overhead rate.

Answer:

Estimated total manufacturing overhead = $1,077,000 + ($8.82 per machine-hour × 50,000 machine-hours) = $1,518,000

Predetermined overhead rate = $1,518,000 ÷ 50,000 machine-hours = $30.36 per machine-hour

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

[QUESTION]

244. Florek Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total direct labor-hours | 10,000 |
|  | Total fixed manufacturing overhead cost | $31,000 |
|  | Variable manufacturing overhead per direct labor-hour | $2.50 |

Required:

a. Calculate the estimated total manufacturing overhead for the year.

b. Calculate the predetermined overhead rate for the year.

Answer:

a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $31,000 + ($2.50 per direct labor-hour × 10,000 direct labor-hours) = $31,000 + $25,000 = $56,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $56,000 ÷ 10,000 direct labor-hours = $5.60 per direct labor-hour

Difficulty: 1 Easy

Learning Objective: 02-01

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

245. Meenach Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on 80,000 direct labor-hours, total fixed manufacturing overhead cost of $160,000, and a variable manufacturing overhead rate of $2.30 per direct labor-hour. Recently Job X387 was completed and required 120 direct labor-hours.

Required:

Calculate the amount of overhead applied to Job X387.

Answer:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $160,000 + ($2.30 per direct labor-hour × 80,000 direct labor-hours) = $160,000 + $184,000 = $344,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $344,000 ÷ 80,000 direct labor-hours = $4.30 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $4.30 per direct labor-hour × 120 direct labor-hours = $516

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

246. Weakley Corporation uses a predetermined overhead rate that was based on estimated total fixed manufacturing overhead of $358,000 and 20,000 machine-hours for the period. The company incurred actual total fixed manufacturing overhead of $382,000 and 18,300 total machine-hours during the period.

Required:

Determine the amount of manufacturing overhead that would have been applied to all jobs during the period.

Answer:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total fixed manufacturing overhead (a) | $358,000 |  |
|  | Estimated activity level (b) | 20,000 | machine-hours |
|  | Predetermined overhead rate (a) ÷ (b) | $17.90 | per machine-hour |
|  | Actual activity level | 18,300 | machine-hours |
|  | Manufacturing overhead applied | $327,570 |  |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

247. Fillmore Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on 60,000 direct labor-hours, total fixed manufacturing overhead cost of $96,000, and a variable manufacturing overhead rate of $3.30 per direct labor-hour. Recently Job X809 was completed and required 100 direct labor-hours.

Required:

a. Calculate the estimated total manufacturing overhead for the year.

b. Calculate the predetermined overhead rate for the year.

c. Calculate the amount of overhead applied to Job X809.

Answer:

a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $96,000 + ($3.30 per direct labor-hour × 60,000 direct labor-hours) = $96,000 + $198,000 = $294,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $294,000 ÷ 60,000 direct labor-hours = $4.90 per direct labor-hour

c. Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $4.90 per direct labor-hour × 100 direct labor-hours = $490

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

248. Thrall Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 10,000 |
|  | Total fixed manufacturing overhead cost | $50,000 |
|  | Variable manufacturing overhead per machine-hour | $3.90 |

Recently Job K125 was completed and required 160 machine-hours.

Required:

Calculate the amount of overhead applied to Job K125.

Answer:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $50,000 + ($3.90 per machine-hour × 10,000 machine-hours) = $50,000 + $39,000 = $89,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $89,000 ÷ 10,000 machine-hours = $8.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $8.90 per machine-hour × 160 machine-hours = $1,424

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

249. Verry Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total direct labor-hours | 60,000 |
|  | Total fixed manufacturing overhead cost | $342,000 |
|  | Variable manufacturing overhead per direct labor-hour | $2.40 |

Recently Job X711 was completed and required 90 direct labor-hours.

Required:

a. Calculate the estimated total manufacturing overhead for the year.

b. Calculate the predetermined overhead rate for the year.

c. Calculate the amount of overhead applied to Job X711.

Answer:

a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $342,000 + ($2.40 per direct labor-hour × 60,000 direct labor-hours) = $342,000 + $144,000 = $486,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $486,000 ÷ 60,000 direct labor-hours = $8.10 per direct labor-hour

c. Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $8.10 per direct labor-hour × 90 direct labor-hours = $729

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

250. Trevigne Corporation uses a predetermined overhead rate base on machine-hours that it recalculates at the beginning of each year. The company has provided the following data for the most recent year.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total fixed manufacturing overhead from the beginning of the year | $114,000 |  |
|  | Estimated activity level from the beginning of the year | 10,000 | machine-hours |
|  | Actual total fixed manufacturing overhead | $104,000 |  |
|  | Actual activity level | 9,400 | machine-hours |

Required:

Determine the amount of manufacturing overhead that would have been applied to all jobs during the period.

Answer:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total fixed manufacturing overhead (a) | $114,000 |  |
|  | Estimated activity level (b) | 10,000 | machine-hours |
|  | Predetermined overhead rate (a) ÷ (b) | $11.40 | per machine-hour |
|  | Actual activity level | 9,400 | machine-hours |
|  | Manufacturing overhead applied | $107,160 |  |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

251. Luarca Corporation has two manufacturing departments--Casting and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Casting | Customizing | Total |
|  | Estimated total machine-hours (MHs) | 2,000 | 3,000 | 5,000 |
|  | Estimated total fixed manufacturing overhead cost | $11,600 | $7,200 | $18,800 |
|  | Estimated variable manufacturing overhead cost per MH | $1.90 | $2.80 |  |

During the most recent month, the company started and completed two jobs--Job F and Job L. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job F | Job L |
|  | Direct materials | $10,600 | $6,600 |
|  | Direct labor cost | $24,400 | $8,600 |
|  | Casting machine-hours | 1,400 | 600 |
|  | Customizing machine-hours | 1,200 | 1,800 |

Required:

Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 50% on manufacturing cost to establish selling prices. Calculate the selling prices for Job F and Job L.

Answer:

The first step is to calculate the estimated total overhead costs in the two departments.

Casting

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $11,600 |
|  | Estimated variable manufacturing overhead ($1.90 per MH × 2,000 MHs) | 3,800 |
|  | Estimated total manufacturing overhead cost | $15,400 |

Customizing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $7,200 |
|  | Estimated variable manufacturing overhead ($2.80 per MH × 3,000 MHs) | 8,400 |
|  | Estimated total manufacturing overhead cost | $15,600 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($15,400 + $15,600 = $31,000) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $31,000 |  |
|  | Estimated total machine hours | 5,000 | MHs |
|  | Predetermined overhead rate | $6.20 | per MH |

The overhead applied to Job F is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $6.20 per MH x (1,400 MHs + 1,200 MHs)

= $6.20 per MH x (2,600 MHs)

= $16,120

The overhead applied to Job L is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $6.20 per MH x (600 MHs + 1,800 MHs)

= $6.20 per MH x (2,400 MHs)

= $14,880

Job F’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $10,600 |
|  | Direct labor cost | 24,400 |
|  | Manufacturing overhead applied | 16,120 |
|  | Total manufacturing cost | $51,120 |

Job L’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $6,600 |
|  | Direct labor cost | 8,600 |
|  | Manufacturing overhead applied | 14,880 |
|  | Total manufacturing cost | $30,080 |

The selling price for Job F:

|  |  |  |
| --- | --- | --- |
|  | Total manufacturing cost | $51,120 |
|  | Markup (50%) | 25,560 |
|  | Selling price | $76,680 |

The selling price for Job L:

|  |  |  |
| --- | --- | --- |
|  | Total manufacturing cost | $30,080 |
|  | Markup (50%) | 15,040 |
|  | Selling price | $45,120 |

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

252. Lamberson Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 50,000 |
|  | Total fixed manufacturing overhead cost | $460,000 |
|  | Variable manufacturing overhead per machine-hour | $3.10 |

Recently Job P647 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 50 |
|  | Total machine-hours | 150 |
|  | Direct materials | $740 |
|  | Direct labor cost | $6,000 |

Required:

a. Calculate the amount of overhead applied to Job P647.

b. Calculate the total job cost for Job P647.

c. Calculate the unit product cost for Job P647.

Answer:

a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $460,000 + ($3.10 per machine-hour × 50,000 machine-hours) = $460,000 + $155,000 = $615,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $615,000 ÷ 50,000 machine-hours = $12.30 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $12.30 per machine-hour × 150 machine-hours = $1,845

|  |  |  |
| --- | --- | --- |
| b. | Direct materials | $740 |
|  | Direct labor | 6,000 |
|  | Manufacturing overhead applied | 1,845 |
|  | Total cost of Job P647 | $8,585 |

|  |  |  |
| --- | --- | --- |
| c. | Total cost of Job P647 (a) | $8,585 |
|  | Number of units (b) | 50 |
|  | Unit product cost (a) ÷ (b) | $171.70 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

253. Mcewan Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on 20,000 direct labor-hours, total fixed manufacturing overhead cost of $182,000, and a variable manufacturing overhead rate of $2.50 per direct labor-hour. Job X941, which was for 50 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

|  |  |  |
| --- | --- | --- |
|  | Total direct labor-hours | 250 |
|  | Direct materials | $740 |
|  | Direct labor cost | $6,500 |

Required:

Calculate the selling price for Job X941 if the company marks up its unit product costs by 20%.

Answer:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $182,000 + ($2.50 per direct labor-hour × 20,000 direct labor-hours) = $182,000 + $50,000 = $232,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $232,000 ÷ 20,000 direct labor-hours = $11.60 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $11.60 per direct labor-hour × 250 direct labor-hours = $2,900

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $740 |
|  | Direct labor | 6,500 |
|  | Manufacturing overhead applied | 2,900 |
|  | Total cost of Job X941 | $10,140 |

|  |  |  |
| --- | --- | --- |
|  | Total cost of Job X941 (a) | $10,140 |
|  | Number of units (b) | 50 |
|  | Unit product cost (a) ÷ (b) | $202.80 |

|  |  |  |
| --- | --- | --- |
|  | Unit product cost for Job X941 | $202.80 |
|  | Markup (20% × $202.80) | 40.56 |
|  | Selling price | $243.36 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

254. Teasley Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 70,000 machine-hours, total fixed manufacturing overhead cost of $630,000, and a variable manufacturing overhead rate of $3.40 per machine-hour. Job X159 was recently completed. The job cost sheet for the job contained the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 200 |
|  | Direct materials | $670 |
|  | Direct labor cost | $7,800 |

Required:

Calculate the total job cost for Job X159.

