Chapter 6

PROCESS COSTING

MULTIPLE CHOICE

Question Nos. 1, 7-12, 18-23, and 28-32 are AICPA adapted.

B **1.** **An equivalent unit of material or conversion cost is equal to:**
- **A. the prime cost**
- **B. the amount of material or conversion cost necessary to complete one unit of production**
- **C. a unit of work in process inventory**
- **D. the amount of material or conversion cost necessary to start a unit of production into work in process**
- **E. 50% of the material or conversion cost of a unit of finished goods inventory, assuming a linear production pattern**

B **2.** **The product flow format where certain portions of the work are done simultaneously and then brought together for completion is called:**
- **A. applied**
- **B. parallel**
- **C. standard**
- **D. selective**
- **E. sequential**

C **3.** **An item that does not appear on a cost of production report is:**
- **A. work in process—beginning inventory**
- **B. cumulative costs through the end of departmental production**
- **C. finished goods—ending inventory**
- **D. materials used in the department**
- **E. unit costs added by the department**

C **4.** **Goode Manufacturing has three producing departments in its factory. The ending inventory in the Milling Department consisted of 3,000 units. These units were 60% complete with respect to labor and factory overhead. Materials are applied at the end of the milling process. Unit costs for the complete process in the Milling Department are: materials, $1; labor, $2; and factory overhead, $3. The appropriate unit cost for each unit in the ending inventory is:**
- **A. $2**
- **B. $5**
- **C. $3**
- **D. $6**
- **E. $4**

SUPPORTING CALCULATION: 60% ($2 + $3) = $3

D **5.** **When added materials in subsequent departments result in an increase of the units produced, the unit transferred-in costs will:**

A. **be reclassified as new materials**
B. **be increased to provide for the additional units**
C. **be accounted for under the fifo costing method**
D. **be decreased as they are spread over more units**
E. **remain unchanged**

E **6.** **Gyro Products transferred 10,000 units to one department. An additional 3,000 units of materials were added in the department. At the end of the month, 7,000 units were transferred to the next department. There was no beginning inventory. The costs for units transferred in would be effectively allocated over:**

A. **17,000 units**
B. **3,000 units**
C. **10,000 units**
D. **7,000 units**
E. **13,000 units**

SUPPORTING CALCULATION: **7,000 units transferred out + 6,000 units in ending inventory = 13,000 units**

E **7.** **A characteristic of a process costing system is that:**

A. **costs are accumulated by order**
B. **it is used by a company manufacturing custom machinery**
C. **standard costs are not applicable**
D. **it requires a lot more detailed accounting than does a job order system**
E. **work in process inventory is restated in terms of completed units**

D **8.** **Transferred-in costs as used in a process cost accounting system are:**

A. **supervisory salaries that are transferred from an overhead cost center to a production cost center**
B. **ending work in process inventory of a previous process that will be used in a succeeding process**
C. **labor that is transferred from another department within the same plant instead of hiring temporary workers from the outside**
D. **costs of the product of a previous internal process that is subsequently used in a succeeding internal process**
E. **none of the above**

E **9.** **In a process costing system, how is the unit cost affected in a production cost report when materials are added in a department subsequent to the first department and the added materials result in additional units?**

A. **The first department's unit cost is increased, but it does not necessitate an adjustment of the transferred-in unit cost.**
B. **The first department's unit cost is decreased, but it does not necessitate an adjustment of the transferred-in unit cost.**
C. **The first department's unit cost is not affected.**
D. **The first department's unit cost is increased, which necessitates an adjustment of the transferred-in unit cost.**
E. **The first department's unit cost is decreased, which necessitates an adjustment of the transferred-in unit cost.**

E 10. Assuming that there was no beginning work in process inventory and the ending work in process inventory is 50% complete as to conversion costs, the number of equivalent units as to conversion costs would be:

A. less than the units completed
B. more than the units completed
C. the same as the units placed in process
D. the same as the units completed
E. less than the units placed in process

A 11. An error was made in the computation of the percentage of completion of the current year's ending work in process inventory. The error resulted in assigning a lower percentage of completion to each component of the inventory than actually was the case. What is the effect of this error upon:

(1) the computation of equivalent units in total
(2) the computation of costs per equivalent unit
(3) costs assigned to cost of goods completed for the period

	(1)	(2)	(3)
A.	**understate**	**overstate**	**overstate**
B.	**understate**	**understate**	**overstate**
C.	**overstate**	**understate**	**understate**
D.	**overstate**	**overstate**	**understate**
E.	**none of the above**		

C 12. Read, Inc. instituted a new process in October. During October, 10,000 units were started in Department A. Of the units started, 7,000 were transferred to Department B, and 3,000 remained in work in process at October 31. The work in process at October 31 was 100% complete as to material costs and 50% complete as to conversion costs. Materials costs of $27,000 and conversion costs of $39,950 were charged to Department A in October. What were the total costs transferred to Department B?

