Chapter 5

JOB ORDER COSTING

MULTIPLE CHOICE

Question Nos. 4, 5, 9-13, and 18 are AICPA adapted.
Question Nos. 7, 8, and 14-17 are ICMA adapted.

A **1.** **Under job order cost accumulation, the factory overhead control account controls:**
- **A. factory overhead analysis sheets**
- **B. all general ledger subsidiary accounts**
- **C. job order cost sheets**
- **D. cost reports by processes**
- **E. materials inventories**

B **2.** **Supplies needed for use in the factory are issued on the basis of:**
- **A. job cost sheets**
- **B. materials requisitions**
- **C. time tickets**
- **D. factory overhead analysis sheets**
- **E. clock cards**

B **3.** **Finished Goods is debited and Work in Process is credited for a:**
- **A. transfer of completed goods out of the factory**
- **B. transfer of completed production to the finished goods storeroom**
- **C. purchase of goods on account**
- **D. transfer of materials to the factory**
- **E. return of unused materials from the factory**

A **4.** **In job order costing, when materials are returned to the storekeeper that were previously issued to the factory for cleaning supplies, the journal entry should be made to:**
- **A. Materials**
  Factory Overhead
- **B. Materials**
  Work in Process
- **C. Purchases Returns**
  Work in Process
- **D. Work in Process**
  Materials
- **E. Factory Overhead**
  Work in Process

A **5.** **Under a job order cost system, the dollar amount of the entry to transfer the inventory from Work in Process to Finished Goods is the sum of the costs charged to all jobs:**

A. completed during the period
B. started in process during the period
C. in process during the period
D. completed and sold during the period
E. none of the above

B **6.** **When a manufacturing company has a highly automated plant producing many different products, probably the most appropriate basis of applying factory overhead costs to Work in Process is:**

A. units processed
B. machine hours
C. direct labor hours
D. direct labor dollars
E. none of the above

A **7.** **Cherokee Company applies factory overhead on the basis of direct labor hours. Budget and actual data for direct labor and overhead for the year are as follows:**

	Budget	Actual
Direct labor hours	**600,000**	**650,000**
Factory overhead costs	**$720,000**	**$760,000**

The factory overhead for Cherokee for the year is:

A. overapplied by $20,000
B. overapplied by $40,000
C. underapplied by $20,000
D. underapplied by $40,000
E. neither underapplied nor overapplied

SUPPORTING CALCULATION:

$$\frac{\$720,000}{600,000} = \$1.20 \_ 650,000$$

$$= \$780,000\,(applied) \bullet \$760,000\,(actual) = \$20,000\,(overapplied)$$

C 8. At the end of the year, Paola Company had the following account balances after applied factory overhead had been closed to Factory Overhead Control:

Factory Overhead Control	**$ 1,000**	**CR**
Cost of Goods Sold	**980,000**	**DR**
Work in Process	**38,000**	**DR**
Finished Goods	**82,000**	**DR**

The most common treatment of the balance in Factory Overhead Control would be to:

A. carry it as a deferred credit on the balance sheet
B. report it as miscellaneous operating revenue on the income statement
C. credit it to Cost of Goods Sold
D. prorate it between Work in Process and Finished Goods
E. prorate it among Work in Process, Finished Goods, and Cost of Goods Sold

B 9. Overapplied factory overhead would result if:

A. the plant were operated at less than normal capacity
B. factory overhead costs incurred were less than costs charged to production
C. factory overhead costs incurred were unreasonably large in relation to units produced
D. factory overhead costs incurred were greater than costs charged to production
E. a firm incurred a significant amount of overhead

A 10. The Waitkins Company estimated Department A's overhead at $255,000 for the period based on an estimated volume of 100,000 direct labor hours. At the end of the period, the factory overhead control account for Department A had a balance of $265,500; actual direct labor hours were 105,000. What was the over- or under-applied overhead for the period?

A. $2,250
B. $(2,250)
C. $15,000
D. $(15,000)
E. $(5,000)

SUPPORTING CALCULATION:

$$\frac{\$255{,}000}{100{,}000} = \$2.55 \_ 105{,}000 = \$267{,}750\,(applied) \bullet \$265{,}500\,(actual)$$

$$= \$2{,}250\,(overapplied)$$

D 11. Howell Corporation has a job order cost system. The following debits (credits) appeared in Work in Process for the month of July:

July 1, balance	**$ 12,000**
July 31, direct materials	**40,000**
July 31, direct labor	**30,000**
July 31, factory overhead	**27,000**
July 31, to finished goods	**(100,000)**

Howell applies overhead to production at a predetermined rate of 90% based on the direct labor cost. Job 1040, the only job still in process at the end of July, has been charged with factory overhead of $2,250. What was the amount of direct materials charged to Job 1040?