Answer:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $630,000 + ($3.40 per machine-hour × 70,000 machine-hours) = $630,000 + $238,000 = $868,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $868,000 ÷ 70,000 machine-hours = $12.40 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $12.40 per machine-hour × 200 machine-hours = $2,480

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $670 |
|  | Direct labor | 7,800 |
|  | Manufacturing overhead applied | 2,480 |
|  | Total cost of Job X159 | $10,950 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

255. Alsobrooks Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 40,000 |
|  | Total fixed manufacturing overhead cost | $156,000 |
|  | Variable manufacturing overhead per machine-hour | $2.20 |

Recently Job M242 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 20 |
|  | Total machine-hours | 60 |
|  | Direct materials | $725 |
|  | Direct labor cost | $1,680 |

Required:

a. Calculate the total job cost for Job M242.

b. Calculate the unit product cost for Job M242.

Answer:

a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $156,000 + ($2.20 per machine-hour × 40,000 machine-hours) = $156,000 + $88,000 = $244,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $244,000 ÷ 40,000 machine-hours = $6.10 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $6.10 per machine-hour × 60 machine-hours = $366

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $725 |
|  | Direct labor | 1,680 |
|  | Manufacturing overhead applied | 366 |
|  | Total cost of Job M242 | $2,771 |

|  |  |  |
| --- | --- | --- |
| b. | Total cost of Job M242 (a) | $2,771 |
|  | Number of units (b) | 20 |
|  | Unit product cost (a) ÷ (b) | $138.55 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

256. Ryans Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 10,000 |
|  | Total fixed manufacturing overhead cost | $71,000 |
|  | Variable manufacturing overhead per machine-hour | $2.50 |

Recently Job P512 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 30 |
|  | Total machine-hours | 60 |
|  | Direct materials | $870 |
|  | Direct labor cost | $2,400 |

Required:

a. Calculate the predetermined overhead rate for the year.

b. Calculate the amount of overhead applied to Job P512.

c. Calculate the total job cost for Job P512.

d. Calculate the unit product cost for Job P512.

Answer:

a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $71,000 + ($2.50 per machine-hour × 10,000 machine-hours) = $71,000 + $25,000 = $96,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $96,000 ÷ 10,000 machine-hours = $9.60 per machine-hour

b. Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $9.60 per machine-hour × 60 machine-hours = $576

|  |  |  |
| --- | --- | --- |
| c. | Direct materials | $870 |
|  | Direct labor | 2,400 |
|  | Manufacturing overhead applied | 576 |
|  | Total cost of Job P512 | $3,846 |

|  |  |  |
| --- | --- | --- |
| d. | Total cost of Job P512 (a) | $3,846 |
|  | Number of units (b) | 30 |
|  | Unit product cost (a) ÷ (b) | $128.20 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

257. Lezo Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 40,000 machine-hours, total fixed manufacturing overhead cost of $136,000, and a variable manufacturing overhead rate of $2.90 per machine-hour. Job A290, which was for 60 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 300 |
|  | Direct materials | $585 |
|  | Direct labor cost | $7,200 |

Required:

a. Calculate the estimated total manufacturing overhead for the year.

b. Calculate the predetermined overhead rate for the year.

c. Calculate the amount of overhead applied to Job A290.

d. Calculate the total job cost for Job A290.

Answer:

a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $136,000 + ($2.90 per machine-hour × 40,000 machine-hours) = $136,000 + $116,000 = $252,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $252,000 ÷ 40,000 machine-hours = $6.30 per machine-hour

c. Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $6.30 per machine-hour × 300 machine-hours = $1,890

|  |  |  |
| --- | --- | --- |
| d. | Direct materials | $585 |
|  | Direct labor | 7,200 |
|  | Manufacturing overhead applied | 1,890 |
|  | Total cost of Job A290 | $9,675 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

258. Whitlatch Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 60,000 |
|  | Total fixed manufacturing overhead cost | $342,000 |
|  | Variable manufacturing overhead per machine-hour | $2.70 |

Recently Job M238 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 70 |
|  | Total machine-hours | 140 |
|  | Direct materials | $945 |
|  | Direct labor cost | $2,800 |

Required:

Calculate the total job cost for Job M238.

Answer:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $342,000 + ($2.70 per machine-hour × 60,000 machine-hours) = $342,000 + $162,000 = $504,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $504,000 ÷ 60,000 machine-hours = $8.40 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $8.40 per machine-hour × 140 machine-hours = $1,176

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $945 |
|  | Direct labor | 2,800 |
|  | Manufacturing overhead applied | 1,176 |
|  | Total cost of Job M238 | $4,921 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

259. Obermeyer Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on 10,000 direct labor-hours, total fixed manufacturing overhead cost of $96,000, and a variable manufacturing overhead rate of $3.60 per direct labor-hour. Job A735, which was for 40 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

|  |  |  |
| --- | --- | --- |
|  | Total direct labor-hours | 200 |
|  | Direct materials | $540 |
|  | Direct labor cost | $6,400 |

Required:

a. Calculate the amount of overhead applied to Job A735.

b. Calculate the total job cost for Job A735.

c. Calculate the unit product cost for Job A735.

Answer:

a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $96,000 + ($3.60 per direct labor-hour × 10,000 direct labor-hours) = $96,000 + $36,000 = $132,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $132,000 ÷ 10,000 direct labor-hours = $13.20 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $13.20 per direct labor-hour × 200 direct labor-hours = $2,640

|  |  |  |
| --- | --- | --- |
| b. | Direct materials | $540 |
|  | Direct labor | 6,400 |
|  | Manufacturing overhead applied | 2,640 |
|  | Total cost of Job A735 | $9,580 |

|  |  |  |
| --- | --- | --- |
| c. | Total cost of Job A735 (a) | $9,580 |
|  | Number of units (b) | 40 |
|  | Unit product cost (a) ÷ (b) | $239.50 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

260. Olmscheid Corporation has two manufacturing departments--Molding and Customizing. The company used the following data at the beginning of the period to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Molding | Customizing | Total |
|  | Estimated total machine-hours (MHs) | 5,000 | 5,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $21,000 | $14,000 | $35,000 |
|  | Estimated variable manufacturing overhead cost per MH | $1.50 | $2.40 |  |

During the period, the company started and completed two jobs--Job F and Job K. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job F | Job K |
|  | Direct materials | $12,700 | $6,400 |
|  | Direct labor cost | $19,100 | $7,900 |
|  | Molding machine-hours | 3,400 | 1,600 |
|  | Customizing machine-hours | 2,000 | 3,000 |

Required:

a. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate that overhead rate.

b. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job F.

c. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job K.

d. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the total manufacturing cost assigned to Job F.

e. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the total manufacturing cost assigned to Job K.

f. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 30% on manufacturing cost to establish selling prices. Calculate the selling price for Job F.

g. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 30% on manufacturing cost to establish selling prices. Calculate the selling price for Job K.

h. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. If both jobs were sold during the month, what was the company's cost of goods sold for the month?

Answer:

a. The first step is to calculate the estimated total overhead costs in the two departments.

Molding

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $21,000 |
|  | Estimated variable manufacturing overhead ($1.50 per MH × 5,000 MHs) | 7,500 |
|  | Estimated total manufacturing overhead cost | $28,500 |

Customizing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $14,000 |
|  | Estimated variable manufacturing overhead ($2.40 per MH × 5,000 MHs) | 12,000 |
|  | Estimated total manufacturing overhead cost | $26,000 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($28,500 + $26,000 = $54,500) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $54,500 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $5.45 | per MH |

b. The overhead applied to Job F is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.45 per MH x (3,400 MHs + 2,000 MHs)

= $5.45 per MH x (5,400 MHs)

= $29,430

c. The overhead applied to Job K is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.45 per MH x (1,600 MHs + 3,000 MHs)

= $5.45 per MH x (4,600 MHs)

= $25,070

d. Job F’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $12,700 |
|  | Direct labor cost | 19,100 |
|  | Manufacturing overhead applied | 29,430 |
|  | Total manufacturing cost | $61,230 |

e. Job K’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $6,400 |
|  | Direct labor cost | 7,900 |
|  | Manufacturing overhead applied | 25,070 |
|  | Total manufacturing cost | $39,370 |

f. The selling price for Job F:

|  |  |  |
| --- | --- | --- |
|  | Total manufacturing cost | $61,230 |
|  | Markup (30%) | 18,369 |
|  | Selling price | $79,599 |

g. The selling price for Job K:

|  |  |  |
| --- | --- | --- |
|  | Total manufacturing cost | $39,370 |
|  | Markup (30%) | 11,811 |
|  | Selling price | $51,181 |

h.

|  |  |  |
| --- | --- | --- |
|  | Total manufacturing cost assigned to Job F | $61,230 |
|  | Total manufacturing cost assigned to Job K | 39,370 |
|  | Cost of goods sold | $100,600 |

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

261. Cardosa Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 70,000 machine-hours, total fixed manufacturing overhead cost of $308,000, and a variable manufacturing overhead rate of $2.10 per machine-hour. Job M556, which was for 50 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 100 |
|  | Direct materials | $555 |
|  | Direct labor cost | $2,700 |

Required:

a. Calculate the total job cost for Job M556.

b. Calculate the unit product cost for Job M556.