A. $46,900
B. $53,600
C. $51,800
D. $57,120
E. none of the above

SUPPORTING CALCULATION:

Materials unit cost = $27,000 ÷ (7,000 + 3,000) = $2.70
Conversion unit cost = $39,950 ÷ [7,000 + 50%(3,000)] = $4.70
Costs transferred = 7,000($2.70 + $4.70) = $51,800

D 13. In accounting for beginning inventory costs, the method that allows the addition of beginning inventory costs with costs incurred during the period is referred to as:

A. first-in, first-out
B. addition
C. last-in, first-out
D. average
E. first-in, last-out

E 14. Chicago Processing Co. uses the average costing method and reported a beginning inventory of 5,000 units that were 20% complete with respect to materials in one department. During the month, 11,000 units were started; 8,000 units were finished; ending inventory amounted to 8,000 units that were 60% complete with respect to materials. Total materials cost during the period for work in process should be spread over:

A. 7,200 units
B. 16,000 units
C. 11,200 units
D. 13,200 units
E. 12,800 units

SUPPORTING CALCULATION: 8,000 + .60(8,000) = 12,800 units

E 15. In determining the cost of goods transferred in from a previous department under the average cost method:

A. a simple average of unit costs is used
B. beginning inventory costs are separated from costs transferred in during the period
C. a first-in, first-out approach is used
D. equivalent production in ending inventory is separated from other transferred-in costs
E. a weighted average of unit costs is used

E 16. The average and fifo process costing methods differ in that the average method:

A. can be used under any cost flow assumption
B. is much more difficult to apply than the fifo method
C. requires that ending work in process inventory be stated in terms of equivalent units of production
D. considers the ending work in process inventory only partially complete
E. does not consider the degree of completion of beginning work in process inventory when computing equivalent units of production

A 17. The first step in applying the average cost method is to:

A. add the beginning work in process costs to the current period's production costs
B. divide the current period's production costs by the equivalent units
C. subtract the beginning work in process costs from the current period's production costs
D. A and B
E. B and C

C 18. Beginning work in process was 60% complete as to conversion costs, and ending work in process was 45% complete as to conversion costs. The dollar amount of the conversion cost included in ending work in process (using the average cost method) is determined by multiplying the average unit conversion costs by what percentage of the total units in ending work in process?

A. 60%
B. 55%
C. 45%
D. 52S%
E. 100%

C 19. Dover Corporation's production cycle starts in the Mixing Department. The following information is available for April:

	Units
Work in process, April 1 (50% complete)	**40,000**
Started in April	**240,000**
Work in process, April 30 (60% complete)	**25,000**

Materials are added at the beginning of the process in the Mixing Department. Using the average cost method, what are the equivalent units of production for the month of April?

	Materials	Conversion
A.	**255,000**	**255,000**
B.	**270,000**	**280,000**
C.	**280,000**	**270,000**
D.	**305,000**	**275,000**
E.	**240,000**	**250,000**

SUPPORTING CALCULATION:

Materials = 40,000 + 240,000 = 280,000
Conversion = (280,000 - 25,000) + .6(25,000) = 270,000

B 20. Information concerning Department A of Neeley Company for June is as follows:

	Units	Materials Costs
Beginning work in process	**17,000**	**$12,800**
Started in June	**82,000**	**69,700**
Units completed	**85,000**	
Ending work in process	**14,000**	

All materials are added at the beginning of the process. Using the average cost method, the cost per equivalent unit for materials is:

A. $0.825
B. $0.833
C. $0.85
D. $0.97
E. $1.01

SUPPORTING CALCULATION: ($12,800 + $69,700) ÷ (85,000 + 14,000) = $.833

B 21. Kennedy Company adds materials in the beginning of the process in the Forming Department, which is the first of two stages of its production cycle. Information concerning the materials used in the Forming Department in October is as follows:

	Units	Materials Costs
Work in process, October 1	**6,000**	**$ 3,000**
Units started	**50,000**	**25,560**
Units completed and transferred out	**44,000**	

Using the average cost method, what was the materials cost of work in process at October 31?