A. $6,750
B. $2,250
C. $2,500
D. $4,250
E. $9,000

SUPPORTING CALCULATION:

Job 1040 = $12,000 + $40,000 + $30,000 + $27,000 - $100,000 = $9,000

$$\text{Direct materials} = \$9{,}000 \bullet \frac{\$2{,}250}{.9} \bullet \$2{,}250 = \underline{\underline{\$4{,}250}}$$

E 12. Valentino Corporation makes aluminum fasteners. Among Valentino's 19-- manufacturing costs were:

Wages and salaries:	
Machine operators	**$80,000**
Factory supervisors	**30,000**
Machine mechanics	**20,000**

Direct labor amounted to:

A. $50,000
B. $100,000
C. $110,000
D. $130,000
E. none of the above

B 13. Rudolpho Corporation makes aluminum fasteners. Among Rudolpho's 19-- manufacturing costs were:

Materials and supplies:

Aluminum	**$400,000**
Machine parts	**18,000**
Lubricants for machines	**5,000**

Direct materials amounted to:

A. $23,000
B. $400,000
C. $405,000
D. $418,000
E. $423,000

C 14. Selected cost data (in thousands) concerning the past fiscal year's operations of the Moscow Manufacturing Company are presented below.

	Inventories	
	Beginning	**Ending**
Materials	**$75**	**$ 85**
Work in process	**80**	**30**
Finished goods	**90**	**110**

Materials used, $326
Total manufacturing costs charged to production during the year (including direct materials, direct labor, and factory overhead applied at the rate of 60% of direct labor cost), $686
Cost of goods available for sale, $826
Selling and general expenses, $25

The cost of direct materials purchased during the year amounted to:

A. $360
B. $316
C. $336
D. $411
E. none of the above

SUPPORTING CALCULATION: $326 + $85 - $75 = $336

C 15. Selected cost data (in thousands) concerning the past fiscal year's operations of the Moscow Manufacturing Company are presented below.

	Inventories	
	Beginning	**Ending**
Materials	**$75**	**$ 85**
Work in process	**80**	**30**
Finished goods	**90**	**110**

Materials used, $326
Total manufacturing costs charged to production during the year (including direct materials, direct labor, and factory overhead applied at the rate of 60% of direct labor cost), $686
Cost of goods available for sale, $826
Selling and general expenses, $25

Direct labor costs charged to production during the year amounted to:
A. $216
B. $135
C. $225
D. $360
E. none of the above

SUPPORTING CALCULATION: $\$686 = \$326 + x + .6x$
$x = \$225$

A 16. Selected cost data (in thousands) concerning the past fiscal year's operations of the Moscow Manufacturing Company are presented below.

	Inventories	
	Beginning	**Ending**
Materials	**$75**	**$ 85**
Work in process	**80**	**30**
Finished goods	**90**	**110**

Materials used, $326
Total manufacturing costs charged to production during the year (including direct materials, direct labor, and factory overhead applied at the rate of 60% of direct labor cost), $686
Cost of goods available for sale, $826
Selling and general expenses, $25

The cost of goods manufactured during the year was:
A. $736
B. $716
C. $636
D. $766
E. none of the above

SUPPORTING CALCULATION: $80 + $686 - $30 = $736

A 17. Selected cost data (in thousands) concerning the past fiscal year's operations of the Moscow Manufacturing Company are presented below.