Answer:

a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $308,000 + ($2.10 per machine-hour × 70,000 machine-hours) = $308,000 + $147,000 = $455,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $455,000 ÷ 70,000 machine-hours = $6.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $6.50 per machine-hour × 100 machine-hours = $650

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $555 |
|  | Direct labor | 2,700 |
|  | Manufacturing overhead applied | 650 |
|  | Total cost of Job M556 | $3,905 |

|  |  |  |
| --- | --- | --- |
| b. | Total cost of Job M556 (a) | $3,905 |
|  | Number of units (b) | 50 |
|  | Unit product cost (a) ÷ (b) | $78.10 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

262. Dietzen Corporation has two manufacturing departments--Casting and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Casting | Finishing | Total |
|  | Estimated total machine-hours (MHs) | 4,000 | 6,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $18,000 | $18,000 | $36,000 |
|  | Estimated variable manufacturing overhead cost per MH | $1.50 | $2.30 |  |

During the most recent month, the company started and completed two jobs--Job D and Job J. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job D | Job J |
|  | Direct materials | $14,300 | $6,800 |
|  | Direct labor cost | $21,700 | $8,800 |
|  | Casting machine-hours | 2,700 | 1,300 |
|  | Finishing machine-hours | 2,400 | 3,600 |

Required:

a. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the total manufacturing cost assigned to Job D.

b. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the total manufacturing cost assigned to Job J.

Answer:

a. The first step is to calculate the estimated total overhead costs in the two departments.

Casting

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $18,000 |
|  | Estimated variable manufacturing overhead ($1.50 per MH × 4,000 MHs) | 6,000 |
|  | Estimated total manufacturing overhead cost | $24,000 |

Finishing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $18,000 |
|  | Estimated variable manufacturing overhead ($2.30 per MH × 6,000 MHs) | 13,800 |
|  | Estimated total manufacturing overhead cost | $31,800 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($24,000 + $31,800 = $55,800) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $55,800 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $5.58 | per MH |

The overhead applied to Job D is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.58 per MH x (2,700 MHs + 2,400 MHs)

= $5.58 per MH x (5,100 MHs)

= $28,458

Job D’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $14,300 |
|  | Direct labor cost | 21,700 |
|  | Manufacturing overhead applied | 28,458 |
|  | Total manufacturing cost | $64,458 |

b. The overhead applied to Job J is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.58 per MH x (1,300 MHs + 3,600 MHs)

= $5.58 per MH x (4,900 MHs)

= $27,342

Job J’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $6,800 |
|  | Direct labor cost | 8,800 |
|  | Manufacturing overhead applied | 27,342 |
|  | Total manufacturing cost | $42,942 |

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

263. Posson Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 20,000 machine-hours, total fixed manufacturing overhead cost of $130,000, and a variable manufacturing overhead rate of $3.00 per machine-hour. Job K789, which was for 10 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 30 |
|  | Direct materials | $775 |
|  | Direct labor cost | $1,170 |

Required:

a. Calculate the predetermined overhead rate for the year.

b. Calculate the amount of overhead applied to Job K789.

c. Calculate the total job cost for Job K789.

d. Calculate the unit product cost for Job K789.

Answer:

a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $130,000 + ($3.00 per machine-hour × 20,000 machine-hours) = $130,000 + $60,000 = $190,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $190,000 ÷ 20,000 machine-hours = $9.50 per machine-hour

b. Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $9.50 per machine-hour × 30 machine-hours = $285

|  |  |  |
| --- | --- | --- |
| c. | Direct materials | $775 |
|  | Direct labor | 1,170 |
|  | Manufacturing overhead applied | 285 |
|  | Total cost of Job K789 | $2,230 |

|  |  |  |
| --- | --- | --- |
| d. | Total cost of Job K789 (a) | $2,230 |
|  | Number of units (b) | 10 |
|  | Unit product cost (a) ÷ (b) | $223.00 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

264. Rondo Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 30,000 |
|  | Total fixed manufacturing overhead cost | $252,000 |
|  | Variable manufacturing overhead per machine-hour | $2.90 |

Recently Job T506 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 70 |
|  | Total machine-hours | 210 |
|  | Direct materials | $665 |
|  | Direct labor cost | $6,720 |

Required:

a. Calculate the estimated total manufacturing overhead for the year.

b. Calculate the predetermined overhead rate for the year.

c. Calculate the amount of overhead applied to Job T506.

d. Calculate the total job cost for Job T506.

e. Calculate the unit product cost for Job T506.

f. Calculate the selling price for Job T506 if the company marks up its unit product costs by 20%.

Answer:

a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $252,000 + ($2.90 per machine-hour × 30,000 machine-hours) = $252,000 + $87,000 = $339,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $339,000 ÷ 30,000 machine-hours = $11.30 per machine-hour

c. Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $11.30 per machine-hour × 210 machine-hours = $2,373

|  |  |  |
| --- | --- | --- |
| d. | Direct materials | $665 |
|  | Direct labor | 6,720 |
|  | Manufacturing overhead applied | 2,373 |
|  | Total cost of Job T506 | $9,758 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job T506 (a) | $9,758 |
|  | Number of units (b) | 70 |
|  | Unit product cost (a) ÷ (b) | $139.40 |

|  |  |  |
| --- | --- | --- |
| f. | Unit product cost for Job T506 | $139.40 |
|  | Markup (20% × $139.40) | 27.88 |
|  | Selling price | $167.28 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

265. Leadley Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total direct labor-hours | 10,000 |
|  | Total fixed manufacturing overhead cost | $76,000 |
|  | Variable manufacturing overhead per direct labor-hour | $2.10 |

Recently Job X701 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 90 |
|  | Total direct labor-hours | 270 |
|  | Direct materials | $590 |
|  | Direct labor cost | $6,480 |

Required:

a. Calculate the estimated total manufacturing overhead for the year.

b. Calculate the predetermined overhead rate for the year.

c. Calculate the amount of overhead applied to Job X701.

d. Calculate the total job cost for Job X701.

Answer:

a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $76,000 + ($2.10 per direct labor-hour × 10,000 direct labor-hours) = $76,000 + $21,000 = $97,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $97,000 ÷ 10,000 direct labor-hours = $9.70 per direct labor-hour

c. Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $9.70 per direct labor-hour × 270 direct labor-hours = $2,619

|  |  |  |
| --- | --- | --- |
| d. | Direct materials | $590 |
|  | Direct labor | 6,480 |
|  | Manufacturing overhead applied | 2,619 |
|  | Total cost of Job X701 | $9,689 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

266. Pasko Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total direct labor-hours | 30,000 |
|  | Total fixed manufacturing overhead cost | $258,000 |
|  | Variable manufacturing overhead per direct labor-hour | $2.00 |

Recently Job P660 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 50 |
|  | Total direct labor-hours | 250 |
|  | Direct materials | $645 |
|  | Direct labor cost | $10,000 |

Required:

Calculate the selling price for Job P660 if the company marks up its unit product costs by 20%.

Answer:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $258,000 + ($2.00 per direct labor-hour × 30,000 direct labor-hours) = $258,000 + $60,000 = $318,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $318,000 ÷ 30,000 direct labor-hours = $10.60 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $10.60 per direct labor-hour × 250 direct labor-hours = $2,650

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $645 |
|  | Direct labor | 10,000 |
|  | Manufacturing overhead applied | 2,650 |
|  | Total cost of Job P660 | $13,295 |

|  |  |  |
| --- | --- | --- |
|  | Total cost of Job P660 (a) | $13,295 |
|  | Number of units (b) | 50 |
|  | Unit product cost (a) ÷ (b) | $265.90 |

|  |  |  |
| --- | --- | --- |
|  | Unit product cost for Job P660 | $265.90 |
|  | Markup (20% × $265.90) | 53.18 |
|  | Selling price | $319.08 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

267. Leeds Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 50,000 |
|  | Total fixed manufacturing overhead cost | $215,000 |
|  | Variable manufacturing overhead per machine-hour | $3.80 |

Recently Job T496 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 80 |
|  | Total machine-hours | 240 |
|  | Direct materials | $735 |
|  | Direct labor cost | $8,880 |

Required:

a. Calculate the estimated total manufacturing overhead for the year.

b. Calculate the predetermined overhead rate for the year.

c. Calculate the amount of overhead applied to Job T496.

d. Calculate the total job cost for Job T496.

e. Calculate the unit product cost for Job T496.

Answer:

a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $215,000 + ($3.80 per machine-hour × 50,000 machine-hours) = $215,000 + $190,000 = $405,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $405,000 ÷ 50,000 machine-hours = $8.10 per machine-hour

c. Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $8.10 per machine-hour × 240 machine-hours = $1,944

|  |  |  |
| --- | --- | --- |
| d. | Direct materials | $735 |
|  | Direct labor | 8,880 |
|  | Manufacturing overhead applied | 1,944 |
|  | Total cost of Job T496 | $11,559 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job T496 (a) | $11,559 |
|  | Number of units (b) | 80 |
|  | Unit product cost (a) ÷ (b) | $144.49 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

268. Petru Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 70,000 |
|  | Total fixed manufacturing overhead cost | $525,000 |
|  | Variable manufacturing overhead per machine-hour | $2.30 |

Recently Job P987 was completed with the following characteristics:

|  |  |  |
| --- | --- | --- |
|  | Number of units in the job | 20 |
|  | Total machine-hours | 80 |
|  | Direct materials | $630 |
|  | Direct labor cost | $2,080 |

Required:

Calculate the unit product cost for Job P987.

Answer:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $525,000 + ($2.30 per machine-hour × 70,000 machine-hours) = $525,000 + $161,000 = $686,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $686,000 ÷ 70,000 machine-hours = $9.80 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $9.80 per machine-hour × 80 machine-hours = $784

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $630 |
|  | Direct labor | 2,080 |
|  | Manufacturing overhead applied | 784 |
|  | Total cost of Job P987 | $3,494 |

|  |  |  |
| --- | --- | --- |
|  | Total cost of Job P987 (a) | $3,494 |
|  | Number of units (b) | 20 |
|  | Unit product cost (a) ÷ (b) | $174.70 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

269. Franta Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on 70,000 direct labor-hours, total fixed manufacturing overhead cost of $238,000, and a variable manufacturing overhead rate of $2.70 per direct labor-hour. Job P873, which was for 50 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

|  |  |  |
| --- | --- | --- |
|  | Total direct labor-hours | 200 |
|  | Direct materials | $630 |
|  | Direct labor cost | $4,800 |

Required:

Calculate the unit product cost for Job P873.