A. $3,000
B. $6,120
C. $3,060
D. $5,520
E. $6,000

SUPPORTING CALCULATION:

($3,000 + $25,560) ÷ (44,000 + 12,000) = $.51
$.51 x 12,000 = $6,120

E 22. Roger Company manufactures Product X in a two-stage production cycle in Departments A and B. Materials are added at the beginning of the process in Department B. Roger uses the average costing method. Conversion costs for Department B were 50% complete as to the 6,000 units in beginning work in process and 75% complete as to the 8,000 units in ending work in process. A total of 12,000 units were completed and transferred out of Department B during February. An analysis of the costs relating to work in process and production activity in Department B for February follows:

	Transferred-in Costs	Materials Costs	Conversion Costs
Work in process, February 1:			
Costs attached	**$12,000**	**$2,500**	**$1,000**
February activity:			
Costs added	**29,000**	**5,500**	**5,000**

The total cost per equivalent unit transferred out for February of Product X, rounded to the nearest penny, was:

A. $2.82
B. $2.85
C. $2.05
D. $2.75
E. $2.78

SUPPORTING CALCULATION:

Transferred-in costs = $41,000 ÷ 20,000 =	**$2.05**
Materials cost = $8,000 ÷ 20,000 =	**.40**
Conversion cost = $6,000 ÷ 18,000 =	**.33**
	$2.78

A 23. Simpson Co. adds materials at the beginning of the process in Department M. The following information pertains to Department M's work in process during April:

	Units
Work in process on April 1	
(60% complete as to conversion cost)	**3,000**
Started in April	**25,000**
Completed in April	**20,000**
Work in process on April 30	
(75% complete as to conversion cost)	**8,000**

Under the average costing method, the equivalent units for conversion cost are:

A. 26,000
B. 25,000
C. 24,000
D. 21,800
E. none of the above

SUPPORTING CALCULATION: 20,000 + .75(8,000) = 26,000

D 24. During March, Quig Company's Department Y equivalent unit product costs, computed under the average cost method, were as follows:

Materials	**$1**
Conversion	**3**
Transferred-in	**5**

Materials are introduced at the end of the process in Department Y. There were 4,000 units (40% complete as to conversion costs) in work in process at March 31. The total costs assigned to the March 31 work in process inventory should be:

A. $36,000
B. $28,800
C. $27,200
D. $24,800
E. none of the above

SUPPORTING CALCULATION: $5(4,000) + $3(4,000 x .4) = $24,800

The following questions are based on the material in the Appendix to the chapter.

B 25. If a company reports two different unit costs for goods transferred to the next department, it is reasonable to assume that:

A. the department accounts for lost units at the end of the process
B. a fifo costing method is used
C. lost unit costs are computed separately
D. an average costing method is used
E. errors must have occurred in recording costs

C 26. In order to compute equivalent units of production using the fifo method of process costing, work for the period must be broken down to units:

A. started and completed during the period
B. completed during the period and units in ending inventory
C. completed from beginning inventory, started and completed during the month, and units in ending inventory
D. started during the period and units transferred out during the period
E. processed during the period and units completed during the period

A 27. The first-in, first-out method of process costing will produce the same cost of goods manufactured amount as the average cost method when:

A. there is no beginning inventory
B. there is no ending inventory
C. beginning and ending inventories are each 50% complete
D. beginning inventories are 100% complete as to materials
E. goods produced are homogeneous

B 28. The fifo method of process costing differs from the average cost method of process costing in that fifo:

A. allocates costs based on whole units, but the average cost method uses equivalent units
B. considers the stage of completion of beginning work in process in computing equivalent units of production, but the average cost method does not
C. does not consider the stage of completion of beginning work in process in computing equivalent units of production, but the average cost method does
D. is applicable only to those companies using the fifo inventory pricing method, but the average cost method may be used with any inventory pricing method
E. none of the above

A 29. Connor Company computed the flow of physical units completed for Department M for the month of March as follows:

Units completed:

From work in process on March 1	**15,000**
From March production	**45,000**
Total	**60,000**

Materials are added at the beginning of the process. The 12,000 units of work in process at March 31 were 80% complete as to conversion costs. The work in process at March 1 was 60% complete as to conversion costs. Using the fifo method, the equivalent units for March conversion costs were:

A. 60,600
B. 55,200
C. 57,000
D. 54,600
E. 63,600

SUPPORTING CALCULATION: (15,000 x .4) + 45,000 + (12,000 x .8) = 60,600

D 30. The Hilo Company computed the physical flow of units for Department A for the month of April as follows:

Units completed:

From work in process on April 1	**10,000**
From April production	**30,000**
Total	**40,000**

Materials are added at the beginning of the process. Units of work in process at April 30 were 8,000. The work in process at April 1 was 80% complete as to conversion costs, and the work in process at April 30 was 60% complete as to conversion costs. What are the equivalent units of production for the month of April using the fifo method?

	Materials	Conversion Costs
A.	**48,000**	**48,000**
B.	**40,000**	**47,600**
C.	**36,800**	**38,000**
D.	**38,000**	**36,800**
E.	**48,000**	**44,800**

SUPPORTING CALCULATION:

Materials = 30,000 + 8,000 = 38,000
Conversion = (10,000 x .2) + 30,000 + (8,000 x .6) = 36,800

E 31. Department A is the first stage of Mann Company's production cycle. The following information is available for conversion costs for the month of April:

	Units
Beginning work in process (60% complete)	**20,000**
Started in April	**340,000**
Completed in April and transferred to Department B	**320,000**
Ending work in process (40% complete)	**40,000**

Using the fifo method, the equivalent units for the conversion cost calculation are:

A. 336,000
B. 360,000
C. 328,000
D. 320,000
E. 324,000

SUPPORTING CALCULATION:

(20,000 x .4) + 300,000 + (40,000 x .4) = 324,000

PROBLEMS

PROBLEM

1.

Cost of Production Report. Fort Myers Corporation manufactures a product that is processed in two departments: Mixing and Cooking. At the beginning and end of May, there were no inventories of unfinished work. During May, 50,000 units of this product were completed. Materials used during May cost $28,000, of which one half were used in the Mixing Department and one half were used in the Cooking Department. Direct labor wages totaled $60,000, with $40,000 applicable to Mixing and $20,000 to Cooking. The amounts for direct factory overhead incurred for each department and for general factory overhead apportioned to each department were:

	Mixing Department	Cooking Department
Factory overhead incurred	$7,500	$9,000
General factory overhead apportioned	5,000	6,000

Required: **Prepare a partial cost of production report, showing the total cost to be accounted for in each department.**

SOLUTION

Fort Myers Corporation
Partial Cost of Production Report
For May, 19--

	Mixing Department			Cooking Department		
	Total Cost	Equivalent Units	Unit Cost	Total Cost	Equivalent Units	Unit Cost
Cost from preceding department	---	50,000	---			$ 66,500
50,000			$1.33			
Cost added by department						
Materials	$ 14,000[1]	50,000	$ 0.28[2]	$ 14,000	50,000	$0.28
Labor	40,000	50,000	0.80			20,000
50,000			0.40			
Factory overhead	12,500	50,000	0.25			15,000
50,000			0.30			
Total cost added	$ 66,500		$ 1.33			$ 49,000
			$0.98			
Total cost to be accounted for	$ 66,500		$ 1.33			$ 115,500
			$2.31			

[1] $28,000 x 1/2 = $14,000
[2] $14,000 ÷ 50,000 units = $.28

PROBLEM

2.
Computation of Equivalent Production. Hanrahan Company uses process costing to account for the costs of its only product, X. Production takes place in two departments—Sanding and Polishing. On December 31, the inventory for Product X was as follows:

No unused materials	
Work in process—	
Sanding Department	**800 units (3/4 complete as to labor)**
Work in process—	
Polishing Department	**1,000 units (1/2 complete as to materials and 3/4 complete as to direct labor)**
Finished Goods	**600 units**

Required:

(1) Compute the equivalent units of materials in all inventories combined at December 31.
(2) Compute the equivalent units of the Sanding Department's direct labor in all inventories at December 31.