Inventories

	Beginning	Ending
Materials	**$75**	**$ 85**
Work in process	**80**	**30**
Finished goods	**90**	**110**

Materials used, $326
Total manufacturing costs charged to production during the year (including direct materials, direct labor, and factory overhead applied at the rate of 60% of direct labor cost), $686
Cost of goods available for sale, $826
Selling and general expenses, $25

The cost of goods sold during the year was:
A. $716
B. $691
C. $801
D. $736
E. none of the above

SUPPORTING CALCULATION: $90 + $736 - $110 = $716

A 18. J. D. Doonesbury Company manufactures tools to customer specifications. The following data pertain to Job 1501 for April:

Direct materials used	**$ 4,200**
Direct labor hours worked	**300**
Direct labor rate per hour	**$ 8.00**
Machine hours used	**200**
Applied factory overhead rate per machine hour	**$ 15.00**

What is the total manufacturing cost recorded on Job 1501 for April?
A. $9,600
B. $10,300
C. $11,100
D. $5,400
E. $8,800

SUPPORTING CALCULATION: $4,200 + (300 x $8) + (200 x $15) = $9,600

C 19. In service businesses using job order costing, the most commonly used base for applying overhead to jobs is:
A. machine hours
B. direct materials consumed
C. direct labor cost
D. meals, travel, and entertainment
E. none of the above

A 20. In service businesses using job order costing, the hourly rate used to charge costs to a job usually includes:
- **A. both labor and overhead cost**
- **B. labor cost only**
- **C. overhead cost only**
- **D. labor, overhead, and miscellaneous costs**
- **E. none of the above**

A 21. Work in Process is debited and Materials is credited for:
- **A. the issuance of direct materials into production**
- **B. the issuance of indirect materials into production**
- **C. the return of materials to the storeroom**
- **D. the application of materials overhead**
- **E. none of the above**

B 22. Factory Overhead Control is debited and Payroll is credited for:
- **A. the recording of payroll**
- **B. the distribution of indirect labor costs**
- **C. the distribution of direct labor costs**
- **D. the distribution of withholding taxes**
- **E. none of the above**

A 23. Applied Factory Overhead is debited and Factory Overhead is credited to:
- **A. close the estimated overhead account to actual overhead**
- **B. record the actual factory overhead for the period**
- **C. charge estimated overhead to all jobs worked on during the period**
- **D. to record overapplied overhead for the period**
- **E. none of the above**

C 24. The best overhead allocation base to use in a labor-intensive manufacturing environment probably would be:
- **A. materials cost**
- **B. machine hours**
- **C. direct labor hours**
- **D. units of production**
- **E. none of the above**

D 25. Finished Goods is debited and Cost of Goods Sold is credited for:
- **A. transfer of completed goods to the customer**
- **B. sale of a customer order**
- **C. return of materials to the supplier**
- **D. return of goods by the customer**
- **E. none of the above**

PROBLEMS

PROBLEM

1.
Job Order Cost Schedule. Winkel Woodcrafters produces special-order wood products. The company uses job order costing for pricing and cost accumulation purposes. The following costs were incurred on two recent jobs:

Cost Item	Job Pine-20	Job Birch-10
Direct materials:		
Issued	$6,500	$8,000
Returned	500	0
Indirect materials used	500	400
Direct labor	$9,000	$15,000
Direct labor rate	$9 per hour	$10 per hour
Overhead application rate	$10 per direct labor hour	$15 per direct labor hour

The company adds a 50% markup on cost in determining the amount to charge for each job.

Required: **Prepare a schedule showing the cost and the amount to be charged for each job.**

SOLUTION

	Job Pine-20	Job Birch-10
Direct materials	$ 6,000	$ 8,000
Direct labor	9,000	15,000
Factory overhead applied	10,000	22,500
Total	$ 25,000	$ 45,500
Allowance for profit and other costs	12,500	22,750
Amount to be charged	$ 37,500	$ 68,250

PROBLEM

2.
Job Order Cost Sheet; Over- or Underapplied Overhead. During June, the following transactions took place at the Cassandran Corp.

June 3 Purchased materials, $30,000.
5 Requisitioned materials from inventory, $20,000 (75% of these were direct; 25% were indirect). Direct materials of $3,000 and indirect materials of $1,000 were for Job 00-1. The remainder were for Job 00-2.
7 For Job 00-2, returned $150 of direct materials and $200 of indirect materials.
8 Recorded liabilities for payroll: direct labor, $15,000 and indirect labor, $5,000. Of the direct labor cost, 60% was for Job 00-1; the remainder was for Job 00-2.
10 Incurred other factory overhead costs, $20,000 (all applicable to Jobs 00-1 and 00-2).
14 Applied overhead at the rate of 200% of direct labor cost to Jobs 00-1 and 00-2, which were completed and transferred to finished goods account today.