Answer:

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $238,000 + ($2.70 per direct labor-hour × 70,000 direct labor-hours) = $238,000 + $189,000 = $427,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $427,000 ÷ 70,000 direct labor-hours = $6.10 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $6.10 per direct labor-hour × 200 direct labor-hours = $1,220

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $630 |
|  | Direct labor | 4,800 |
|  | Manufacturing overhead applied | 1,220 |
|  | Total cost of Job P873 | $6,650 |

|  |  |  |
| --- | --- | --- |
|  | Total cost of Job P873 (a) | $6,650 |
|  | Number of units (b) | 50 |
|  | Unit product cost (a) ÷ (b) | $133.00 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

270. Temby Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 10,000 machine-hours, total fixed manufacturing overhead cost of $88,000, and a variable manufacturing overhead rate of $3.20 per machine-hour. Job K418, which was for 50 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 150 |
|  | Direct materials | $580 |
|  | Direct labor cost | $3,900 |

Required:

a. Calculate the estimated total manufacturing overhead for the year.

b. Calculate the predetermined overhead rate for the year.

c. Calculate the amount of overhead applied to Job K418.

d. Calculate the total job cost for Job K418.

e. Calculate the unit product cost for Job K418.

f. Calculate the selling price for Job K418 if the company marks up its unit product costs by 30%.

Answer:

a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $88,000 + ($3.20 per machine-hour × 10,000 machine-hours) = $88,000 + $32,000 = $120,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $120,000 ÷ 10,000 machine-hours = $12.00 per machine-hour

c. Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $12.00 per machine-hour × 150 machine-hours = $1,800

|  |  |  |
| --- | --- | --- |
| d. | Direct materials | $580 |
|  | Direct labor | 3,900 |
|  | Manufacturing overhead applied | 1,800 |
|  | Total cost of Job K418 | $6,280 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job K418 (a) | $6,280 |
|  | Number of units (b) | 50 |
|  | Unit product cost (a) ÷ (b) | $125.60 |

|  |  |  |
| --- | --- | --- |
| f. | Unit product cost for Job K418 | $125.60 |
|  | Markup (30% × $125.60) | 37.68 |
|  | Selling price | $163.28 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

271. Saxon Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 10,000 machine-hours, total fixed manufacturing overhead cost of $91,000, and a variable manufacturing overhead rate of $2.40 per machine-hour. Job K373, which was for 60 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

|  |  |  |
| --- | --- | --- |
|  | Total machine-hours | 120 |
|  | Direct materials | $645 |
|  | Direct labor cost | $3,720 |

Required:

a. Calculate the estimated total manufacturing overhead for the year.

b. Calculate the predetermined overhead rate for the year.

c. Calculate the amount of overhead applied to Job K373.

d. Calculate the total job cost for Job K373.

e. Calculate the unit product cost for Job K373.

Answer:

a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = $91,000 + ($2.40 per machine-hour × 10,000 machine-hours) = $91,000 + $24,000 = $115,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = $115,000 ÷ 10,000 machine-hours = $11.50 per machine-hour

c. Overhead applied to a particular job = Predetermined overhead rate x Amount of the allocation base incurred by the job = $11.50 per machine-hour × 120 machine-hours = $1,380

|  |  |  |
| --- | --- | --- |
| d. | Direct materials | $645 |
|  | Direct labor | 3,720 |
|  | Manufacturing overhead applied | 1,380 |
|  | Total cost of Job K373 | $5,745 |

|  |  |  |
| --- | --- | --- |
| e. | Total cost of Job K373 (a) | $5,745 |
|  | Number of units (b) | 60 |
|  | Unit product cost (a) ÷ (b) | $95.75 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

272. Kluth Corporation has two manufacturing departments--Molding and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Molding | Customizing | Total |
|  | Estimated total machine-hours (MHs) | 3,000 | 2,000 | 5,000 |
|  | Estimated total fixed manufacturing overhead cost | $15,900 | $4,200 | $20,100 |
|  | Estimated variable manufacturing overhead cost per MH | $1.20 | $2.40 |  |

During the most recent month, the company started and completed two jobs--Job C and Job M. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job C | Job M |
|  | Direct materials | $15,600 | $8,600 |
|  | Direct labor cost | $25,100 | $8,300 |
|  | Molding machine-hours | 2,000 | 1,000 |
|  | Customizing machine-hours | 800 | 1,200 |

Required:

Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 20% on manufacturing cost to establish selling prices. Calculate the selling prices for Job C and for Job M.

Answer:

Molding Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $15,900 |  |
|  | Estimated variable manufacturing overhead ($1.20 per MH × 3,000 MHs) | 3,600 |  |
|  | Estimated total manufacturing overhead cost (a) | $19,500 |  |
|  | Estimated total machine-hours (b) | 3,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $6.50 | per MH |

Customizing Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $4,200 |  |
|  | Estimated variable manufacturing overhead ($2.40 per MH × 2,000 MHs) | 4,800 |  |
|  | Estimated total manufacturing overhead cost (a) | $9,000 |  |
|  | Estimated total machine-hours (b) | 2,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $4.50 | per MH |

Manufacturing overhead applied to Job C:

|  |  |  |
| --- | --- | --- |
|  | Molding ($6.50 per MH × 2,000 MHs) | $13,000 |
|  | Customizing ($4.50 per MH × 800 MHs) | 3,600 |
|  | Total manufacturing overhead applied | $16,600 |

Manufacturing overhead applied to Job M:

|  |  |  |
| --- | --- | --- |
|  | Molding ($6.50 per MH × 1,000 MHs) | $6,500 |
|  | Customizing ($4.50 per MH × 1,200 MHs) | 5,400 |
|  | Total manufacturing overhead applied | $11,900 |

The selling price for Job C would be calculated as follows:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $15,600 |
|  | Direct labor cost | 25,100 |
|  | Manufacturing overhead applied | 16,600 |
|  | Total manufacturing cost | $57,300 |
|  | Markup (20%) | 11,460 |
|  | Selling price | $68,760 |

The selling price for Job M would be calculated as follows:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $8,600 |
|  | Direct labor cost | 8,300 |
|  | Manufacturing overhead applied | 11,900 |
|  | Total manufacturing cost | $28,800 |
|  | Markup (20%) | 5,760 |
|  | Selling price | $34,560 |

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

273. Amason Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department’s predetermined overhead rate is based on machine-hours and the Assembly Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Forming | Assembly |
|  | Machine-hours | 16,000 | 11,000 |
|  | Direct labor-hours | 2,000 | 6,000 |
|  | Total fixed manufacturing overhead cost | $102,400 | $66,000 |
|  | Variable manufacturing overhead per machine-hour | $1.90 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.80 |

During the current month the company started and finished Job A950. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job A950: | Forming | Assembly |
|  | Machine-hours | 50 | 20 |
|  | Direct labor-hours | 20 | 40 |
|  | Direct materials | $665 | $415 |
|  | Direct labor cost | $520 | $1,040 |

Required:

Calculate the selling price for Job A950 if the company marks up its unit product costs by 30% to determine selling prices.

Answer:

Forming Department:

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $102,400 + ($1.90 per machine-hour × 16,000 machine-hours)

= $102,400 +$30,400 = $132,800

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $132,800 ÷ 16,000 machine-hours = $8.30 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $8.30 per machine-hour × 50 machine-hours = $415

Assembly Department:

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $66,000 + ($3.80 per direct labor-hour × 6,000 direct labor-hours)

= $66,000 + $22,800 = $88,800

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $88,800 ÷6,000 direct labor-hours = $14.80 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $14.80 per direct labor-hour × 40 direct labor-hours = $592

Overhead applied to Job A950

|  |  |  |
| --- | --- | --- |
|  | Forming Department | $415 |
|  | Assembly Department | 592 |
|  | Total | $1,007 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Forming | Assembly | Total |
|  | Direct materials | $665 | $415 | $1,080 |
|  | Direct labor | $520 | $1,040 | 1,560 |
|  | Manufacturing overhead applied | $415 | $592 | 1,007 |
|  | Total cost of Job A950 |  |  | $3,647 |

|  |  |  |
| --- | --- | --- |
|  | Total cost of Job A950 | $3,647.00 |
|  | Markup ($3,647.00 × 30%) | 1,094.10 |
|  | Selling price | $4,741.10 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

274. Dancel Corporation has two production departments, Milling and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department’s predetermined overhead rate is based on machine-hours and the Finishing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Milling | Finishing |
|  | Machine-hours | 17,000 | 14,000 |
|  | Direct labor-hours | 1,000 | 6,000 |
|  | Total fixed manufacturing overhead cost | $91,800 | $64,200 |
|  | Variable manufacturing overhead per machine-hour | $2.00 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.40 |

During the current month the company started and finished Job M565. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job M565: | Milling | Finishing |
|  | Machine-hours | 70 | 20 |
|  | Direct labor-hours | 10 | 40 |
|  | Direct materials | $750 | $360 |
|  | Direct labor cost | $340 | $1,360 |

Required:

a. Calculate the total amount of overhead applied to Job M565 in both departments.

b. Calculate the total job cost for Job M565.

c. Calculate the selling price for Job M565 if the company marks up its unit product costs by 20% to determine selling prices.