SOLUTION

(1)	**Work in process—Sanding Department**	**800**
	Work in process—Polishing Department (1,000 units x 1/2)	**500**
	Finished goods	**600**
	Units of materials in all inventories, Dec. 31	**1,900**
(2)	**Work in process—Sanding Department (800 units x 3/4)**	**600**
	Work in process—Polishing Department	**1,000***
	Finished goods	**600***
	Units of Sanding Dept.'s direct labor in all inventories, December 31	**2,200**

*** All Sanding Department direct labor would be in all of these units or else they never would have been transferred.**

PROBLEM

3.
Calculation of Unit Costs—Average Costing Method. Barcelona Beach Products reports the following data for the first department in its production process:

Units in process at beginning of period (all materials; 3/4 labor and factory overhead)	**5,000**
Units started in process	**35,000**
Units transferred out	**33,000**
Units still in process (all materials; 1/2 labor and factory overhead)	**5,000**
Units completed but not yet transferred to Finished Goods	**2,000**

Related data were:

	Work in Process at Beginning of Period	Added During Period
Materials	**$100,000**	**$ 304,000**
Labor	**125,400**	**407,100**
Factory overhead	**173,500**	**407,750**
Total	**$398,900**	**$ 1,118,850**

Required: **Using the average costing method:**

(1) Compute the unit cost for materials, labor, and factory overhead.
(2) Determine the cost of the work in process ending inventory.

SOLUTION

(1) Materials: ($100,000 + $304,000) / 40,000 units* = $10.10 per unit
Labor: ($125,400 + $407,100) / 37,500 units* = $14.20 per unit
Factory overhead: ($173,500 + $407,750) / 37,500 units = $15.50 per unit

***Equivalent production:**
Materials: 33,000 + 2,000 + 5,000 = 40,000 units
Labor and factory overhead: 33,000 + 2,000 + (1/2 x 5,000) = 37,500 units

(2)	**Units in process at end of period:**	
	Completed and on hand (2,000 x $39.80)	**$ 79,600**
	Materials (5,000 units x $10.10)	**50,500**
	Labor (5,000 units x 1/2 x $14.20)	**35,500**
	Factory overhead (5,000 units x 1/2 x $15.50)	**38,750**
		$ 204,350

PROBLEM

4.

Journal Entries for Process Cost System. Xavier Corporation uses process costing in its two production departments. A separate work in process account is kept in the general ledger for each production department. The following data relate to operations for the month of March:

		Beginning Inventory	Added During March
Direct materials cost:	**Department A**	**$ 5,000**	**$25,000**
	Department B	**3,000**	**20,000**
Direct labor cost:	**Department A**	**6,000**	**40,000**
	Department B	**4,500**	**35,000**
Applied overhead:	**Department A**	**12,000**	**90,000**
	Department B	**4,500**	**35,000**

During March, 45,000 units with a cost of $5 each were transferred from Department A to Department B, and 40,000 units with a cost of $9 each were transferred from Department B to finished goods inventory.

Required: **Prepare the appropriate general journal entries to record the cost charged to the producing departments during March and the cost of units transferred from Department A to Department B and Department B to finished goods inventory.**

SOLUTION

Work in Process — Department A	**25,000**	
Work in Process — Department B	**20,000**	
Materials		**45,000**
Work in Process — Department A	**40,000**	
Work in Process — Department B	**35,000**	
Payroll		**75,000**
Work in Process — Department A	**90,000**	
Work in Process — Department B	**35,000**	
Applied Factory Overhead		**125,000**
Work in Process — Department B	**225,000**	
Work in Process — Department A		**225,000**
Finished Goods Inventory	**360,000**	
Work in Process — Department B		**360,000**

PROBLEM

5.

Cost of Production Report, Second Department, Average Costing. Isogen Corporation manufactures a product in three departments. The product is cut out of lumber in the Cutting Department, then transferred to the Planing Department where it is shaped and certain parts purchased from outside vendors are added to the unit, and finally transferred to the Finishing Department where it is primed, painted, and packaged. Since only one product is manufactured by the company, a process cost system is used. The company adopted the average cost flow assumption to account for its work in process inventories. Data related to September operations in the Planing Department follow:

Units in beginning inventory	**3,000**
Units received from the Cutting Department this period	**7,500**
Units transferred to Finishing Department this period	**8,500**
Units in ending inventory (75% materials, 50% labor and overhead	**2,000**

Costs charged to the department:	**Beginning Inventory**	**Added This Period**
Costs from the preceding department	**$15,500**	**$63,250**
Materials	**7,800**	**20,700**
Direct labor	**3,200**	**16,750**
Factory overhead	**9,975**	**39,900**

Required: **Prepare a September cost of production report for the Planing Department.**

SOLUTION

Isogen Corporation
Planing Department
Cost of Production Report
For September, 19--

Quantity Schedule	Materials	Labor	Overhead	Quantity
Beginning inventory				3,000
Received from Cutting Department				7,500
				10,500
Transferred to Finishing Department				8,500
Ending inventory	75%	50%	50%	2,000
				10,500

Cost Charged to Department	Total Cost	Equivalent Units*	Unit Cost
Beginning inventory:			
Cost from preceding department	$ 15,500		
Materials	7,800		
Labor	3,200		
Factory overhead	9,975		
Total cost in beginning inventory	$ 36,475		
Cost added during period:			
Cost from preceding department	$ 63,250	10,500	$ 7.50
Materials	20,700	10,000	2.85
Labor	16,750	9,500	2.10
Factory overhead	39,900	9,500	5.25
Total cost added during period	$ 140,600		
Total cost charged to the department	$ 177,075		$ 17.70

Cost Accounted for as Follows	Units	% Complete	Unit Cost		Total Cost
Transferred to Finishing Department	8,500	100%	$17.70		$150,450
Work in process, ending inventory:					
Cost from preceding department	2,000	100	7.50	$ 15,000	
Materials	2,000	75	2.85	4,275	
Labor	2,000	50	2.10	2,100	
Factory overhead	2,000	50	5.25	5,250	26,625
Total cost accounted for					$177,075

*** Total number of equivalent units required in the cost accounted for section determined as follows:**

	Prior Dept. Cost	Materials	Labor	Overhead
Equivalent units transferred out	8,500	8,500	8,500	8,500
Equivalent units in ending inventory	2,000	1,500	1,000	1,000
Total equivalent units	10,500	10,000	9,500	9,500

PROBLEM

6.

Cost of Production Report, Increase in Quantity with Added Materials, Average Costing. Carlson Chemical Company produces a chemical in three departments, Mixing, Blending, and Bottling. Mixing, where the compounds are added, is the first department. The powder is then transferred to the second department where water is added to produce a liquid. After water has been added, the chemical is bottled for storage and transported to customers. A process cost system with an average cost flow assumption is used to account for work in process inventories. Data related to operations in the Blending Department during the month of October follow:

Units in beginning inventory	**2,000**
Units received from the Mixing Department this period	**4,000**
Units added to process in the Blending Department this period	**12,000**
Units transferred to Bottling Department this period	**14,000**
Units in ending inventory (100% materials, 40% labor and overhead)	**4,000**

Costs charged to the department:	**Beginning Inventory**	**Added This Period**
Costs from the preceding department	**$2,300**	**$11,200**
Materials	**720**	**2,520**
Direct labor	**1,150**	**2,750**
Factory overhead	**2,100**	**5,700**

Required: **Prepare a cost of production report for the Blending Department.**

SOLUTION

Carlson Chemical Company
Blending Department
Cost of Production Report
For October, 19--

Quantity Schedule	Materials	Labor	Overhead	Quantity
Beginning inventory				2,000
Received from Mixing Department				4,000
Added to process in Blending Department				12,000
				18,000
Transferred to Bottling Department				14,000
Ending inventory	100%	40%	40%	4,000
				18,000

Cost Charged to Department	Total Cost	Equivalent Units*	Unit Cost
Beginning Inventory:			
Cost from preceding department	$ 2,300		
Materials	720		
Labor	1,150		
Factory overhead	2,100		
Total cost in beginning inventory	$ 6,270		
Cost added during period:			
Cost from preceding department	$ 11,200	18,000	$ .75
Materials	2,520	18,000	.18
Labor	2,750	15,600	.25
Factory overhead	5,700	15,600	.50
Total cost added during period	$ 22,170		
Total cost charged to the department	$ 28,440		$ 1.68

Cost Accounted for as Follows	Units	% Complete	Unit Cost		Total Cost
Transferred to Bottling Department	14,000	100%	$1.68		$23,520
Work in process, ending inventory:					
Cost from preceding department	4,000	100	.75	$3,000	
Materials	4,000	100	.18	720	
Labor	4,000	40	.25	400	
Factory overhead	4,000	40	.50	800	4,920
Total cost accounted for					$28,440

*** Total number of equivalent units required in the cost accounted for section determined as follows:**

	Prior Dept. Cost	Materials	Labor	Overhead
Equivalent units transferred out	14,000	14,000	14,000	14,000
Equivalent units in ending inventory	4,000	4,000	1,600	1,600
Total equivalent units	18,000	18,000	15,600	15,600

The remaining problems are based on material in the chapter Appendix.

PROBLEM

7.
Equivalent Production Schedule. Javis Jam Co. uses fifo costing for its production processes. In December, the Cooking Department reported the following summary of its activities:

Units in process—beginning inventory		
(3/4 materials; 1/2 labor and factory overhead)	**8,000**	
Units started in process during the period	**15,000**	**23,000**
Units transferred to next department	**19,000**	
Units still in process (1/2 materials;		
1/4 labor and factory overhead)	**4,000**	**23,000**

Required: **Prepare an equivalent production schedule for materials, labor, and factory overhead in the Cooking Department using fifo costing.**

SOLUTION

	Materials	**Labor and Factory Overhead**
Units transferred out	**19,000**	**19,000**
Less beginning inventory (all units)	**8,000**	**8,000**
Units started and finished this period	**11,000**	**11,000**
Add beginning inventory (work this period):		
Materials (8,000 units x 1/4)	**2,000**	
Labor and factory overhead (8,000 units x 1/2)		**4,000**
Add ending inventory:		
Materials (4,000 units x 1/2)	**2,000**	
Labor and factory overhead (4,000 units x 1/4)		**1,000**
Equivalent production	**15,000**	**16,000**

PROBLEM

8.

Cost of Production Report, Second Department, Fifo Costing. Handy Tool Company manufactures a product in two departments, Shaping and Assembly. The product is cut out of sheet metal, bent to shape, and painted in the Shaping Department. Then, it is transferred to the Assembly Department where component parts purchased from outside vendors are added to the unit. A process cost system with a fifo cost flow assumption is used to account for work in process inventories. Data related to November operations in the Assembly Department follow:

Units in beginning inventory (90% materials, 80% labor and overhead)	**1,000**
Units received from the Shaping Department this period	**3,000**
Units transferred to Finished Goods Inventory this period	**2,800**
Units in ending inventory (50% materials, 40% labor and overhead)	**1,200**

Costs charged to the department:	**Beginning Inventory**	**Added This Period**
Costs from the preceding department	**$23,600**	**$29,250**
Materials	**7,700**	**13,375**
Direct labor	**3,500**	**9,672**
Factory overhead	**4,900**	**16,616**

Required: **Prepare a November cost of production report on a fifo basis for the Assembly Department.**

SOLUTION

Handy Tool Corporation
Assembly Department
Cost of Production Report
For November, 19--

Quantity Schedule	Materials	Labor	Overhead	Quantity
Beginning inventory	90%	80%	80%	1,000
Received from Shaping Department				3,000
				4,000
Transferred to Finishing Department				2,800
Ending inventory	50	40	40	1,200
				4,000

Cost Charged to Department	Total Cost	Equivalent Units*	Unit Cost
Beginning inventory:			
Cost from preceding department	$ 23,600		
Materials	7,700		
Labor	3,500		
Factory overhead	4,900		
Total cost in beginning inventory	$ 39,700		
Cost added during period:			
Cost from preceding department	$ 29,250	3,000	$ 9.75
Materials	13,375	2,500	5.35
Labor	9,672	2,480	3.90
Factory overhead	16,616	2,480	6.70
Total cost added during period	$ 68,913		
Total cost charged to the department	$ 108,613		$ 25.70

Cost Accounted for as Follows	Units	% Complete	Unit Cost		Total Cost
Transferred to Finished Goods:					
Beginning inventory				$39,700	
Cost to complete:					
Materials	1,000	10%	$ 5.35	535	
Labor	1,000	20	3.90	780	
Factory overhead	1,000	20	6.70	1,340	$ 42,355
Started and completed this period	1,800	100	25.70		46,260
Total cost transferred to Finished Goods					$ 88,615
Work in process, ending inventory:					
Cost from preceding department	1,200	100%	$ 9.75	11,700	
Materials	1,200	50	5.35	3,210	
Labor	1,200	40	3.90	1,872	
Factory overhead	1,200	40	6.70	3,216	19,998
Total cost accounted for					$ 108,613

*** Number of equivalent units of cost added during the current period determined as follows:**

	Prior Dept. Cost	Materials	Labor	Overhead
To complete beginning inventory	**0**	**100**	**200**	**200**
Started and completed this period	**1,800**	**1,800**	**1,800**	**1,800**
Ending inventory	**1,200**	**600**	**480**	**480**
Total equivalent units	**3,000**	**2,500**	**2,480**	**2,480**