Required: **Assuming that Jobs 00-1 and 00-2 were the only jobs during the period and that all overhead (as recorded above) is the total applicable overhead for these projects:**

(1) Prepare a job order cost sheet for each job.
(2) Determine the difference between applied and actual overhead for the month.

SOLUTION

(1)

	Job 00-1	Job 00-2
Materials	**$ 3,000**	**$ 11,850**
Labor	**9,000**	**6,000**
Overhead applied	**18,000**	**12,000**
Total cost	**$ 30,000**	**$ 29,850**

(2) Analysis of Factory Overhead

Incurred:		
Indirect materials	**$ 4,800**	
Indirect labor	**5,000**	
Other overhead incurred	**20,000**	**$ 29,800**
Applied:		
Job 00-1	**$ 18,000**	
Job 00-2	**12,000**	**30,000**
Amount overapplied		**$ (200)**

PROBLEM

3.
Job Order Cycle Entries. The following completed cost sheets were prepared for three jobs that were in production during April in the Special Order Division of Byron Company:

	Job 097	Job 781	Job 946
Direct materials	**$ 6,000**	**$2,700**	**$4,100**
Direct labor	**9,200**	**7,300**	**8,200**
Applied factory overhead	**6,900**	**5,475**	**6,120**
Allowance for commercial expenses and profit	**11,050**	**7,738**	**9,210**

On April 1, Job 097 was 75% complete as to materials, labor, and overhead. It was finished during the month. The other jobs were started and finished during the month. Jobs 097 and 946 were sold on account at the end of the month.

Required: **Prepare general journal entries to be recorded in April to accumulate these job costs for Work in Process as well as for Finished Goods and for the sale of the two jobs.**

SOLUTION

	Debit	Credit	
Work in Process	**8,300**		*
Materials		**8,300**	
Work in Process	**17,800**		**
Accrued Payroll		**17,800**	
Work in Process	**13,320**		***
Factory Overhead Control		**13,320**	
Finished Goods	**55,995**		
Work in Process		**55,995**	
Cost of Goods Sold	**40,520**		
Finished Goods		**40,520**	
Accounts Receivable	**60,780**		
Sales		**60,780**	

*** (.25 x $6,000) + $2,700 + $4,100**
**** (.25 x $9,200) + $7,300 + $8,200**
***** (.25 x $6,900) + $5,475 + $6,120**

PROBLEM

4.
Voyager Inc. produces customized vans in a job order shop. On November 1, the following balances appear in the inventory records:

Finished goods	**$179,000**
Work in process	**308,000**
Materials	**83,000**

The amount in Finished Goods represents $101,000 recorded for Van 175 and $78,000 recorded for Van 177. The work in process account represents the three vans in process, as follows:

	Van 179	Van 180	Van 181
Factory overhead	**$75,000**	**$50,000**	**$25,000**
Direct labor	**60,000**	**40,000**	**20,000**
Direct materials	**26,000**	**7,000**	**5,000**

The following transactions occurred during November:

(a) Purchased materials on account, $80,000.

(b) Requisitioned $60,000 of materials from inventory: $15,000 applied to Van 180, $25,000 to Van 181, and $16,000 to Van 182, a new order; the balance was for indirect materials.

(c) Recorded the liability for the payroll and the labor cost distribution in a single entry: total payroll, $208,750. Of the payroll cost, 10% applied to Van 179, 20% to Van 180, 35% to Van 181, 30% to Van 182, and the remainder to indirect labor.

(d) Paid the payroll.

(e) Applied factory overhead at the rate of 150% of direct labor cost.

(f) Completed Vans 179 and 180.

(g) Sold Vans 175, 177, and 180 at 50% over manufacturing costs.

Required: **Prepare general journal entries to record these transactions.**

SOLUTION

		Debit	Credit
(a)	**Materials**	**80,000**	
	Accounts Payable		**80,000**
(b)	**Factory Overhead Control**	**4,000**	
	Work in Process	**56,000**	
	Materials		**60,000**
(c)	**Factory Overhead Control**	**10,437**	
	Work in Process	**198,313**	
	Accrued Payroll		**208,750**
(d)	**Accrued Payroll**	**208,750**	
	Cash		**208,750**
(e)	**Work in Process**	**297,470**	
	Applied Factory Overhead		**297,470**
(f)	**Finished Goods**	**429,563**	
	Work in Process		**429,563**
(g)	**Accounts Receivable**	**593,063**	
	Sales		**593,063**
	Cost of Goods Sold	**395,375**	
	Finished Goods		**395,375**

PROBLEM

5.
Manufacturing Costs. The work in process account of Meyers Company showed:

Work in Process			
Materials	**$22,000**	**Finished goods**	**$68,000**
Direct labor	**37,000**		
Factory overhead	**55,500**		

Materials charged to the one job still in process amounted to $5,000. Factory overhead is applied as a predetermined percentage of direct labor cost.

Required: **Compute the following:**

(1) The amount of direct labor cost in finished goods.
(2) The amount of factory overhead in finished goods.

SOLUTION

(1) The amount of direct labor in finished goods:

Finished goods	**$68,000**
Materials included in finished goods	**17,000**
Direct labor and factory overhead in finished goods	**$51,000**

$$\frac{\text{Factory overhead charged to work in process}}{\text{Direct labor charged to work in process}} = \frac{\$55,500}{\$37,000} = 1.5$$

Let x = direct labor in finished goods
$2.5x$ = $51,000 direct labor and factory overhead in finished goods
x = $20,400 direct labor in finished goods

(2) The amount of factory overhead in finished goods:

x = $20,400
$1.5x$ = 1.5($20,400)
$1.5x$ = $30,600 factory overhead in finished goods

PROBLEM

6.
Manufacturing Costs. Teddy Company is to submit a bid on the production of 5,500 vases. It is estimated that the cost of materials will be $8,500, and the cost of direct labor will be $12,000. Factory overhead is applied at 50% of direct labor cost in the Molding Department and at $7.50 per direct labor hour in the Finishing Department. Of the above direct labor, it is estimated that 500 direct labor hours at a cost of $4,000 will be required in Finishing. The company wishes a markup of 100% of its total production cost.

Required: **Determine the following:**

(1) Estimated cost to produce.
(2) Estimated prime cost.
(3) Estimated conversion cost.
(4) Bid price.

SOLUTION

(1)	**Materials**	**$ 8,500**
	Direct labor	**12,000**
	Factory overhead:	
	Molding (50% x $8,000)	**4,000**
	Finishing (500 DLH x $7.50)	**3,750**
	Estimated cost to produce	**$ 28,250**
(2)	**Materials**	**$ 8,500**
	Direct labor	**12,000**
	Estimated prime cost	**$ 20,500**
(3)	**Direct labor**	**$ 12,000**
	Factory overhead	**7,750**
	Estimated conversion cost	**$ 19,750**
(4)	**Estimated cost to produce**	**$ 28,250**
	Markup ($28,250 x 100%)	**28,250**
	Bid price	**$ 56,500**

PROBLEM

7.
Flow of Costs Through T Accounts. The Palmer Company had the following inventories at the beginning and end of July:

	July 1	July 31
Materials	**$20,000**	**$ 45,000**
Work in process	**?**	**185,000**
Finished goods	**65,000**	**115,000**

During July, the cost of materials purchased was $160,000 and factory overhead of $125,000 was applied at a rate of 75% of direct labor cost. July cost of goods sold was $240,000.

Required: **Prepare completed T accounts showing the flow of the cost of goods manufactured and sold.**

SOLUTION

Materials				Work in Process			
Inv.		**20,000**		**|**	**WIP**	**135,000**	
		Inv.	**48,333**	******		**|FG**	**290,000**
Purch.	**160,000**	**|**		**Materials**	**135,000**	**|**	
	180,000	**|**			**Factory**		**|**
45,000		**|**		**overhd.**	**125,000**	**|**	
		|		**Labor**	**166,667**	**|**	
		|			***475,000***	**|**	
		|		***185,000***		**|**	

Finished Goods				Cost of Goods Sold			
Inv.	**65,000**	**|**	**CGS**	**240,000**	**FG**	**240,000|**	
WIP	**290,000***	**|**				**|**	
	355,000	**|**				**|**	
115,000		**|**				**|**	

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***Beginning inventory + WIP = Ending inventory + CGS**
$65,000 + WIP = $115,000 + $240,000
WIP = $290,000

****Beginning WIP + Mfg. costs = Ending WIP + FG**
Beginning WIP + $426,667 = $185,000 + $290,000
Beginning WIP = $48,333