Answer:

a. Milling Department:

Milling Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $91,800 + ($2.00 per machine-hour × 17,000 machine-hours)

= $91,800 +$34,000 = $125,800

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $125,800 ÷ 17,000 machine-hours = $7.40 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $7.40 per machine-hour × 70 machine-hours = $518

Finishing Department:

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $64,200 + ($3.40 per direct labor-hour × 6,000 direct labor-hours)

= $64,200 + $20,400 = $84,600

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $84,600 ÷6,000 direct labor-hours = $14.10 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $14.10 per direct labor-hour × 40 direct labor-hours = $564

Overhead applied to Job M565

|  |  |  |
| --- | --- | --- |
|  | Milling Department | $518 |
|  | Finishing Department | 564 |
|  | Total | $1,082 |

b.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Milling | Finishing | Total |
|  | Direct materials | $750 | $360 | $1,110 |
|  | Direct labor | $340 | $1,360 | 1,700 |
|  | Manufacturing overhead applied | $518 | $564 | 1,082 |
|  | Total cost of Job M565 |  |  | $3,892 |

c.

|  |  |  |
| --- | --- | --- |
|  | Total cost of Job M565 | $3,892.00 |
|  | Markup ($3,892.00 × 20%) | 778.40 |
|  | Selling price | $4,670.40 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

275. Pangle Corporation has two production departments, Forming and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department’s predetermined overhead rate is based on machine-hours and the Customizing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Forming | Customizing |
|  | Machine-hours | 16,000 | 12,000 |
|  | Direct labor-hours | 4,000 | 9,000 |
|  | Total fixed manufacturing overhead cost | $91,200 | $99,000 |
|  | Variable manufacturing overhead per machine-hour | $2.10 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.10 |

During the current month the company started and finished Job M109. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job M109: | Forming | Customizing |
|  | Machine-hours | 50 | 30 |
|  | Direct labor-hours | 20 | 50 |
|  | Direct materials | $915 | $355 |
|  | Direct labor cost | $620 | $1,550 |

Required:

Calculate the total job cost for Job M109.

Answer:

Forming Department:

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $91,200 + ($2.10 per machine-hour × 16,000 machine-hours)

= $91,200 +$33,600 = $124,800

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $124,800 ÷ 16,000 machine-hours = $7.80 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $7.80 per machine-hour × 50 machine-hours = $390

Customizing Department:

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $99,000 + ($3.10 per direct labor-hour × 9,000 direct labor-hours)

= $99,000 + $27,900 = $126,900

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $126,900 ÷9,000 direct labor-hours = $14.10 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $14.10 per direct labor-hour × 50 direct labor-hours = $705

Overhead applied to Job M109

|  |  |  |
| --- | --- | --- |
|  | Forming Department | $390 |
|  | Customizing Department | 705 |
|  | Total | $1,095 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Forming | Customizing | Total |
|  | Direct materials | $915 | $355 | $1,270 |
|  | Direct labor | $620 | $1,550 | 2,170 |
|  | Manufacturing overhead applied | $390 | $705 | 1,095 |
|  | Total cost of Job M109 |  |  | $4,535 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

276. Vasilopoulos Corporation has two production departments, Casting and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department’s predetermined overhead rate is based on machine-hours and the Assembly Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Casting | Assembly |
|  | Machine-hours | 17,000 | 11,000 |
|  | Direct labor-hours | 3,000 | 6,000 |
|  | Total fixed manufacturing overhead cost | $119,000 | $51,000 |
|  | Variable manufacturing overhead per machine-hour | $2.10 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.10 |

During the current month the company started and finished Job A182. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job A182: | Casting | Assembly |
|  | Machine-hours | 50 | 20 |
|  | Direct labor-hours | 10 | 50 |
|  | Direct materials | $895 | $365 |
|  | Direct labor cost | $240 | $1,200 |

Required:

a. Calculate the estimated total manufacturing overhead for the Casting Department.

b. Calculate the estimated total manufacturing overhead for the Assembly Department.

c. Calculate the predetermined overhead rate for the Casting Department.

d. Calculate the predetermined overhead rate for the Assembly Department.

e. Calculate the total amount of overhead applied to Job A182 in both departments.

f. Calculate the total job cost for Job A182.

g. Calculate the selling price for Job A182 if the company marks up its unit product costs by 20% to determine selling prices.

Answer:

a. Casting Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $119,000 + ($2.10 per machine-hour × 17,000 machine-hours)

= $119,000 +$35,700 = $154,700

b. Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $51,000 + ($3.10 per direct labor-hour × 6,000 direct labor-hours)

= $51,000 + $18,600 = $69,600

c. Casting Department:

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $154,700 ÷ 17,000 machine-hours = $9.10 per machine-hour

d. Assembly Department:

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $69,600 ÷6,000 direct labor-hours = $11.60 per direct labor-hour

e. Casting Department: Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $9.10 per machine-hour × 50 machine-hours = $455

Assembly Department: Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $11.60 per direct labor-hour × 50 direct labor-hours = $580

Overhead applied to Job A182

|  |  |  |
| --- | --- | --- |
|  | Casting Department | $455 |
|  | Assembly Department | 580 |
|  | Total | $1,035 |

f.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Casting | Assembly | Total |
|  | Direct materials | $895 | $365 | $1,260 |
|  | Direct labor | $240 | $1,200 | 1,440 |
|  | Manufacturing overhead applied | $455 | $580 | 1,035 |
|  | Total cost of Job A182 |  |  | $3,735 |

g.

|  |  |  |
| --- | --- | --- |
|  | Total cost of Job A182 | $3,735.00 |
|  | Markup ($3,735.00 × 20%) | 747.00 |
|  | Selling price | $4,482.00 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

277. Hultquist Corporation has two manufacturing departments--Forming and Customizing. The company used the following data at the beginning of the period to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Forming | Customizing | Total |
|  | Estimated total machine-hours (MHs) | 9,000 | 1,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $50,400 | $2,600 | $53,000 |
|  | Estimated variable manufacturing overhead cost per MH | $1.70 | $2.10 |  |

During the period, the company started and completed two jobs--Job C and Job L. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job C | Job L |
|  | Direct materials | $15,100 | $6,900 |
|  | Direct labor cost | $20,800 | $8,500 |
|  | Forming machine-hours | 6,100 | 2,900 |
|  | Customizing machine-hours | 400 | 600 |

Required:

a. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate that overhead rate.

b. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job L.

c. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the total manufacturing cost assigned to Job L.

d. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 80% on manufacturing cost to establish selling prices. Calculate the selling price for Job L.

e. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both departments. What is the *departmental* predetermined overhead rate in the Forming department?

f. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. What is the *departmental* predetermined overhead rate in the Customizing department?

g. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job L?

h. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 80% on manufacturing cost to establish selling prices. Calculate the selling price for Job L.

Answer:

a. The first step is to calculate the estimated total overhead costs in the two departments.

Forming

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $50,400 |
|  | Estimated variable manufacturing overhead ($1.70 per MH × 9,000 MHs) | 15,300 |
|  | Estimated total manufacturing overhead cost | $65,700 |

Customizing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $2,600 |
|  | Estimated variable manufacturing overhead ($2.10 per MH × 1,000 MHs) | 2,100 |
|  | Estimated total manufacturing overhead cost | $4,700 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($65,700 + $4,700 = $70,400) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $70,400 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $7.04 | per MH |

b. The overhead applied to Job L is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $7.04 per MH x (2,900 MHs + 600 MHs)

= $7.04 per MH x (3,500 MHs)

= $24,640

c. Job L’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $6,900 |
|  | Direct labor cost | 8,500 |
|  | Manufacturing overhead applied | 24,640 |
|  | Total manufacturing cost | $40,040 |

d. The selling price for Job L:

|  |  |  |
| --- | --- | --- |
|  | Total manufacturing cost | $40,040 |
|  | Markup (80%) | 32,032 |
|  | Selling price | $72,072 |

e. Forming Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $50,400 |  |
|  | Estimated variable manufacturing overhead ($1.70 per MH × 9,000 MHs) | 15,300 |  |
|  | Estimated total manufacturing overhead cost (a) | $65,700 |  |
|  | Estimated total machine-hours (b) | 9,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $7.30 | per MH |

f. Customizing Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $2,600 |  |
|  | Estimated variable manufacturing overhead ($2.10 per MH × 1,000 MHs) | 2,100 |  |
|  | Estimated total manufacturing overhead cost (a) | $4,700 |  |
|  | Estimated total machine-hours (b) | 1,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $4.70 | per MH |

g. Manufacturing overhead applied to Job L:

|  |  |  |
| --- | --- | --- |
|  | Forming ($7.30 per MH × 2,900 MHs) | $21,170 |
|  | Customizing ($4.70 per MH × 600 MHs) | 2,820 |
|  | Total manufacturing overhead applied | $23,990 |

h. The selling price for Job L would be calculated as follows:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $6,900 |
|  | Direct labor cost | 8,500 |
|  | Manufacturing overhead applied | 23,990 |
|  | Total manufacturing cost | $39,390 |
|  | Markup (80%) | 31,512 |
|  | Selling price | $70,902 |

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

278. Carcana Corporation has two manufacturing departments--Machining and Finishing. The company used the following data at the beginning of the period to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Machining | Finishing | Total |
|  | Estimated total machine-hours (MHs) | 1,000 | 4,000 | 5,000 |
|  | Estimated total fixed manufacturing overhead cost | $4,200 | $8,800 | $13,000 |
|  | Estimated variable manufacturing overhead cost per MH | $1.90 | $2.90 |  |

During the period, the company started and completed two jobs--Job E and Job G. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job E | Job G |
|  | Direct materials | $11,800 | $8,000 |
|  | Direct labor cost | $19,200 | $6,700 |
|  | Machining machine-hours | 700 | 300 |
|  | Finishing machine-hours | 1,600 | 2,400 |

Required:

a. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both departments. What is the *departmental* predetermined overhead rate in the Machining department?

b. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. What is the *departmental* predetermined overhead rate in the Finishing department?

c. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job E?

d. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job G?

e. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 80% on manufacturing cost to establish selling prices. Calculate the selling price for Job E.

f. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 80% on manufacturing cost to establish selling prices. Calculate the selling price for Job G.

g. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. If both jobs were sold during the month, what was the company's cost of goods sold for the month?

