**CHAPTER 14: PROCESS COSTING AND THE COST ACCOUNTING CYCLE**

**Multiple Choice**

c 1. ABC Company made the following journal entry.

Work in Process Inventory $200,000

Direct Labor $188,000

Direct Labor Rate Variance 12,000

From this entry we can tell that ABC uses

a. job-order costing.

b. process costing.

c. standard costing.

d. normal costing.

d 2. CDE Company made the following journal entry.

Finished Goods Inventory $250,000

Work in Process Inventory $250,000

From this entry we can tell that CDE uses

a. job-order costing.

b. process costing.

c. standard costing.

d. any of the above.

b 3. Which of the following is NOT relevant in determining weighted-average unit cost in process costing?

a. Cost of beginning inventory.

b. Equivalent unit production in beginning inventory.

c. Equivalent unit production in ending inventory.

d. Units completed.

d 4. Standard process costing does NOT require information about

a. units completed during the period.

b. equivalent unit production in ending inventory.

c. standard cost per unit.

d. actual unit cost for the period.

d 5. A company that uses job-order costing

a. cannot use standard costs.

b. accumulates costs by department.

c. probably makes a single product.

d. does not have to calculate equivalent production.

c 6. Which company is most likely to use job-order costing?

a. A brewery.

b. An automobile manufacturer.

c. A bridge builder.

d. A button manufacturer.

c 7. Which company is most likely to use process costing?

a. A manufacturer of nuclear reactors.

b. A construction contractor.

c. A cannery.

d. A textbook publisher.

a 8. Fixed production costs are inventoriable only if a company

a. uses absorption costing.

b. uses standard costing.

c. produces a single product.

d. receives permission from the Internal Revenue Service.

d 9. Which cost accumulation method is most likely to be used by a company that mass produces similar products?

a. Actual costing.

b. Normal costing.

c. Job-order costing.

d. Standard costing.

c 10. Standard costing can be used in

a. only job-order costing systems.

b. only process costing systems.

c. either job-order or process systems.

d. either manufacturing or retailing firms.

a 11. Which of the following is the same whether the company uses standard process costing or actual process costing?

a. Equivalent production.

b. Cost of goods transferred from work in process to finished goods.

c. Net income for the period.

d. Cost per unit of ending inventory of work in process.

c 12. It is usually necessary to calculate equivalent unit production for

a. materials.

b. conversion costs.

c. materials and conversion costs.

d. materials, conversion costs, and overhead.

b 13. If a company uses actual process costing, the amount transferred from Work in Process Inventory to Finished Goods Inventory is the cost of

a. equivalent unit production for the period.

b. units completed during the period.

c. units completed and sold during the period.

d. all units worked on during the period.

b 14. If a company uses standard process costing, the amount transferred from Work in Process Inventory to Finished Goods Inventory is the

a. standard cost of equivalent unit production for the period.

b. standard cost of units completed during the period.

c. actual cost of units completed and sold during the period.

d. actual cost of all units worked on during the period.

a 15. Under standard costing, the amount of direct labor cost charged (debited) to Work in Process Inventory is

a. standard labor hours at standard rates.

b. standard labor hours at actual rates.

c. actual labor hours at actual rates.

d. actual direct labor cost incurred.

d 16. A company that uses standard costing

a. must make only one product.

b. always has a volume variance unless normal capacity and practical capacity are the same.

c. shows higher incomes than it would if it used actual costing.

d. shows the same per-unit cost of inventory each month.

c 17. The numerator of weighted-average unit cost calculations is

a. current period cost.

b. cost of beginning inventory.

c. current period cost plus cost of beginning inventory.

d. cost of goods sold.

a 18. The numerator of the FIFO unit cost calculation is

a. current period cost.

b. cost of beginning inventory.

c. current period cost plus cost of beginning inventory.

d. cost of goods sold.

b 19. FIFO equivalent unit production (EUP) is 6,200 units. EUP in ending inventory is 300, in beginning inventory it is 125. Weighted-average EUP is

a. 6,500.

b. 6,325.

c. 6,025.

d. 5,900.

a 20. Weighted-average EUP is 4,100 units. Cost incurred during the period are $11,250, and the beginning inventory was $2,150. Unit cost is

a. $3.268.

b. $2.744.

c. $2.220

d. $0.524.

a 21. Weighted-average EUP is 11,400 units. Beginning inventory was 1,000 units 60% complete, ending inventory is 2,000 units 20% complete. The number of units completed is

a. 11,000.

b. 10,800.

c. 10,400.

d. 9,400.

c 22. Algoma completed 10,000 units, had beginning inventory of 2,500 units 40% complete, and ending inventory of 1,000 units 20% complete. Weighted-average EUP was

a. 9,200.

b. 10,000.

c. 10,200.

d. 11,000.

d 23. Which formula gives weighted-average equivalent unit production? (UC = units completed, BI = equivalent units in beginning inventory, EI = equivalent units in ending inventory)

a. UC + BI + EI.

b. UC + BI - EI.

c. UC + EI - BI.

d. UC + EI.

c 24. Which formula gives FIFO equivalent unit production? (UC = units completed, BI = equivalent units in beginning inventory, EI = equivalent units in ending inventory)

a. UC + BI + EI.

b. UC + BI - EI.

c. UC + EI - BI.

d. UC + EI.

c 25. The entry to apply overhead in a job-order system is

a. debit Cost of Goods Sold, credit Manufacturing Overhead.

b. debit Finished Goods Inventory, credit Work-in-Process Inventory.

c. debit Work-in-Process Inventory, credit Manufacturing Overhead.

d. debit Work-in-Process Inventory, credit Direct Labor.

a 26. Conversion costs are

a. labor and overhead costs.

b. materials and labor costs.

c. all fixed manufacturing costs.

d. all manufacturing costs.

a 27. Which item is NOT relevant in determining FIFO unit cost?

a. Cost of beginning inventory.

b. Equivalent unit production in beginning inventory.

c. Equivalent unit production in ending inventory.

d. Units completed.

c 28. Weighted-average equivalent production is always

a. less than the number of units completed.

b. equal to the number of units completed.

c. equal to or greater than the number of units completed.

d. any of the above.

d 29. FIFO equivalent production can be

a. less than the number of units completed.

b. equal to the number of units completed.

c. equal to or greater than the number of units completed.

d. any of the above.

a 30. Which item is NOT relevant in determining FIFO equivalent unit production?

a. Cost of beginning inventory.

b. Equivalent unit production in beginning inventory.

c. Equivalent unit production in ending inventory.

d. Units completed.

b 31. The FIFO method of calculating equivalent production and unit costs

a. is less likely to be accurate than the weighted-average method.

b. is more useful for control purposes than the weighted-average method.

c. cannot be used unless a company also uses standard costing.

d. eliminates the need to calculate separate equivalent-production numbers for each element of manufacturing cost.

a 32. Backflushing, or backflush costing

a. requires significantly less recordkeeping than other methods.

b. can be used by any company.

c. ignores inventories.

d. does not distinguish between materials and conversion costs.

c 33. Scooter Corp had no beginning inventories, finished 40,000 units, and sold 36,000 units. There were no ending inventories of materials or work in process. Materials purchased and used were $225,000; direct labor and overhead were $170,000. Ending inventory would be valued at

a. $17,000.

b. $22,500.

c. $39,500.

d. some other number.

b 34. Scooter Corp had no beginning inventories, finished 40,000 units, and sold 36,000 units. There were no ending inventories of materials or work in process. Materials purchased and used were $225,000; direct labor and overhead were $170,000. Cost of goods sold would be valued at

a. $39,500.

b. $355,500.

c. $395,000.

d. some other number.

b 35. Dewey Company had a beginning inventory of 3,000 units 35% complete, and an ending inventory of 2,500 units 20% complete. If 17,500 units were completed, weighted-average EUP is

a. 17,500.

b. 18,000.

c. 18,550.

d. 20,000.

b 36. Dewey Company had a beginning inventory of 3,000 units 35% complete, and an ending inventory of 2,500 units 20% complete. If 17,500 units were completed, FIFO EUP is

a. 17,500.

b. 16,950.

c. 16,050.

d. 15,050.

a 37. Cheatem has a weighted-average EUP of 30,000 units. Beginning inventory was 4,000 units 40% complete; ending inventory was 5,000 units 60% complete. The number of units completed is

a. 27,000.

b. 29,000.

c. 30,000.

d. 31,000.

b 38. Cheatem has a weighted-average EUP of 30,000 units. Beginning inventory was 4,000 units 40% complete; ending inventory was 5,000 units 60% complete. FIFO EUP is

a. 25,400.

b. 28,400.

c. 30,000.

d. 31,000.

d 39. Howe has a FIFO EUP of 46,580 units. Beginning inventory of 6,500 units was 80% complete; the ending inventory of 2,800 units was 60% complete. How many units were completed during the period?

a. 39,700

b. 44,900

c. 46,200

d. 50,100

c 40. Howe has a FIFO EUP of 46,580 units. Beginning inventory of 6,500 units was 80% complete; the ending inventory of 2,800 units was 60% complete. Weighted-average EUP is

a. 46,580.

b. 47,880.

c. 51,780.

d. some other number.

b 41. Sosa Inc. had $3,000 in beginning work in process and incurred an additional $28,500 during the period. If weighted-average EUP was 10,000 units, unit cost would be

a. $2.85.

b. $3.15.

c. $9.50.

d. some other number.

a 42. Granger Co. had $3,000 in beginning work in process and incurred an additional $28,500 during the period. If FIFO EUP was 10,000 units, unit cost would be

a. $2.85.

b. $3.15.

c. $9.50.

d. some other number.

b 43. Field Company had a beginning inventory of 2,000 units 40% complete, ending inventory of 1,500 units 70% complete, and transferred out 23,500 units. Weighted-average unit costs were $1.15 for materials, $0.75 for conversion costs. All materials are added at the start of the process. The cost of finished units transferred to finished goods is

a. $28,750.

b. $44,650.

c. $47,500.

d. $52,250.

b 44. Field Company had a beginning inventory of 4,000 units 40% complete, ending inventory of 3,000 units 70% complete, and transferred out 47,000 units. Weighted-average unit costs were $1.15 for materials, $0.75 for conversion costs. All materials are added at the start of the process. The cost of ending inventory is

a. $5,700.

b. $5,025

c. $3,990.

d. some other number.

b 45. Garden Co. had a beginning inventory of 3,000 units 60% complete, ending inventory of 3,000 units 80% complete, and transferred out 27,500 units. FIFO unit costs were $2.15 for materials, $1.25 for conversion costs. All materials are added at the start of the process. Beginning inventory cost $9,400. The cost of finished units transferred out is

a. $69,875.

b. $92,900.

c. $93,500.

d. $103,700.

b 46. Garden Co. had a beginning inventory of 3,000 units 60% complete, ending inventory of 3,000 units 80% complete, and transferred out 27,500 units. FIFO unit costs were $2.15 for materials, $1.25 for conversion costs. All materials are added at the start of the process. Beginning inventory cost $9,400. The cost of ending inventory is

a. $8,160.

b. $9,450.

c. $10,200.

d. $17,000.

d 47. Woods Run has a weighted-average EUP of 49,750 units. Beginning inventory of 4,500 units was 60% complete; the ending inventory of 4,800 units was 60% complete. The units completed during the period is

a. 49,750.

b. 44,950.

c. 47,050.

d. 46,870.

b 48. Woods Run has a weighted-average EUP of 49,750 units. Beginning inventory of 4,500 units was 60% complete; the ending inventory of 4,800 units was 60% complete. Conversion costs in beginning inventory were $1,960; conversion costs added during the period were $40,825. Conversion costs per unit are

a. $0.82.

b. $0.86.

c. $0.70.

d. cannot be determined with the information given.

a 49. Grover Co. had a beginning inventory of 1,750 units 70% complete, ending inventory of 3,000 units 20% complete, and transferred out 24,500 units. Weighted-average unit costs were $2.15 for materials, $1.75 for conversion costs. All materials are added at the start of the process. The cost of finished units transferred to finished goods is

a. $95,550.

b. $102,375.

c. $107,250.

d. $114,075.

c 50. Grover Co. had a beginning inventory of 1,750 units 70% complete, ending inventory of 3,000 units 20% complete, and transferred out 24,500 units. Weighted-average unit costs were $2.15 for materials, $1.75 for conversion costs. All materials are added at the start of the process. The cost of ending inventory is

a. $2,340.

b. $6,450.

c. $7,500.

d. $11,700.

**ANSWERS**

**True-False**

T 1. To calculate weighted-average equivalent production you do not need to know the number of units in the beginning inventory.

F 2. Equivalent production calculated using FIFO is higher than equivalent production calculated using weighted average.

T 3. Departmental overhead rates can be used by both job-order and process costing firms.

F 4. A multiproduct company cannot use standard costing.

T 5. Cost of Goods Sold and inventory accounts have debit balances.

F 6. Variance accounts have only credit balances.

F 7. Backflush costing eliminates the need for journal entries.

F 8. Backflush costing uses two inventory accounts: raw materials and a combined work in process/finished goods.

T 9. If a company has no inventories, the weighted-average approach and the FIFO approach will result in the same income.

F. 10. Although weighted average and FIFO may give different values for inventory, the resulting income will always be the same.

**Problems**

1. Clater uses weighted-average process costing. It had the following results in July.

Beginning inventory, 60% complete 2,000 units

Units completed 10,000 units

Units in ending inventory, 40% complete 1,000 units

Cost of beginning inventory $21,000

Current period production costs $166,200

a. Compute the equivalent unit production for July.

b. Compute the unit cost for July.

c. Compute the ending inventory of work in process.

d. Compute the cost transferred to finished goods.

SOLUTION:

a. 10,400 [10,000 + (1,000 x 40%)]

b. $18 [($21,000 + $166,200)/10,400]

c. $7,200 (1,000 x 40% x $18)

d. $180,000 (10,000 x $18)

2. Nikel Company uses FIFO process costing. Data are as follows:

Beginning inventory 40% complete 5,000 units

Units completed during period 100,000 units

Ending inventory 70% complete 9,000 units

The cost of the beginning inventory was $2,900 and current period production costs were $166,880.

a. Compute equivalent production.

b. Compute the unit cost.

c. Compute the cost of the ending inventory of work in process.

d. Compute the cost of goods completed and transferred to finished goods inventory.

SOLUTION:

a. 104,300 [100,000 + (9,000 x 70%) - (5,000 x 40%)]

b. $1.60 ($166,880/104,300)

c. $10,080, (9,000 x 70% x $1.60)

d. $159,700

Beginning inventory $ 2,900

Finish beginning inventory (5,000 x 60% x $1.60) 4,800

Units started and completed during period (95,000 x $1.60) 152,000

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Total $159,700

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3. The following data are available for 20X4 for Scottso, which uses weighted-average process costing.

Beginning inventory (40% complete) 3,000 units

Units started during 20X4 52,000 units

Units completed during 20X4 50,000 units

Ending inventory (70% complete) 5,000 units

Costs of inventory at beginning of 20X4 $2,750

Production costs incurred during 20X4 $83,920

a. Compute equivalent production for 20X4.

b. Compute the unit cost for 20X4 to the nearest cent.

c. Compute the cost of the ending inventory of work in process.

d. Compute the cost of goods completed and transferred to finished goods.

e. Scottso now uses FIFO. Compute ending inventory of work in process.

SOLUTION:

a. 53,500 [50,000 + (5,000 x 70%)]

b. $1.62 [($2,750 + $83,920)/53,500]

c. $5,670 [(5,000 x 70%) x $1.62]

d. $81,000 (50,000 x $1.62)

e. $5,616 ($1.6046 x 5,000 x 70%)

$83,920

-------------------------------------- = $1.6046

50,000 + (5,000 x 70%) - (3,000 x 40%)

4. Debra's Pottery Studios uses weighted-average process costing. It had the following results in June.

Beginning inventory, 30% complete 12,000 units

Units completed 30,000 units

Units in ending inventory, 60% complete 9,000 units

Cost of beginning inventory $45,000

Current period production costs $379,800

a. Compute equivalent unit production for June.

b. Compute the unit cost for June.

c. Compute the ending inventory of work in process.

d. Compute the cost transferred to finished goods.

SOLUTION:

a. 35,400 [30,000 + (9,000 x 60%)]

b. $12 [($45,000 + $379,800)/35,400]

c. $64,800 (9,000 x 60% x $12)

d. $360,000 (30,000 x $12)

5. Dubois Corp. has a just-in-time manufacturing system and maintains no ending materials or work in process inventory balances. Dubois uses backflush costing and had the following data for March.

Beginning inventories none

Units finished 90,000

Units sold 88,000

Materials purchased and used $375,000

Direct labor and manufacturing overhead $525,000

a. Prepare journal entries to reflect the March activity.

b. Compute the ending finished goods inventory balance.

c. Compute the cost of goods sold.

SOLUTION:

a. Materials and In-Process Inventory $375,000

Accounts Payable $375,000

Conversion Costs $525,000

Assorted accounts $525,000

Cost of Goods Sold $880,000

Finished Goods $ 20,000

Materials and In-Process Inventory $375,000

Conversion Costs $525,000

b. $20,000 [($375,000 + $525,000)/90,000 x 2,000]

c. $880,000 [($375,000 + $525,000)/90,000 x 88,000]

6. Wheeler Inc. sold 125,000 units of product during the year. Variable cost per unit was $5, standard fixed manufacturing cost per unit was $8, and selling and administrative costs were $425,000. All costs were incurred as budgeted. Income was $175,000 after a favorable volume variance of $100,000. There were no changes in inventory during the year.

a. Determine the selling price of a unit of product.

b. Determine the volume used to set the standard fixed manufacturing cost per unit.

c. Determine the budgeted amount of fixed manufacturing cost.

SOLUTION:

a. $17 {[($8 + $5) x 125,000 + $425,000 + $175,000 - $100,000]/125,000}

b. 112,500 units [125,000 - ($100,000/$8)]

c. $900,000 [(125,000 x $8) - $100,000]

7. DJH Company uses FIFO process costing. Data are as follows:

Beginning inventory 20% complete 15,000 units

Units completed during period 200,000 units

Ending inventory 30% complete 19,000 units

The cost of the beginning inventory was $3,180 and current period production costs were $222,970.

a. Compute equivalent production.

b. Compute the unit cost.

c. Compute the cost of the ending inventory of work in process.

d. Compute the cost of goods completed and transferred to finished goods inventory.

SOLUTION:

a. 202,700 [200,000 + (19,000 x 30%) - (15,000 x 20%)]

b. $1.10 ($222,970/202,700)

c. $6,270 (19,000 x 30% x $1.10)

d. $219,880

Beginning inventory $ 3,180

Finish beginning inventory (15,000 x 80% x $1.10) 13,200

Units started and completed (185,000 x $1.10) 203,500

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Total $219,880

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8. The following data are available for 20X2 for Hunter, Inc., which uses weighted-average process costing.

Beginning inventory (30% complete) 3,000 units

Units started during 20X2 56,600 units

Units completed during 20X2 55,000 units

Ending inventory (60% complete) 4,500 units

Costs of inventory at beginning of 20X2 $1,458

Production costs incurred during 20X2 $71,244

a. Compute equivalent production for 20X2.

b. Compute the unit cost for 20X2 to the nearest cent.

c. Compute the cost of the ending inventory of work in process.

d. Compute the cost of goods completed and transferred to finished goods.

SOLUTION:

a. 57,700 [55,000 + (4,500 x 60%)]

b. $1.26 [($1,458 + $71,244)/57,700]

c. $3,402 [(4,500 x 60%) x $1.26]

d. $69,300 (55,000 x $1.26)

9. Molitor Inc. has the following data for July:

Gallons in beginning inventory 13,000 gallons

Gallons completed in July 52,500 gallons

Gallons in ending inventory 7,500 gallons

Percentage complete:

Materials 100 %

Conversion costs 45 %

Costs Materials Conversion Costs

Beginning Inventory $ 56,300 $ 33,600

Incurred during July $321,700 $256,950

Molitor uses the weighted-average method of costing.

a. Compute the equivalent units of production for materials and for conversion costs for the month of July.

b. Compute the unit costs for each cost factor.

c. Compute the cost of finished gallons for July.

d. Compute the cost of ending work in process.

SOLUTION:

a. Materials: 60,000 [52,500 + (7,500 x 100%)]

Conversion: 55,875 [52,500 + (7,500 x 45%)]

b. Materials: $6.30 [($56,300 + $321,700)/60,000]

Conversion: $5.20 [($33,600 + $256,950)/55,875]

c. $603,750 [($6.30 + 5.20) x 52,500]

d. $64,800 Materials: 7,500 x 100% x $6.30 = $47,250

Conversion: 7,500 x 45% x $5.20 = 17,550

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$64,800

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10. Yount Inc. has the following data for September:

Gallons in beginning inventory 8,000 gallons

Percentage complete:

Materials 100 %

Conversion costs 60 %

Gallons completed in September 72,500 gallons

Gallons in ending inventory 10,000 gallons

Percentage complete:

Materials 100 %

Conversion costs 75 %

Costs Materials Conversion Costs

Beginning Inventory $109,730 $ 38,950

Incurred during September $968,500 $661,760

Yount uses the FIFO method of costing.

a. Compute the equivalent units of production for materials and for conversion costs for the month of September.

b. Compute the unit costs for each cost factor.

c. Compute the cost of finished gallons for September.

d. Compute the cost of ending work in process.

SOLUTION:

a. Materials: 74,500 [72,500 + (10,000 x 100%) - (8,000 x 100%)]

Conversion: 75,200 [72,500 + (10,000 x 75%) - (8,000 x 60%)]

b. Materials: $13.00 ($968,500/74,500)

Conversion: $ 8.80 ($661,760/75,200)

c. $1,582,940

Beginning inventory ($109,730 + 38,950) $148,680

Finish beginning inventory (8,000 x 40% x $8.80) 28,160

Units started and completed (64,500 x $21.80) 1,406,100

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Total $1,582,940

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d. $196,000 Materials: 10,000 x 100% x $13.00 = $130,000

Conversion: 10,000 x 75% x $8.80 = 66,000

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$196,000

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