Answer:

a. Machining Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $4,200 |  |
|  | Estimated variable manufacturing overhead ($1.90 per MH × 1,000 MHs) | 1,900 |  |
|  | Estimated total manufacturing overhead cost (a) | $6,100 |  |
|  | Estimated total machine-hours (b) | 1,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $6.10 | per MH |

b. Finishing Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $8,800 |  |
|  | Estimated variable manufacturing overhead ($2.90 per MH × 4,000 MHs) | 11,600 |  |
|  | Estimated total manufacturing overhead cost (a) | $20,400 |  |
|  | Estimated total machine-hours (b) | 4,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.10 | per MH |

c. Manufacturing overhead applied to Job E:

|  |  |  |
| --- | --- | --- |
|  | Machining ($6.10 per MH × 700 MHs) | $4,270 |
|  | Finishing ($5.10 per MH × 1,600 MHs) | 8,160 |
|  | Total manufacturing overhead applied | $12,430 |

d. Manufacturing overhead applied to Job G:

|  |  |  |
| --- | --- | --- |
|  | Machining ($6.10 per MH × 300 MHs) | $1,830 |
|  | Finishing ($5.10 per MH × 2,400 MHs) | 12,240 |
|  | Total manufacturing overhead applied | $14,070 |

e. The selling price for Job E would be calculated as follows:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $11,800 |
|  | Direct labor cost | 19,200 |
|  | Manufacturing overhead applied | 12,430 |
|  | Total manufacturing cost | $43,430 |
|  | Markup (80%) | 34,744 |
|  | Selling price | $78,174 |

f. The selling price for Job G would be calculated as follows:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $8,000 |
|  | Direct labor cost | 6,700 |
|  | Manufacturing overhead applied | 14,070 |
|  | Total manufacturing cost | $28,770 |
|  | Markup (80%) | 23,016 |
|  | Selling price | $51,786 |

g.

|  |  |  |
| --- | --- | --- |
|  | Total manufacturing cost Job E | $43,430 |
|  | Total manufacturing cost Job G | 28,770 |
|  | Cost of goods sold | $72,200 |

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

279. Braegelmann Corporation has two production departments, Casting and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department’s predetermined overhead rate is based on machine-hours and the Assembly Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Casting | Assembly |
|  | Machine-hours | 20,000 | 14,000 |
|  | Direct labor-hours | 4,000 | 6,000 |
|  | Total fixed manufacturing overhead cost | $110,000 | $65,400 |
|  | Variable manufacturing overhead per machine-hour | $1.60 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $4.50 |

During the current month the company started and finished Job K246. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job K246: | Casting | Assembly |
|  | Machine-hours | 60 | 30 |
|  | Direct labor-hours | 20 | 40 |
|  | Direct materials | $950 | $305 |
|  | Direct labor cost | $460 | $920 |

Required:

a. Calculate the estimated total manufacturing overhead for the Casting Department.

b. Calculate the estimated total manufacturing overhead for the Assembly Department.

c. Calculate the predetermined overhead rate for the Casting Department.

d. Calculate the predetermined overhead rate for the Assembly Department.

e. Calculate the amount of overhead applied in the Casting Department to Job K246.

f. Calculate the amount of overhead applied in the Assembly Department to Job K246.

g. Calculate the total job cost for Job K246.

h. Calculate the selling price for Job K246 if the company marks up its unit product costs by 40% to determine selling prices.

Answer:

a. Casting Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $110,000 + ($1.60 per machine-hour × 20,000 machine-hours)

= $110,000 +$32,000 = $142,000

b. Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $65,400 + ($4.50 per direct labor-hour × 6,000 direct labor-hours)

= $65,400 + $27,000 = $92,400

c. Casting Department:

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $142,000 ÷ 20,000 machine-hours = $7.10 per machine-hour

d. Assembly Department:

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $92,400 ÷6,000 direct labor-hours = $15.40 per direct labor-hour

e. Casting Department:

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $7.10 per machine-hour × 60 machine-hours = $426

f. Assembly Department:

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $15.40 per direct labor-hour × 40 direct labor-hours = $616

g.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Casting | Assembly | Total |
|  | Direct materials | $950 | $305 | $1,255 |
|  | Direct labor | $460 | $920 | 1,380 |
|  | Manufacturing overhead applied | $426 | $616 | 1,042 |
|  | Total cost of Job K246 |  |  | $3,677 |

h.

|  |  |  |
| --- | --- | --- |
|  | Total cost of Job K246 | $3,677.00 |
|  | Markup ($3,677.00 × 40%) | 1,470.80 |
|  | Selling price | $5,147.80 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

280. Matrejek Corporation has two manufacturing departments--Forming and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Forming | Customizing | Total |
|  | Estimated total machine-hours (MHs) | 8,000 | 2,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $36,800 | $4,800 | $41,600 |
|  | Estimated variable manufacturing overhead cost per MH | $1.60 | $2.90 |  |

During the most recent month, the company started and completed two jobs--Job D and Job K. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job D | Job K |
|  | Direct materials | $15,600 | $6,900 |
|  | Direct labor cost | $19,100 | $8,700 |
|  | Forming machine-hours | 5,400 | 2,600 |
|  | Customizing machine-hours | 800 | 1,200 |

Required:

a. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 50% on manufacturing cost to establish selling prices. Calculate the selling price for Job D.

b. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 50% on manufacturing cost to establish selling prices. Calculate the selling price for Job K.

c. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 50% on manufacturing cost to establish selling prices. Calculate the selling price for Job D.

d. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 50% on manufacturing cost to establish selling prices. Calculate the selling price for Job K.

Answer:

a. The first step is to calculate the estimated total overhead costs in the two departments.

Forming

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $36,800 |
|  | Estimated variable manufacturing overhead ($1.60 per MH × 8,000 MHs) | 12,800 |
|  | Estimated total manufacturing overhead cost | $49,600 |

Customizing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $4,800 |
|  | Estimated variable manufacturing overhead ($2.90 per MH × 2,000 MHs) | 5,800 |
|  | Estimated total manufacturing overhead cost | $10,600 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($49,600 + $10,600 = $60,200) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $60,200 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $6.02 | per MH |

The overhead applied to Job D is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $6.02 per MH x (5,400 MHs + 800 MHs)

= $6.02 per MH x (6,200 MHs)

= $37,324

The selling price for Job D:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $15,600 |
|  | Direct labor cost | 19,100 |
|  | Manufacturing overhead applied | 37,324 |
|  | Total manufacturing cost | $72,024 |
|  | Markup (50%) | 36,012 |
|  | Selling price | $108,036 |

b. The overhead applied to Job K is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $6.02 per MH x (2,600 MHs + 1,200 MHs)

= $6.02 per MH x (3,800 MHs)

= $22,876

Job K’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $6,900 |
|  | Direct labor cost | 8,700 |
|  | Manufacturing overhead applied | 22,876 |
|  | Total manufacturing cost | $38,476 |

The selling price for Job K:

|  |  |  |
| --- | --- | --- |
|  | Total manufacturing cost | $38,476 |
|  | Markup (50%) | 19,238 |
|  | Selling price | $57,714 |

c. Forming Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $36,800 |  |
|  | Estimated variable manufacturing overhead ($1.60 per MH × 8,000 MHs) | 12,800 |  |
|  | Estimated total manufacturing overhead cost (a) | $49,600 |  |
|  | Estimated total machine-hours (b) | 8,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $6.20 | per MH |

Customizing Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $4,800 |  |
|  | Estimated variable manufacturing overhead ($2.90 per MH × 2,000 MHs) | 5,800 |  |
|  | Estimated total manufacturing overhead cost (a) | $10,600 |  |
|  | Estimated total machine-hours (b) | 2,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.30 | per MH |

Manufacturing overhead applied to Job D:

|  |  |  |
| --- | --- | --- |
|  | Forming ($6.20 per MH × 5,400 MHs) | $33,480 |
|  | Customizing ($5.30 per MH × 800 MHs) | 4,240 |
|  | Total manufacturing overhead applied | $37,720 |

The selling price for Job D would be calculated as follows:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $15,600 |
|  | Direct labor cost | 19,100 |
|  | Manufacturing overhead applied | 37,720 |
|  | Total manufacturing cost | $72,420 |
|  | Markup (50%) | 36,210 |
|  | Selling price | $108,630 |

d. Manufacturing overhead applied to Job K:

|  |  |  |
| --- | --- | --- |
|  | Forming ($6.20 per MH × 2,600 MHs) | $16,120 |
|  | Customizing ($5.30 per MH × 1,200 MHs) | 6,360 |
|  | Total manufacturing overhead applied | $22,480 |

The selling price for Job K would be calculated as follows:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $6,900 |
|  | Direct labor cost | 8,700 |
|  | Manufacturing overhead applied | 22,480 |
|  | Total manufacturing cost | $38,080 |
|  | Markup (50%) | 19,040 |
|  | Selling price | $57,120 |

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

281. Harnett Corporation has two manufacturing departments--Molding and Assembly. The company used the following data at the beginning of the period to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Molding | Assembly | Total |
|  | Estimated total machine-hours (MHs) | 5,000 | 5,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $29,000 | $13,500 | $42,500 |
|  | Estimated variable manufacturing overhead cost per MH | $1.20 | $2.30 |  |

During the period, the company started and completed two jobs--Job E and Job M. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job E | Job M |
|  | Direct materials | $14,300 | $9,400 |
|  | Direct labor cost | $22,800 | $8,900 |
|  | Molding machine-hours | 3,400 | 1,600 |
|  | Assembly machine-hours | 2,000 | 3,000 |

Required:

a. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate that overhead rate.

b. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job E.

c. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the total manufacturing cost assigned to Job E.

d. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 60% on manufacturing cost to establish selling prices. Calculate the selling price for Job E.

e. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both departments. What is the *departmental* predetermined overhead rate in the Molding department?

f. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. What is the *departmental* predetermined overhead rate in the Assembly department?

g. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job E?

h. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 60% on manufacturing cost to establish selling prices. Calculate the selling price for Job E.

Answer:

a. The first step is to calculate the estimated total overhead costs in the two departments.

Molding

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $29,000 |
|  | Estimated variable manufacturing overhead ($1.20 per MH × 5,000 MHs) | 6,000 |
|  | Estimated total manufacturing overhead cost | $35,000 |

Assembly

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $13,500 |
|  | Estimated variable manufacturing overhead ($2.30 per MH × 5,000 MHs) | 11,500 |
|  | Estimated total manufacturing overhead cost | $25,000 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($35,000 + $25,000 = $60,000) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $60,000 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $6.00 | per MH |

b. The overhead applied to Job E is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $6.00 per MH x (3,400 MHs + 2,000 MHs)

= $6.00 per MH x (5,400 MHs)

= $32,400

c. Job E’s manufacturing cost:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $14,300 |
|  | Direct labor cost | 22,800 |
|  | Manufacturing overhead applied | 32,400 |
|  | Total manufacturing cost | $69,500 |

d. The selling price for Job E:

|  |  |  |
| --- | --- | --- |
|  | Total manufacturing cost | $69,500 |
|  | Markup (60%) | 41,700 |
|  | Selling price | $111,200 |

e. Molding Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $29,000 |  |
|  | Estimated variable manufacturing overhead ($1.20 per MH × 5,000 MHs) | 6,000 |  |
|  | Estimated total manufacturing overhead cost (a) | $35,000 |  |
|  | Estimated total machine-hours (b) | 5,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $7.00 | per MH |

f. Assembly Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $13,500 |  |
|  | Estimated variable manufacturing overhead ($2.30 per MH × 5,000 MHs) | 11,500 |  |
|  | Estimated total manufacturing overhead cost (a) | $25,000 |  |
|  | Estimated total machine-hours (b) | 5,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.00 | per MH |

g. Manufacturing overhead applied to Job E:

|  |  |  |
| --- | --- | --- |
|  | Molding ($7.00 per MH × 3,400 MHs) | $23,800 |
|  | Assembly ($5.00 per MH × 2,000 MHs) | 10,000 |
|  | Total manufacturing overhead applied | $33,800 |

h. The selling price for Job E would be calculated as follows:

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $14,300 |
|  | Direct labor cost | 22,800 |
|  | Manufacturing overhead applied | 33,800 |
|  | Total manufacturing cost | $70,900 |
|  | Markup (60%) | 42,540 |
|  | Selling price | $113,440 |

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-03

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

282. Bulla Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department’s predetermined overhead rate is based on machine-hours and the Customizing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Machining | Customizing |
|  | Machine-hours | 19,000 | 13,000 |
|  | Direct labor-hours | 2,000 | 9,000 |
|  | Total fixed manufacturing overhead cost | $98,800 | $84,600 |
|  | Variable manufacturing overhead per machine-hour | $2.10 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.60 |

During the current month the company started and finished Job K369. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job K369: | Machining | Customizing |
|  | Machine-hours | 90 | 10 |
|  | Direct labor-hours | 20 | 50 |

Required:

Calculate the total amount of overhead applied to Job K369 in both departments.

Answer:

Machining Department:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $98,800 + ($2.10 per machine-hour × 19,000 machine-hours)

= $98,800 +$39,900 = $138,700

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $138,700 ÷ 19,000 machine-hours = $7.30 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $7.30 per machine-hour × 90 machine-hours = $657

Customizing Department:

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $84,600 + ($3.60 per direct labor-hour × 9,000 direct labor-hours)

= $84,600 + $32,400 = $117,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $117,000 ÷9,000 direct labor-hours = $13.00 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $13.00 per direct labor-hour × 50 direct labor-hours = $650

Overhead applied to Job K369

|  |  |  |
| --- | --- | --- |
|  | Machining Department | $657 |
|  | Customizing Department | 650 |
|  | Total | $1,307 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

283. Bierce Corporation has two manufacturing departments--Machining and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Machining | Finishing | Total |
|  | Estimated total machine-hours (MHs) | 4,000 | 1,000 | 5,000 |
|  | Estimated total fixed manufacturing overhead cost | $20,000 | $2,100 | $22,100 |
|  | Estimated variable manufacturing overhead cost per MH | $1.40 | $2.80 |  |

During the most recent month, the company started and completed two jobs--Job B and Job K. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job B | Job K |
|  | Direct materials | $12,800 | $7,900 |
|  | Direct labor cost | $24,700 | $6,400 |
|  | Machining machine-hours | 2,700 | 1,300 |
|  | Finishing machine-hours | 400 | 600 |

Required:

a. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate that overhead rate.

b. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job B.

c. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job K.

d. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both departments. What is the *departmental* predetermined overhead rate in the Machining department?

e. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. What is the *departmental* predetermined overhead rate in the Finishing department?

f. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job B?

g. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job K?

Answer:

a. The first step is to calculate the estimated total overhead costs in the two departments.

Machining

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $20,000 |
|  | Estimated variable manufacturing overhead ($1.40 per MH × 4,000 MHs) | 5,600 |
|  | Estimated total manufacturing overhead cost | $25,600 |

Finishing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $2,100 |
|  | Estimated variable manufacturing overhead ($2.80 per MH × 1,000 MHs) | 2,800 |
|  | Estimated total manufacturing overhead cost | $4,900 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($25,600 + $4,900 = $30,500) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $30,500 |  |
|  | Estimated total machine hours | 5,000 | MHs |
|  | Predetermined overhead rate | $6.10 | per MH |

b. The overhead applied to Job B is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $6.10 per MH x (2,700 MHs + 400 MHs)

= $6.10 per MH x (3,100 MHs)

= $18,910

c. The overhead applied to Job K is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $6.10 per MH x (1,300 MHs + 600 MHs)

= $6.10 per MH x (1,900 MHs)

= $11,590

d. Machining Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $20,000 |  |
|  | Estimated variable manufacturing overhead ($1.40 per MH × 4,000 MHs) | 5,600 |  |
|  | Estimated total manufacturing overhead cost (a) | $25,600 |  |
|  | Estimated total machine-hours (b) | 4,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $6.40 | per MH |

e. Finishing Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $2,100 |  |
|  | Estimated variable manufacturing overhead ($2.80 per MH × 1,000 MHs) | 2,800 |  |
|  | Estimated total manufacturing overhead cost (a) | $4,900 |  |
|  | Estimated total machine-hours (b) | 1,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $4.90 | per MH |

f. Manufacturing overhead applied to Job B:

|  |  |  |
| --- | --- | --- |
|  | Machining ($6.40 per MH × 2,700 MHs) | $17,280 |
|  | Finishing ($4.90 per MH × 400 MHs) | 1,960 |
|  | Total manufacturing overhead applied | $19,240 |

g. Manufacturing overhead applied to Job K:

|  |  |  |
| --- | --- | --- |
|  | Machining ($6.40 per MH × 1,300 MHs) | $8,320 |
|  | Finishing ($4.90 per MH × 600 MHs) | 2,940 |
|  | Total manufacturing overhead applied | $11,260 |

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

284. Gercak Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department’s predetermined overhead rate is based on machine-hours and the Assembly Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Forming | Assembly |
|  | Machine-hours | 16,000 | 11,000 |
|  | Direct labor-hours | 2,000 | 7,000 |
|  | Total fixed manufacturing overhead cost | $100,800 | $76,300 |
|  | Variable manufacturing overhead per machine-hour | $1.70 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $3.10 |

During the current month the company started and finished Job X560. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job X560: | Forming | Assembly |
|  | Machine-hours | 50 | 30 |
|  | Direct labor-hours | 30 | 40 |

Required:

a. Calculate the estimated total manufacturing overhead for the Assembly Department.

b. Calculate the predetermined overhead rate for the Forming Department.

c. Calculate the total amount of overhead applied to Job X560 in both departments.

Answer:

a. Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $76,300 + ($3.10 per direct labor-hour × 7,000 direct labor-hours)

= $76,300 + $21,700 = $98,000

b. Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $100,800 + ($1.70 per machine-hour × 16,000 machine-hours)

= $100,800 +$27,200 = $128,000

Forming Department: Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $128,000 ÷ 16,000 machine-hours = $8.00 per machine-hour

c. Forming Department: Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $8.00 per machine-hour × 50 machine-hours = $400

Assembly Department: Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $98,000 ÷7,000 direct labor-hours = $14.00 per direct labor-hour

Assembly Department: Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $14.00 per direct labor-hour × 40 direct labor-hours = $560

Overhead applied to Job X560

|  |  |  |
| --- | --- | --- |
|  | Forming Department | $400 |
|  | Assembly Department | 560 |
|  | Total | $960 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

285. Sonneborn Corporation has two manufacturing departments--Molding and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Molding | Customizing | Total |
|  | Estimated total machine-hours (MHs) | 1,000 | 9,000 | 10,000 |
|  | Estimated total fixed manufacturing overhead cost | $5,100 | $23,400 | $28,500 |
|  | Estimated variable manufacturing overhead cost per MH | $1.50 | $2.50 |  |

During the most recent month, the company started and completed two jobs--Job D and Job G. There were no beginning inventories. Data concerning those two jobs follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Job D | Job G |
|  | Direct materials | $14,700 | $9,100 |
|  | Direct labor cost | $18,800 | $8,300 |
|  | Molding machine-hours | 700 | 300 |
|  | Customizing machine-hours | 3,600 | 5,400 |

Required:

a. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job D.

b. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job G.

c. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job D?

d. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job G?

Answer:

a. The first step is to calculate the estimated total overhead costs in the two departments.

Molding

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $5,100 |
|  | Estimated variable manufacturing overhead ($1.50 per MH × 1,000 MHs) | 1,500 |
|  | Estimated total manufacturing overhead cost | $6,600 |

Customizing

|  |  |  |
| --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $23,400 |
|  | Estimated variable manufacturing overhead ($2.50 per MH × 9,000 MHs) | 22,500 |
|  | Estimated total manufacturing overhead cost | $45,900 |

The second step is to combine the estimated manufacturing overhead costs in the two departments ($6,600 + $45,900 = $52,500) to calculate the plantwide predetermined overhead rate as follow:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated total manufacturing overhead cost | $52,500 |  |
|  | Estimated total machine hours | 10,000 | MHs |
|  | Predetermined overhead rate | $5.25 | per MH |

The overhead applied to Job D is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.25 per MH x (700 MHs + 3,600 MHs)

= $5.25 per MH x (4,300 MHs)

= $22,575

b. The overhead applied to Job G is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate x Machine-hours incurred by the job

= $5.25 per MH x (300 MHs + 5,400 MHs)

= $5.25 per MH x (5,700 MHs)

= $29,925

c. Molding Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $5,100 |  |
|  | Estimated variable manufacturing overhead ($1.50 per MH × 1,000 MHs) | 1,500 |  |
|  | Estimated total manufacturing overhead cost (a) | $6,600 |  |
|  | Estimated total machine-hours (b) | 1,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $6.60 | per MH |

Customizing Department predetermined overhead rate:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Estimated fixed manufacturing overhead | $23,400 |  |
|  | Estimated variable manufacturing overhead ($2.50 per MH × 9,000 MHs) | 22,500 |  |
|  | Estimated total manufacturing overhead cost (a) | $45,900 |  |
|  | Estimated total machine-hours (b) | 9,000 | MHs |
|  | Departmental predetermined overhead rate (a) ÷ (b) | $5.10 | per MH |

Manufacturing overhead applied to Job D:

|  |  |  |
| --- | --- | --- |
|  | Molding ($6.60 per MH × 700 MHs) | $4,620 |
|  | Customizing ($5.10 per MH × 3,600 MHs) | 18,360 |
|  | Total manufacturing overhead applied | $22,980 |

d. Manufacturing overhead applied to Job G:

|  |  |  |
| --- | --- | --- |
|  | Molding ($6.60 per MH × 300 MHs) | $1,980 |
|  | Customizing ($5.10 per MH × 5,400 MHs) | 27,540 |
|  | Total manufacturing overhead applied | $29,520 |

Difficulty: 2 Medium

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

286. Rocher Corporation has two production departments, Casting and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department’s predetermined overhead rate is based on machine-hours and the Finishing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Casting | Finishing |
|  | Machine-hours | 17,000 | 13,000 |
|  | Direct labor-hours | 4,000 | 6,000 |
|  | Total fixed manufacturing overhead cost | $124,100 | $52,200 |
|  | Variable manufacturing overhead per machine-hour | $2.30 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $4.00 |

During the current month the company started and finished Job A394. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job A394: | Casting | Finishing |
|  | Machine-hours | 80 | 20 |
|  | Direct labor-hours | 10 | 40 |

Required:

a. Calculate the estimated total manufacturing overhead for the Casting Department.

b. Calculate the predetermined overhead rate for the Casting Department.

c. Calculate the amount of overhead applied in the Casting Department to Job A394.

Answer:

a. Casting Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $124,100 + ($2.30 per machine-hour × 17,000 machine-hours)

= $124,100 +$39,100 = $163,200

b. Casting Department:

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $163,200 ÷ 17,000 machine-hours = $9.60 per machine-hour

c. Casting Department:

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $9.60 per machine-hour × 80 machine-hours = $768

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

287. Marius Corporation has two production departments, Casting and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department’s predetermined overhead rate is based on machine-hours and the Finishing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Casting | Finishing |
|  | Machine-hours | 18,000 | 12,000 |
|  | Direct labor-hours | 4,000 | 6,000 |
|  | Total fixed manufacturing overhead cost | $118,800 | $57,600 |
|  | Variable manufacturing overhead per machine-hour | $2.20 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $4.00 |

During the current month the company started and finished Job K895. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job K895: | Casting | Finishing |
|  | Machine-hours | 70 | 30 |
|  | Direct labor-hours | 20 | 60 |

Required:

a. Calculate the estimated total manufacturing overhead for the Finishing Department.

b. Calculate the predetermined overhead rate for the Finishing Department.

c. Calculate the amount of overhead applied in the Finishing Department to Job K895.

Answer:

a. Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $57,600 + ($4.00 per direct labor-hour × 6,000 direct labor-hours)

= $57,600 + $24,000 = $81,600

b. Finishing Department:

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $81,600 ÷6,000 direct labor-hours = $13.60 per direct labor-hour

c. Finishing Department:

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $13.60 per direct labor-hour × 60 direct labor-hours = $816

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

288. Madole Corporation has two production departments, Forming and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department’s predetermined overhead rate is based on machine-hours and the Customizing Department’s predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Forming | Customizing |
|  | Machine-hours | 19,000 | 12,000 |
|  | Direct labor-hours | 4,000 | 8,000 |
|  | Total fixed manufacturing overhead cost | $119,700 | $67,200 |
|  | Variable manufacturing overhead per machine-hour | $2.00 |  |
|  | Variable manufacturing overhead per direct labor-hour |  | $4.20 |

During the current month the company started and finished Job K973. The following data were recorded for this job:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Job K973: | Forming | Customizing |
|  | Machine-hours | 50 | 20 |
|  | Direct labor-hours | 20 | 50 |

Required:

a. Calculate the estimated total manufacturing overhead for the Forming Department.

b. Calculate the predetermined overhead rate for the Customizing Department.

c. Calculate the total overhead applied to Job K973 in both departments.

Answer:

a. Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

= $119,700 + ($2.00 per machine-hour × 19,000 machine-hours)

= $119,700 +$38,000 = $157,700

b. Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

= $67,200 + ($4.20 per direct labor-hour × 8,000 direct labor-hours)

= $67,200 + $33,600 = $100,800

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $100,800 ÷8,000 direct labor-hours = $12.60 per direct labor-hour

c. Forming Department: Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $157,700 ÷ 19,000 machine-hours = $8.30 per machine-hour

Forming Department: Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $8.30 per machine-hour × 50 machine-hours = $415

Customizing Department: Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $12.60 per direct labor-hour × 50 direct labor-hours = $630

Overhead applied to Job K973

|  |  |  |
| --- | --- | --- |
|  | Forming Department | $415 |
|  | Customizing Department | 630 |
|  | Total | $1,045 |

Difficulty: 1 Easy

Learning Objective: 02-01

Learning Objective: 02-02

Learning Objective: 02-04

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

289. Sullen Corporation uses a predetermined overhead rate base on machine-hours that it recalculates at the beginning of each year. The company has provided the following data for the most recent year.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Predetermined overhead rate | $14.30 | per machine-hour |
|  | Estimated total fixed manufacturing overhead from the beginning of the year | $572,000 |  |
|  | Estimated activity level from the beginning of the year | 40,000 | machine-hours |
|  | Actual total fixed manufacturing overhead | $605,000 |  |
|  | Actual activity level | 36,700 | machine-hours |

Required:

Determine the amount of manufacturing overhead that would have been applied to all jobs during the period.

Answer:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Predetermined overhead rate (a) | $14.30 | per machine-hour |
|  | Actual activity level (b) | 36,700 | machine-hours |
|  | Manufacturing overhead applied (a) × (b) | $524,810 |  |

Difficulty: 1 Easy

Learning Objective: 02-02

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

290. Levi Corporation uses a predetermined overhead rate of $23.40 per direct labor-hour. This predetermined overhead rate was based on estimated total fixed manufacturing overhead of $702,000 and 30,000 direct labor-hours for the period. The company incurred actual total fixed manufacturing overhead of $738,000 and 27,100 total direct labor-hours during the period.

Required:

Determine the amount of manufacturing overhead that would have been applied to all jobs during the period.

Answer:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Predetermined overhead rate (a) | $23.40 | per direct labor-hour |
|  | Actual activity level (b) | 27,100 | direct labor-hours |
|  | Manufacturing overhead applied (a) × (b) | $634,140 |  |

Difficulty: 1 Easy

Learning Objective: 02-02

Topic Area:

Blooms: Evaluate

AACSB: Analytical Thinking

AICPA: BB Reflective Thinking

AICPA: FN Measurement

[QUESTION]

291. Job 243 was recently completed. The following data have been recorded on its job cost sheet:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Direct materials | $48,870 |  |
|  | Direct labor-hours | 405 | labor-hours |
|  | Direct labor wage rate | $13 | per labor-hour |
|  | Machine-hours | 486 | machine-hours |
|  | Number of units completed | 2,700 | units |

The company applies manufacturing overhead on the basis of machine-hours. The predetermined overhead rate is $11 per machine-hour.

Required:

Compute the unit product cost that would appear on the job cost sheet for this job.

Answer:

Cost Summary

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $48,870 |
|  | Direct labor ($13 per DLH × 405 DLHs) | 5,265 |
|  | Manufacturing overhead ($11 per MH × 486 MHs) | 5,346 |
|  | Total product cost | $59,481 |
|  | Unit product cost | $22.03 |

Difficulty: 1 Easy

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

[QUESTION]

292. Job 652 was recently completed. The following data have been recorded on its job cost sheet:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Direct materials | $59,400 |  |
|  | Direct labor-hours | 1,224 | DLHs |
|  | Direct labor wage rate | $15 | per DLH |
|  | Number of units completed | 3,600 | units |

The company applies manufacturing overhead on the basis of direct labor-hours. The predetermined overhead rate is $35 per direct labor-hour.

Required:

Compute the unit product cost that would appear on the job cost sheet for this job.

Answer:

Cost Summary

|  |  |  |
| --- | --- | --- |
|  | Direct materials | $59,400 |
|  | Direct labor ($15 per DLH × 1,224 DLHs) | 18,360 |
|  | Manufacturing overhead ($35 per DLH × 1,224 DLHs) | 42,840 |
|  | Total product cost | $120,600 |
|  | Unit product cost | $33.50 |

Difficulty: 1 Easy

Learning Objective: 02-02

Learning Objective: 02-03

Topic Area:

Blooms: Apply

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement