CHAPTER 2

JOB ORDER COSTING

SUMMARY OF QUESTIONS BY STUDY OBJECTIVES AND BLOOM'S TAXONOMY

Item	SO	BT	Item	SO	BT	Item	SO	BT	Item	SO	BT	Item	SO	BT
True-False Statements														
1.	1	K	8.	2	K	15.	2	K	22.	4	C	29.	6	C
2.	1	C	9.	2	C	16.	2	K	23.	4	K	30.	6	C
3.	1	C	10.	2	C	17.	3	K	24.	4	C	sg31.	1	C
4.	1	C	11.	2	C	18.	3	K	25.	5	C	sg32.	2	K
5.	1	C	12.	2	C	19.	3	C	26.	5	K	sg33.	3	K
6.	1	K	13.	2	K	20.	3	C	27.	5	K	sg34.	4	K
7.	1	C	14.	2	C	21.	3	K	28.	5	K	sg35.	6	K
Multiple Choice Questions														
36.	1	K	58.	2	K	80.	3	AP	102.	5	C	124.	6	C
37.	1	K	59.	2	C	81.	4	AP	103.	5	C	125.	6	K
38.	1	K	60.	2	C	82.	4	AP	104.	5	C	126.	6	C
39.	1	C	61.	3	K	83.	4	AP	105.	5	C	127.	6	AP
40.	1	C	62.	3	K	84.	4	AP	106.	5	AP	128.	6	C
41.	1	C	63.	3	AP	85.	4	AP	107.	5	AP	129.	6	C
42.	1	C	64.	3	K	86.	4	AP	108.	5	AP	130.	6	C
43.	1	C	65.	3	C	87.	4	AP	109.	5	C	131.	6	C
44.	2	AP	66.	3	K	88.	4	AP	110.	5	C	132.	6	C
45.	2	K	67.	3	K	89.	4	C	111.	5	AP	133.	6	C
46.	2	K	68.	3	K	90.	4	K	112.	5	AP	134.	6	C
47.	2	C	69.	3	C	91.	4	C	113.	5	AP	135.	6	C
48.	2	K	70.	3	C	92.	4	C	114.	5	AP	st136.	1	K
49.	2	C	71.	3	K	93.	4	K	115.	5	AP	sg137.	2	K
50.	2	C	72.	3	K	94.	4	AP	116.	5	AP	st138.	2	K
51.	2	C	73.	3	C	95.	4	C	117.	5	AP	sg139.	3	K
52.	2	K	74.	3	C	96.	4	K	118.	5	AP	st140.	3	K
53.	2	C	75.	3	K	97.	4	AP	119.	6	AP	sg141.	4	AP
54.	2	K	76.	3	AP	98.	5	C	120.	6	AP	st142.	4	K
55.	2	K	77.	3	AP	99.	5	C	121.	6	AP	sg143.	6	C
56.	2	AP	78.	3	AP	100.	5	C	122.	6	C	st144.	6	K
57.	2	K	79.	3	AP	101.	5	AP	123.	6	C	sg145.	6	K
Brief Exercises														
146.	2	AP	148.	3	AP	150.	4	AP	152.	5	AP	154.	6	AP
147.	2	AP	149.	3	AP	151.	4	AP	153.	6	AP	155.	6	AP

sg This question also appears in the Study Guide.
st This question also appears in a self-test at the student companion website.

SUMMARY OF QUESTIONS BY STUDY OBJECTIVES AND BLOOM'S TAXONOMY

Exercises													
156.	2,3	AP	161.	2–5	AP	166.	2–6	AP	171.	3,5	AP	176.	4,6	AP
157.	2–4	C	162.	2–5	AP	167.	2,3,6	AP	172.	3,5	AP	177.	5	AP
158.	2–4	AP	163.	2–5	AN	168.	2–6	AP	173.	4	AP	178.	5	AP
159.	2–4	C	164.	2–5	AP	169.	3	AP	174.	4,6	AP			
160.	2,3	AP	165.	5	AP	170.	3–5	AN	175.	4,6	AP			
Completion Statements														
179.	1	K	181.	1	K	183.	2	K	185.	3	K	187.	6	K
180.	1	K	182.	2	K	184.	3	AP	186.	4	K	188.	6	K

SUMMARY OF STUDY OBJECTIVES BY QUESTION TYPE

Item	Type	Item	Type	Item	Type	Item	Type	Item	Type	Item	Type	Item	Type
Study Objective 1													
1.	TF	4.	TF	7.	TF	37.	MC	40.	MC	43.	MC	180.	C
2.	TF	5.	TF	31.	TF	38.	MC	41.	MC	136.	MC	181.	C
3.	TF	6.	TF	36.	MC	39.	MC	42.	MC	179.	C		
Study Objective 2													
8.	TF	15.	TF	48.	MC	55.	MC	138.	MC	160.	Ex	167.	Ex
9.	TF	16.	TF	49.	MC	56.	MC	146.	BE	161.	Ex	168.	Ex
10.	TF	32.	TF	50.	MC	57.	MC	147.	BE	162.	Ex	182.	C
11.	TF	44.	MC	51.	MC	58.	MC	156.	Ex	163.	Ex	183.	C
12.	TF	45.	MC	52.	MC	59.	MC	157.	Ex	164.	Ex		
13.	TF	46.	MC	53.	MC	60.	MC	158.	Ex	165.	Ex		
14.	TF	47.	MC	54.	MC	137.	MC	159.	Ex	166.	Ex		
Study Objective 3													
17.	TF	62.	MC	69.	MC	76.	MC	148.	BE	161.	Ex	168.	Ex
18.	TF	63.	MC	70.	MC	77.	MC	149.	BE	162.	Ex	169.	Ex
19.	TF	64.	MC	71.	MC	78.	MC	156.	Ex	163.	Ex	170.	Ex
20.	TF	65.	MC	72.	MC	79.	MC	157.	Ex	164.	Ex	171.	Ex
21.	TF	66.	MC	73.	MC	80.	MC	158.	Ex	165.	Ex	172.	Ex
33.	TF	67.	MC	74.	MC	139.	MC	159.	Ex	166.	Ex	184.	C
61.	MC	68.	MC	75.	MC	140.	MC	160.	Ex	167.	Ex	185.	C
Study Objective 4													
22.	TF	83.	MC	89.	MC	95.	MC	151.	BE	163.	Ex	174.	Ex
23.	TF	84.	MC	90.	MC	96.	MC	157.	Ex	164.	Ex	175.	Ex
24.	TF	85.	MC	91.	MC	97.	MC	158.	Ex	166.	Ex	176.	Ex
34.	TF	86.	MC	92.	MC	141.	MC	159.	Ex	168.	Ex	186.	C
81.	MC	87.	MC	93.	MC	142.	MC	161.	Ex	170.	Ex		
82.	MC	88.	MC	94.	MC	150.	BE	162.	Ex	173.	Ex		

Study Objective 5													
25.	TF	100.	MC	106.	MC	112.	MC	118.	MC	165.	Ex	177.	Ex
26.	TF	101.	MC	107.	MC	113.	MC	152.	BE	166.	Ex	178.	Ex
27.	TF	102.	MC	108.	MC	114.	MC	161.	Ex	168.	Ex		
28.	TF	103.	MC	109.	MC	115.	MC	162.	Ex	170.	Ex		
98.	MC	104.	MC	110.	MC	116.	MC	163.	Ex	171.	Ex		
99.	MC	105.	MC	111.	MC	117.	MC	164.	Ex	172.	Ex		
Study Objective 6													
29.	TF	121.	MC	126.	MC	131.	MC	143.	MC	155.	BE	175.	Ex
30.	TF	122.	MC	127.	MC	132.	MC	144.	MC	166.	Ex	176.	Ex
35.	TF	123.	MC	128.	MC	133.	MC	145.	MC	167.	Ex	187.	C
119.	MC	124.	MC	129.	MC	134.	MC	153.	BE	168.	Ex	188.	C
120.	MC	125.	MC	130.	MC	135.	MC	154.	BE	174.	Ex		

Note: TF = True-False BE = Brief Exercise C = Completion
MC = Multiple Choice Ex = Exercise

The chapter also contains one set of ten Matching questions and four Short-Answer Essay questions.

CHAPTER STUDY OBJECTIVES

1. ***Explain the characteristics and purposes of cost accounting.*** Cost accounting involves the procedures for measuring, recording, and reporting product costs. From the data accumulated, companies determine the total cost and the unit cost of each product. The two basic types of cost accounting systems are job order cost and process cost.

2. ***Describe the flow of costs in a job order costing system.*** In job order costing, companies first accumulate manufacturing costs in three accounts: Raw Materials Inventory, Factory Labor, and Manufacturing Overhead. They then assign the accumulated costs to Work in Process Inventory and eventually to Finished Goods Inventory and Cost of Goods Sold.

3. ***Explain the nature and importance of a job cost sheet.*** A job cost sheet is a form used to record the costs chargeable to a specific job and to determine the total and unit costs of the completed job. Job cost sheets constitute the subsidiary ledger for the Work in Process Inventory control account.

4. ***Indicate how the predetermined overhead rate is determined and used.*** The predetermined overhead rate is based on the relationship between estimated annual overhead costs and expected annual operating activity. This is expressed in terms of a common activity base, such as direct labor cost. Companies use this rate to assign overhead costs to work in process and to specific jobs.

5. ***Prepare entries for jobs completed and sold.*** When jobs are completed, companies debit the cost to Finished Goods Inventory and credit it to Work in Process Inventory. When a job is sold, the entries are: (a) debit Cash or Accounts Receivable and credit Sales for the selling price, and (b) debit Cost of Goods Sold and credit Finished Goods Inventory for the cost of the goods.

6. ***Distinguish between under- and overapplied manufacturing overhead.*** Underapplied manufacturing overhead indicates that the overhead assigned to work in process is less than the overhead incurred. Overapplied overhead indicates that the overhead assigned to work in process is greater than the overhead incurred.

TRUE-FALSE STATEMENTS

1. Cost accounting is primarily concerned with accumulating information about product costs.

2. A job order cost system is most appropriate when a large volume of uniform products are produced.

3. A process cost accounting system is appropriate for similar products that are continuously mass produced.

4. The perpetual inventory method cannot be used in a job order cost system.

5. A job order cost system and a process cost system are two alternative methods for valuing inventories.

6. A job order cost system identifies costs with a particular job rather than with a set time period.

7. A company may use either a job order cost system or a process cost system, but not both.

8. Raw Materials Inventory, Factory Labor, and Manufacturing Overhead are all control accounts in the general ledger when a job order cost accounting system is used.

9. Accumulating and assigning manufacturing costs are two important activities in a job order cost system.

10. Recording the acquisition of raw materials is a part of accumulating manufacturing costs.

11. Manufacturing costs are generally incurred in one period and recorded in a subsequent period.

12. The Purchases account is credited for all raw materials purchase returns and allowances.

13. The stores ledger cards are the subsidiary ledger for Raw Materials Inventory control account in the general ledger.

14. When raw materials are purchased, the Work in Process Inventory account is debited.

15. Factory labor should be assigned to selling and administrative expenses on a proportionate basis.

16. Fringe benefits and payroll taxes associated with factory workers should be accumulated as a part of Factory Labor.

17. Job order cost sheets constitute the subsidiary ledger of the control account Work In Process Inventory.

18. In a job order cost system, each entry to the Work In Process Inventory account should be accompanied by a posting to one or more job cost sheets.

19. Direct materials requisitioned from the storeroom should be charged to the Work In Process Inventory account and the job cost sheets for the individual jobs on which the materials were used.

20. Manufacturing overhead is the only product cost that can be assigned to jobs as soon as the costs are incurred.

21. There should be a separate job cost sheet for each job.

22. Actual manufacturing overhead costs are assigned to each job by tracing each overhead cost to a specific job.

23. The formula for the predetermined overhead rate is estimated annual overhead costs divided by an estimated activity base.

24. Actual manufacturing overhead costs should be charged to the Work in Process Inventory account as they are incurred.

25. A good system of internal control requires that the job order cost sheet be destroyed as soon as the job is complete.

26. Finished Goods Inventory is charged for the cost of jobs completed during a period.

27. When goods are sold, the Cost of Goods Sold account is debited and Work in Process Inventory account is credited.

28. Total manufacturing costs for a period consists of the costs of direct materials used, the cost of direct labor incurred, and the manufacturing overhead applied during the period.

29. Overapplied overhead means that actual manufacturing overhead costs were greater than the manufacturing overhead costs applied to jobs.

30. If monthly financial statements are prepared, underapplied overhead is shown as a prepaid expense on the balance sheet.

Additional True-False Questions

31. A cost accounting system consists of manufacturing cost accounts that are fully integrated into the general ledger of a company.

32. The cost of raw materials purchased is credited to Raw Materials Inventory when materials are received.

33. Requisitions for direct materials are posted daily to the individual job cost sheets.

34. The predetermined overhead rate is based on the relationship between estimated annual overhead costs and expected annual operating activity expressed in terms of a common activity base.

35. At the end of the year, underapplied overhead is usually credited to Cost of Goods Sold.

Answers to True-False Statements

Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.
1.	T	6.	T	11.	F	16.	T	21.	T	26.	T	31.	T
2.	F	7.	F	12.	F	17.	T	22.	F	27.	F	32.	F
3.	T	8.	F	13.	T	18.	T	23.	T	28.	T	33.	T
4.	F	9.	T	14.	F	19.	T	24.	F	29.	F	34.	T
5.	T	10.	T	15.	F	20.	F	25.	F	30.	T	35.	F

MULTIPLE CHOICE QUESTIONS

36. Which of the following is one of the components of cost accounting?
    a. It involves measuring product costs.
    b. It involves the determination of company profits.
    c. It requires GAAP to be applied.
    d. It requires cost minimizing principles.

37. A major purpose of cost accounting is to
    a. classify all costs as operating or nonoperating.
    b. measure, record, and report period costs.
    c. provide information to stockholders for investment decisions.
    d. measure, record, and report product costs.

38. The two basic types of cost accounting systems are
    a. job order and job accumulation systems.
    b. job order and process cost systems.
    c. process cost and batch systems.
    d. job order and batch systems.

39. A process cost system would most likely be used by a company that makes
    a. motion pictures.
    b. repairs to automobiles.
    c. breakfast cereal.
    d. college graduation announcements.

40. Which of the following would be accounted for using a job order cost system?
    a. The production of personal computers
    b. The production of automobiles
    c. The refining of petroleum
    d. The construction of a new campus building

41. Process costing is used when
    a. the production process is continuous.
    b. production is aimed at filling a specific customer order.
    c. dissimilar products are involved.
    d. costs are to be assigned to specific jobs.

42. Process costing is not used when
    a. similar goods are being produced.
    b. large volumes are produced.
    c. jobs have distinguishing characteristics.
    d. a series of connected manufacturing processes is necessary.

43. An important feature of a job order cost system is that each job
    a. must be similar to previous jobs completed.
    b. has its own distinguishing characteristics.
    c. must be completed before a new job is accepted.
    d. consists of one unit of output.

44. As of December 31, 2008, Stand Still Industries had $1,500 of raw materials inventory. At the beginning of 2008, there was $1,200 of materials on hand. During the year, the company purchased $183,000 of materials; however, it paid for only $175,500. How much inventory was requisitioned for use on jobs during 2008?
    a. $175,200
    b. $182,700
    c. $183,300
    d. $175,800

45. The flow of costs in a job order cost system
    a. involves accumulating manufacturing costs incurred and assigning the accumulated costs to work done.
    b. cannot be measured until all jobs are complete.
    c. measures product costs for a set time period.
    d. generally follows a LIFO cost flow assumption.

46. In a job order cost accounting system, the Raw Materials Inventory account is
    a. an expense.
    b. a control account.
    c. not used.
    d. a period cost.

47. When a job is completed and all costs have been accumulated on a job cost sheet, the journal entry that should be made is
    a. Finished Goods Inventory
       Direct Materials
       Direct Labor
       Manufacturing Overhead
    b. Work In Process Inventory
       Direct Materials
       Direct Labor
       Manufacturing Overhead
    c. Raw Materials Inventory
       Work In Process Inventory
    d. Finished Goods Inventory
       Work In Process Inventory

48. The two major steps in the flow of costs are
    a. allocating and assigning.
    b. acquiring and accumulating.
    c. accumulating and assigning.
    d. accumulating and amortizing.

49. The Raw Materials Inventory account is
    a. a subsidiary account.
    b. debited for invoice costs and freight costs chargeable to the purchaser.
    c. debited for purchase discounts taken.
    d. debited for purchase returns and allowances.

50. Records of individual items of raw materials would *not* be maintained
    a. electronically.
    b. manually.
    c. on store ledger cards.
    d. in the Raw Materials Inventory account.

51. Cost of raw materials is debited to Raw Materials Inventory when the
    a. materials are ordered.
    b. materials are received.
    c. materials are put into production.
    d. bill for the materials is paid.

52. Raw Materials Inventory records are also referred to as
    a. the Raw Materials control account.
    b. the store ledger cards.
    c. the purchases journal.
    d. periodic inventory records.

53. After all postings have been completed, the sum of the balances in the raw materials subsidiary ledger should equal the
    a. balance in the Raw Materials Inventory control account.
    b. cost of materials charged to Work in Process Inventory.
    c. cost of materials purchased.
    d. cost of materials placed into production.

54. Factory labor costs
    a. are accumulated in a control account.
    b. do not include pension costs.
    c. include vacation pay.
    d. are based on workers' net pay.

55. Factory Labor is a(n)
    a. expense account.
    b. control account.
    c. subsidiary account.
    d. manufacturing cost clearing account.

56. Kline Manufacturing has the following labor costs:

Factory—Gross wages	$195,000
Factory—Net wages	160,000
Employer Payroll Taxes Payable	25,000

The entry to record the cost of factory labor and the associated payroll tax expense will include a debit to Factory Labor for
a. $220,000.
b. $195,000.
c. $185,000.
d. $170,000.

57. Factory labor costs
a. accumulate in advance of utilization.
b. accumulate in a control account.
c. include sick pay earned by factory workers.
d. accumulate in the Factory Labor Expense account.

58. Which of the following is *not* a control account?
a. Manufacturing Overhead
b. Factory Labor
c. Accounts Receivable
d. Raw Materials Inventory

59. Manufacturing Overhead would *not* have a subsidiary account for
a. utilities.
b. property taxes.
c. insurance.
d. raw materials inventory.

60. The entry to record the acquisition of raw materials on account is
a. Work in Process Inventory
    Accounts Payable
b. Manufacturing Overhead
    Raw Materials Inventory
    Accounts Payable
c. Accounts Payable
    Raw Materials Inventory
d. Raw Materials Inventory
    Accounts Payable

61. Which one of the following best describes a job cost sheet?
a. It is a form used to record the costs chargeable to a specific job and to determine the total and unit costs of the completed job.
b. It is used to track manufacturing overhead costs to specific jobs.
c. It is used by management to understand how direct costs affect profitability.
d. It is a daily form that management uses for tracking worker productivity on which employee raises are based.

62. Job cost sheets constitute the subsidiary ledger for the
    a. Finished Goods Inventory account.
    b. Cost of Goods Sold account.
    c. Work In Process Inventory account.
    d. Cost of Goods Manufactured account.

63. A materials requisition slip showed that direct materials requested were $53,000 and indirect materials requested were $9,000. The entry to record the transfer of materials from the storeroom is

a.	Work In Process Inventory	53,000	
	Raw Materials Inventory		53,000
b.	Direct Materials	53,000	
	Indirect Materials	9,000	
	Work in Process Inventory		62,000
c.	Manufacturing Overhead	62,000	
	Raw Materials Inventory		62,000
d.	Work In Process Inventory	53,000	
	Manufacturing Overhead	9,000	
	Raw Materials Inventory		62,000

64. The job cost sheet does not show
    a. costs chargeable to a specific job.
    b. the total costs of a completed job.
    c. the unit cost of a completed job.
    d. the cost of goods sold.

65. Under an effective system of internal control, the authorization for issuing materials is made
    a. orally.
    b. on a prenumbered materials requisition slip.
    c. by the accounting department.
    d. by anyone on the production line.

66. A copy of the materials requisition slip
    a. is routed to the treasurer's office for payment.
    b. becomes the subsidiary ledger for the Work in Process Inventory.
    c. can be used as a subsidiary ledger for Raw Materials Inventory.
    d. is retained by the storeroom, and the original is sent to accounting.

67. Materials requisition slips are costed
    a. by production supervisors.
    b. by factory personnel who work on the production line.
    c. after the goods have been sold.
    d. using any of the inventory costing methods.

68. Posting to control accounts in a costing system are made
    a. monthly.
    b. daily.
    c. annually.
    d. semi-annually.

69. Which one of the following should be equal to the balance of the work in process inventory account at the end of the period?
    a. The total of the amounts transferred from raw materials for the current period
    b. The sum of the costs shown on the job cost sheets of unfinished jobs
    c. The total of manufacturing overhead applied to work in process for the period
    d. The total manufacturing costs for the period

70. Which of the following shows entries only to control accounts?
    a. Factory Labor
       Wages Payable
    b. Work in Process
       Factory Labor
       Raw Materials Inventory
       Wages Payable
    c. Work in Process
       Manufacturing Overhead
       Raw Materials Inventory
    d. Factory Labor
       Raw Materials Inventory
       Accounts Payable
       Wages Payable

71. A time ticket does not indicate the
    a. employee's name.
    b. account to be charged.
    c. number of personal exemptions claimed by the employee.
    d. job number.

72. Which one of the following is a source document that impacts the job cost sheet?
    a. Raw materials receiving slips
    b. Materials purchase orders
    c. Labor time tickets
    d. Finished goods shipping documents

73. Time tickets should be approved by
    a. the audit committee.
    b. co-workers.
    c. the employee's supervisor.
    d. the payroll department.

74. If the entry to assign factory labor showed only a debit to Work In Process Inventory, then all labor costs were
    a. direct labor.
    b. indirect labor.
    c. overtime related.
    d. regular hours.

75. The principal accounting record used in assigning costs to jobs is
    a. a job cost sheet.
    b. the cost of goods manufactured schedule.
    c. the Manufacturing Overhead control account.
    d. the store ledger cards.

76. The following information is available for completed Job No. 402: Direct materials, $60,000; direct labor, $90,000; manufacturing overhead applied, $45,000; units produced, 5,000 units; units sold, 4,000 units. The cost of the finished goods on hand from this job is
a. $30,000.
b. $195,000.
c. $39,000.
d. $156,000.

77. Sportly, Inc. completed Job No. B14 during 2008. The job cost sheet listed the following:

Direct materials	$33,000
Direct labor	$18,000
Manufacturing overhead applied	$12,000
Units produced	3,000 units
Units sold	1,800 units

How much is the cost of the finished goods on hand from this job?
a. $63,000
b. $37,800
c. $25,200
d. $30,600

78. Madison Inc. uses job order costing for its brand new line of sewing machines. The cost incurred for production during 2008 totaled $12,000 of materials, $6,000 of direct labor costs, and $4,000 of manufacturing overhead applied. The company ships all goods as soon as they are completed which results in no finished goods inventory on hand at the end of any year. Beginning work in process totaled $10,000, and the ending balance is $6,000. During the year, the company completed 40 machines. How much is the cost per machine?
a. $450
b. $650
c. $550
d. $800

79. As of December 31, 2008, Nilsen Industries had $2,000 of raw materials inventory. At the beginning of 2008, there was $1,600 of materials on hand. During the year, the company purchased $244,000 of materials; however it paid for only $234,000. How much inventory was requisitioned for use on jobs during 2008?
a. $244,400
b. $234,400
c. $233,600
d. $243,600

80. Cost of goods manufactured equals $44,000 for 2008. Finished goods inventory is $2,000 at the beginning of the year and $5,500 at the end of the year. Beginning and ending work in process for 2008 are $4,000 and $5,000, respectively. How much is cost of goods sold for the year?
a. $46,500
b. $42,000
c. $40,500
d. $47,500

81. A company expected its annual overhead costs to be $600,000 and direct labor costs to be $1,000,000. Actual overhead was $580,000, and actual labor costs totaled $1,100,000. How much is the company's predetermined overhead rate to the nearest cent?
    a. $0.58
    b. $0.53
    c. $0.60
    d. $0.55

82. Vektek, Inc. thinks machine hours is the best activity base for its manufacturing overhead. The estimate of annual overhead costs for its jobs was $615,000. The company used 1,000 hours of processing on Job No. B12 during the period and incurred overhead costs totaling $630,000. The budgeted machine hours for the year totaled 20,000. How much overhead should be applied to Job No. B12?
    a. $630
    b. $30,750
    c. $31,500
    d. $615

83. Hill Mfg. provided the following information from its accounting records for 2008:

Expected production	30,000 labor hours
Actual production	28,000 labor hours
Budgeted overhead	$900,000
Actual overhead	$870,000

    How much is the overhead application rate if Hill bases the rate on direct labor hours?
    a. $31.07 per hour
    b. $30.00 per hour
    c. $29.00 per hour
    d. $28.00 per hour

84. Kinney Company applies overhead on the basis of 150% of direct labor cost. Job No. 176 is charged with $50,000 of direct materials costs and $60,000 of manufacturing overhead. The total manufacturing costs for Job No. 176 is
    a. $110,000.
    b. $200,000.
    c. $150,000.
    d. $135,000.

85. Redman Company manufactures customized desks. The following pertains to Job No. 978:

Direct materials used	$6,300
Direct labor hours worked	300
Direct labor rate per hour	$12.00
Machine hours used	200
Applied factory overhead rate per machine hour	$22.00

    What is the total manufacturing cost for Job No. 978?
    a. $13,100
    b. $14,300
    c. $15,300
    d. $16,500

86. Henson Company applies overhead on the basis of 120% of direct labor cost. Job No. 190 is charged with $60,000 of direct materials costs and $90,000 of manufacturing overhead. The total manufacturing costs for Job No. 190 is
    a. $150,000.
    b. $258,000.
    c. $162,000.
    d. $225,000.

87. Norman Company manufactures customized desks. The following pertains to Job No. 953:

Direct materials used	$8,400
Direct labor hours worked	300
Direct labor rate per hour	$16.00
Machine hours used	200
Applied factory overhead rate per machine hour	$30.00

    What is the total manufacturing cost for Job No. 953?
    a. $17,600
    b. $19,200
    c. $20,600
    d. $22,200

88. Oliver Company provided the following information from its accounting records for 2008:

Expected production	60,000 labor hours
Actual production	56,000 labor hours
Budgeted overhead	$1,500,000
Actual overhead	$1,450,000

    How much is the overhead application rate if Oliver Company bases it on direct labor hours?
    a. $25.00 per hour
    b. $26.79 per hour
    c. $25.89 per hour
    d. $24.17 per hour

89. The labor costs that have been identified as indirect labor should be charged to
    a. manufacturing overhead.
    b. direct labor.
    c. the individual jobs worked on.
    d. salary expense.

90. Manufacturing overhead is applied to each job
    a. at the time when the overhead cost is incurred.
    b. by means of a predetermined overhead rate.
    c. at the end of the year when actual costs are known.
    d. only if the overhead costs can be directly traced to that job.

91. The predetermined overhead rate is based on the relationship between
    a. estimated annual costs and actual activity.
    b. estimated annual costs and expected annual activity.
    c. actual monthly costs and actual annual activity.
    d. estimated monthly costs and actual monthly activity.

92. The predetermined overhead rate is
    a. determined on a moving average basis throughout the year.
    b. not calculated until actual overhead costs are incurred.
    c. determined at the beginning of the year.
    d. determined at the end of the current year.

93. In calculating a predetermined overhead rate, a recent trend in automated manufacturing operations is to choose an activity base related to
    a. direct labor hours.
    b. indirect labor dollars.
    c. machine hours.
    d. raw materials dollars.

94. If annual overhead costs are expected to be $750,000 and direct labor costs are expected to be $1,000,000, then
    a. $1.33 is the predetermined overhead rate.
    b. for every dollar of manufacturing overhead, 75 cents of direct labor will be assigned.
    c. for every dollar of direct labor, 75 cents of manufacturing overhead will be assigned.
    d. a predetermined overhead rate cannot be determined.

95. Overhead application is recorded with a
    a. credit to Work in Process Inventory.
    b. credit to Manufacturing Overhead.
    c. debit to Manufacturing Overhead.
    d. credit to job cost sheets.

96. Manufacturing overhead applied is added to direct labor incurred and to what other item to equal total manufacturing costs for the period?
    a. Goods available for sale
    b. Raw materials purchased
    c. Work in process
    d. Direct materials used

97. At the beginning of the year, Monroe Company estimates annual overhead costs to be $1,500,000 and that 300,000 machine hours will be operated. Using machine hours as a base, the amount of overhead applied during the year if actual machine hours for the year was 315,000 hours is
    a. $1,500,000.
    b. $1,428,572.
    c. $1,050,000.
    d. $1,575,000.

98. Cost of goods sold is obtained from
    a. analysis of all the control accounts in the cost system.
    b. the finished goods inventory records.
    c. the work in process inventory records.
    d. the Raw Materials Inventory control account.

99. When determining costs of jobs, how does a company account for indirect materials?
    a. It is added to work in process as used.
    b. It remains part of raw materials inventory.
    c. It is transferred out of raw materials into manufacturing overhead when used.
    d. It is transferred out of raw materials into work in process as used.

100. In a job order cost system, a credit to Manufacturing Overhead will be accompanied by a debit to
   a. Cost of Goods Manufactured.
   b. Finished Goods Inventory.
   c. Work in Process Inventory.
   d. Raw Materials Inventory.

101. During 2008, Lawson Manufacturing expected Job No. 26 to cost $600,000 of overhead, $1,000,000 of materials, and $400,000 in labor. Lawson applied overhead based on direct labor cost. Actual production required an overhead cost of $560,000, $1,100,000 in materials used, and $440,000 in labor. All of the goods were completed. What amount was transferred to Finished Goods?
   a. $2,000,000
   b. $2,100,000
   c. $2,140,000
   d. $2,200,000

102. Debits to Work in Process Inventory are accompanied by a credit to all but which one of the following accounts?
   a. Raw Materials Inventory
   b. Factory Labor
   c. Manufacturing Overhead
   d. Cost of Goods Sold

103. Which of the following is *not* viewed as part of accumulating manufacturing costs in a job order cost system?
   a. Cost of goods sold is recognized
   b. Raw materials are purchased
   c. Factory labor is incurred
   d. Manufacturing overhead is incurred

104. Which of the following is *not* viewed as part of assigning manufacturing costs in a job order cost system?
   a. Manufacturing overhead is applied
   b. Raw materials are used
   c. Manufacturing overhead is incurred
   d. Completed goods are recognized

105. In determining total manufacturing costs on the cost of goods manufactured schedule,
   a. beginning work in process inventory should have a zero balance.
   b. actual manufacturing overhead costs appear as a deduction.
   c. manufacturing overhead applied is added to direct materials and direct labor.
   d. ending work in process inventory is deducted from beginning work in process inventory.

Use the following information for questions 106–107.

Baxter Company developed the following data for the current year:

Beginning work in process inventory	$150,000
Direct materials used	90,000
Actual overhead	180,000
Overhead applied	135,000
Cost of goods manufactured	165,000
Total manufacturing costs	450,000

106. Baxter Company's direct labor cost for the year is
   a. $45,000.
   b. $225,000.
   c. $135,000.
   d. $180,000.

107. Baxter Company's ending work in process inventory is
   a. $435,000.
   b. $300,000.
   c. $285,000.
   d. $135,000.

108. Russell Manufacturing Company developed the following data:

Beginning work in process inventory	$180,000
Direct materials used	140,000
Actual overhead	220,000
Overhead applied	160,000
Cost of goods manufactured	240,000
Ending work in process	300,000

   Russell Manufacturing Company's total manufacturing costs for the period is
   a. $380,000.
   b. $360,000.
   c. $260,000.
   d. cannot be determined from the data provided.

109. Which of the following is *not* used in assigning manufacturing costs to work in process inventory?
   a. Actual manufacturing overhead
   b. Time tickets
   c. Materials requisitions
   d. Predetermined overhead rate

110. On the cost of goods manufactured schedule, the cost of goods manufactured agrees with the
   a. balance of Finished Goods Inventory at the end of the period.
   b. total debits to Work in Process Inventory during the period.
   c. amount transferred from Work in Process Inventory to Finished Goods during the period.
   d. debits to Cost of Goods Sold during the period.

111. Gannon Company had the following information at December 31:

Finished goods inventory, January 1	$ 50,000
Finished goods inventory, December 31	150,000

If the cost of goods manufactured during the year amounted to $2,100,000 and annual sales were $2,750,000, the amount of gross profit for the year is
a. $650,000.
b. $2,000,000.
c. $750,000.
d. $550,000.

112. Vernon Company incurred direct materials costs of $500,000 during the year. Manufacturing overhead applied was $90,000 and is applied at the rate of 60% of direct labor costs. Vernon Company's total manufacturing costs for the year was
a. $740,000.
b. $644,000.
c. $590,000.
d. $944,000.

Use the following information for questions 113–114.

Payne Company developed the following data for the current year:

Beginning work in process inventory	$ 34,000
Direct materials used	52,000
Actual overhead	44,000
Overhead applied	46,000
Cost of goods manufactured	225,000
Total manufacturing costs	214,000

113. How much is Payne Company's direct labor cost for the year?
a. $127,000
b. $150,000
c. $116,000
d. $82,000

114. How much is Payne Company's ending work in process inventory for the year?
a. $23,000
b. $121,000
c. $21,000
d. $93,000

115. Chmelar Manufacturing Company developed the following data:

Beginning work in process inventory	$ 20,000
Direct materials used	120,000
Actual overhead	140,000
Overhead applied	135,000
Cost of goods manufactured	320,000
Ending work in process	15,000

How much are total manufacturing costs for the period?
a. $395,000
b. $315,000
c. $275,000
d. $305,000

116. Barger Company had the following information at December 31:

Finished goods inventory, January 1	$30,000
Finished goods inventory, December 31	42,000

If the cost of goods manufactured during the year amounted to $665,000 and annual sales were $998,000, how much is the amount of gross profit for the year?
a. $333,000
b. $303,000
c. $653,000
d. $345,000

117. Chin Company incurred direct materials costs of $300,000 during the year. Manufacturing overhead applied was $280,000 and is applied based on direct labor costs. The predetermined overhead rate is 70%. How much are Chin Company's total manufacturing costs for the year?
a. $776,000
b. $700,000
c. $580,000
d. $980,000

118. During 2008, Denson Manufacturing expected Job No. 51 to cost $450,000 of overhead, $750,000 of materials, and $300,000 in labor. Denson applied overhead based on direct labor cost. Actual production required an overhead cost of $420,000, $825,000 in materials used, and $330,000 in labor. All of the goods were completed. What amount was transferred to Finished Goods?
a. $1,605,000
b. $1,650,000
c. $1,500,000
d. $1,575,000

119. During 2008, Speck Manufacturing expected Job No. 59 to cost $450,000 of overhead, $750,000 of materials, and $300,000 in labor. Speck applied overhead based on direct labor cost. Actual production required an overhead cost of $420,000, $825,000 in materials used, and $330,000 in labor. All of the goods were completed. How much is the amount of over- or underapplied overhead?
a. $30,000 underapplied
b. $30,000 overapplied
c. $75,000 underapplied
d. $75,000 overapplied

120. Kimble Company applies overhead on the basis of machine hours. Given the following data, compute overhead applied and the under- or overapplication of overhead for the period:

Estimated annual overhead cost	$1,200,000
Actual annual overhead cost	$1,145,000
Estimated machine hours	300,000
Actual machine hours	280,000

a. $1,120,000 applied and $25,000 overapplied
b. $1,200,000 applied and $25,000 overapplied
c. $1,120,000 applied and $25,000 underapplied
d. $1,145,000 applied and neither under- nor overapplied

121. Barnes Company applies overhead on the basis of machine hours. Given the following data, compute overhead applied and the under- or overapplication of overhead for the period:

Estimated annual overhead cost	$1,500,000
Actual annual overhead cost	$1,430,000
Estimated machine hours	375,000
Actual machine hours	350,000

a. $1,400,000 applied and $30,000 overapplied
b. $1,500,000 applied and $30,000 overapplied
c. $1,400,000 applied and $30,000 underapplied
d. $1,430,000 applied and neither under- nor overapplied

122. A company assigned overhead to work in process. At year end, what does the amount of overapplied overhead mean?
a. The overhead assigned to work in process is greater than the estimated overhead costs.
b. The overhead assigned to work in process is less than the estimated overhead costs.
c. The overhead assigned to work in process is less than the actual overhead.
d. The overhead assigned to work in process is greater than the overhead incurred.

123. If the Manufacturing Overhead account has a debit balance at the end of a period, it means that
a. actual overhead costs were less than overhead costs applied to jobs.
b. actual overhead costs were greater than overhead costs applied to jobs.
c. actual overhead costs were equal to overhead costs applied to jobs.
d. no jobs have been completed.

124. If the manufacturing overhead costs applied to jobs worked on were greater than the actual manufacturing costs incurred during a period, overhead is said to be
a. underapplied.
b. overapplied.
c. in error.
d. prepaid.

125. At the end of the year, any balance in the Manufacturing Overhead account is generally eliminated by adjusting
a. Work In Process Inventory.
b. Finished Goods Inventory.
c. Cost of Goods Sold.
d. Raw Materials Inventory.

126. If Manufacturing Overhead has a credit balance at the end of the period, then
a. overhead has been underapplied.
b. the overhead assigned to Work in Process Inventory is less than the overhead incurred.
c. overhead has been overapplied.
d. management must take corrective action.

127. The Manufacturing Overhead account shows debits of $30,000, $24,000, and $28,000 and one credit for $86,000. Based on this information, manufacturing overhead
   a. has been overapplied.
   b. has been underapplied.
   c. has not been applied.
   d. shows a zero balance.

128. When monthly financial statements are prepared, a difference between actual overhead and overhead applied will appear on
   a. the balance sheet.
   b. the income statement.
   c. the statement of stockholders' equity.
   d. none of the financial statements.

129. When monthly financial statements are prepared, overapplied overhead will appear as
   a. unearned revenue.
   b. a current asset.
   c. a loss on the income statement under "Other Expenses and Losses."
   d. miscellaneous expense.

130. When monthly financial statements are prepared, underapplied overhead will appear as
   a. unearned revenue.
   b. a current asset.
   c. "Other Revenues and Gains," on the income statement.
   d. a reduction to cost of goods sold.

131. If manufacturing overhead has been underapplied during the year, the adjusting entry at the end of the year will show a
   a. debit to Manufacturing Overhead.
   b. credit to Cost of Goods Sold.
   c. debit to Work in Process Inventory.
   d. debit to Cost of Goods Sold.

132. If manufacturing overhead has been overapplied during the year, the adjusting entry at the end of the year will show a
   a. debit to Manufacturing Overhead.
   b. credit to Finished Goods Inventory
   c. debit to Cost of Goods Sold.
   d. credit to Work in Process Inventory.

133. The existence of under- or overapplied overhead at the end of the month
   a. is expected to be offset in future months.
   b. indicates that an error has been made.
   c. requires a retroactive adjustment to the cost of all jobs completed.
   d. is written off as a bad estimate expense.

134. Conceptually, any under- or overapplied overhead at the end of the year should be allocated among all of the following except
   a. cost of goods sold.
   b. ending work in process inventory.
   c. ending raw materials inventory.
   d. ending finished goods inventory.

135. If, at the end of the year, Manufacturing Overhead has been overapplied, it means that
   a. actual overhead costs were greater than the overhead assigned to jobs.
   b. actual overhead costs were less than the overhead assigned to jobs.
   c. overhead has not been applied to jobs still in process.
   d. cost of goods will have to be increased by the amount of the overapplied overhead.

Additional Multiple Choice Questions

136. A process cost system would be used for all of the following *except* the
   a. manufacture of cereal.
   b. refining of petroleum.
   c. printing of wedding invitations.
   d. production of automobiles.

137. In a job order cost system, it would be correct in recording the purchase of raw materials to debit
   a. Work in Process Inventory.
   b. Work in Process and Manufacturing Overhead.
   c. Raw Materials Inventory.
   d. Finished Goods Inventory.

138. In a manufacturing company, the cost of factory labor consists of all of the following *except*
   a. employer payroll taxes.
   b. fringe benefits incurred by the employer.
   c. net earnings of factory workers.
   d. gross earnings of factory workers.

139. Which of the following is *not* a control account?
   a. Raw Materials Inventory
   b. Factory Labor
   c. Manufacturing Overhead
   d. All of these are control accounts.

140. When the company assigns factory labor costs to jobs, the direct labor cost is debited to
   a. Direct Labor.
   b. Factory Labor.
   c. Manufacturing Overhead.
   d. Work in Process Inventory.

141. Jinnah Company applies overhead on the basis of 200% of direct labor cost. Job No. 501 is charged with $60,000 of direct materials costs and $80,000 of manufacturing overhead. The total manufacturing costs for Job No. 501 is
   a. $140,000.
   b. $220,000.
   c. $180,000.
   d. $200,000.

142. Companies assign Manufacturing overhead to work in process on an estimated basis through the use of a(n)

a. actual overhead rate.
b. estimated overhead rate.
c. assigned overhead rate.
d. predetermined overhead rate.

143. Overapplied manufacturing overhead exists when overhead assigned to work in process is
a. more than overhead incurred and there is a debit balance in Manufacturing Overhead at the end of a period.
b. less than overhead incurred and there is a debit balance in Manufacturing Overhead at the end of a period.
c. more than overhead incurred and there is a credit balance in Manufacturing Overhead at the end of a period.
d. less than overhead incurred and there is a credit balance in Manufacturing Overhead at the end of a period.

144. Usually, under- or overapplied overhead is considered to be an adjustment to
a. work in process.
b. finished goods.
c. finished goods and cost of goods sold.
d. cost of goods sold.

145. Which of the following statements about under- or overapplied manufacturing overhead is correct?
a. After the entry to transfer over- or underapplied overhead to Cost of Goods Sold is posted, Manufacturing Overhead will have a zero balance.
b. When Manufacturing Overhead has a credit balance, overhead is said to be under-applied.
c. At the end of the year, under- or overapplied overhead is eliminated by a closing entry.
d. When annual financial statements are prepared, overapplied overhead is reported in current liabilities.

Answers to Multiple Choice Questions

Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.	Item	Ans.
36.	a	52.	b	68.	a	84.	c	100.	c	116.	d	132.	a
37.	d	53.	a	69.	b	85.	b	101.	d	117.	d	133.	a
38.	b	54.	c	70.	c	86.	d	102.	d	118.	b	134.	c
39.	c	55.	d	71.	c	87.	b	103.	a	119.	d	135.	b
40.	d	56.	a	72.	c	88.	a	104.	c	120.	c	136.	c
41.	a	57.	c	73.	c	89.	a	105.	c	121.	c	137.	c
42.	c	58.	b	74.	a	90.	b	106.	b	122.	d	138.	c
43.	b	59.	d	75.	a	91.	b	107.	a	123.	b	139.	b
44.	b	60.	d	76.	c	92.	c	108.	b	124.	b	140.	d
45.	a	61.	a	77.	c	93.	c	109.	a	125.	c	141.	c
46.	b	62.	c	78.	b	94.	c	110.	c	126.	c	142.	d
47.	d	63.	d	79.	d	95.	b	111.	c	127.	a	143.	c
48.	c	64.	d	80.	c	96.	d	112.	a	128.	a	144.	d
49.	b	65.	b	81.	c	97.	d	113.	c	129.	a	145.	a
50.	d	66.	d	82.	b	98.	b	114.	a	130.	b		
51.	b	67.	d	83.	b	99.	c	115.	b	131.	d		

BRIEF EXERCISES

BE 146

During the first year of operations, Shapiro Tool accumulated the following manufacturing costs:

Raw materials purchased on account	$8,000
Factory labor accrued	6,000
Incurred manufacturing overhead on account	4,000

Instructions
Prepare separate journal entries for each manufacturing cost.

Solution 146 (4 min.)

Raw Materials Inventory	8,000	
Accounts Payable		8,000
Factory Labor	6,000	
Factory Wages Payable		6,000
Manufacturing Overhead	4,000	
Accounts Payable		4,000

BE 147

In January, Harlan, Inc. production supervisor requisitioned raw materials for production as follows: Job 1 $600, Job 2 $900, Job 3 $300, and general factory use, $520.

Instructions
Prepare a summary journal entry to record raw materials used.

Solution 147 (2 min.)

Work in Process Inventory	1,800	
Manufacturing Overhead	520	
Raw Materials Inventory		2,320

BE 148

Lando Company reported the following amounts for 2008:

Raw materials purchased	$98,000	Ending work in process inventory	$ 6,300
Beginning raw materials inventory	5,200	Manufacturing overhead costs applied	36,000
Ending raw materials inventory	4,500	Beginning work in process inventory	6,100

Instructions
Calculate the cost of materials used in production

Solution 148 (2 min.)

$5,200 + $98,000 – $4,500 = $98,700

BE 149

Builder Bug Company allocates overhead at $9 per direct labor hour. Job A45 required 5 boxes of direct materials at a cost of $30 per box and took employees 12 hours to complete. Employees earn $15 per hour.

Instructions
Compute the total cost of Job A45.

Solution 149 (4 min.)

Direct materials (5 × $30)	$150
Direct labor (12 hours × $15)	180
Overhead (12 hours × $9)	108
Total job cost	$438

BE 150

Samli Company estimates that annual manufacturing overhead costs will be $600,000. Estimated annual operating activity bases are: direct labor cost $460,000, direct labor hours 40,000 and machine hours 80,000. The actual manufacturing overhead cost for the year was $602,000 and the actual direct labor cost for the year was $456,000. Actual direct labor hours totaled 40,200 and machine hours totaled 79,000. Samli applies overhead based on direct labor hours.

Instructions
Compute the predetermined overhead rate and determine the amount of manufacturing overhead applied. Determine if overhead is over- or underapplied and the amount.

Solution 150 (5 min.)

Rate = $600,000 ÷ 40,000 = $15.00 per direct labor hour
Applied = $15 × 40,200 = $603,000
Overapplied = $603,000 – $602,000 = $1,000

BE 151

Martin Company applies manufacturing overhead based on direct labor hours. Information concerning manufacturing overhead and labor for the year follows:

Actual manufacturing overhead	$150,000
Estimated manufacturing overhead	$140,000
Direct labor hours incurred	4,800
Direct labor hours estimated	5,000

BE 151 (cont.)

Instructions
Compute the predetermined overhead rate.

Solution 151 (2 min.)

$140,000 ÷ 5,000 = $28.00 per direct labor hour

BE 152

The manufacturing operations of Reason, Inc. had the following balances for the month of January:

Inventories	January 1	January 31
Raw materials	$12,000	$13,000
Work in process	21,000	23,000
Finished goods	14,000	16,000

Reason transferred $220,000 of completed goods out of work in process during January.

Instructions
Compute the cost of goods sold.

Solution 152 (2 min.)

$14,000 + $220,000 – $16,000 = $218,000

BE 153

The following amounts were reported by Samli Company before adjusting its immaterial overapplied manufacturing overhead of $8,000.

Raw Materials Inventory	$ 40,000
Finished Goods Inventory	60,000
Work in Process Inventory	100,000
Cost of Goods Sold	840,000

Instructions
Compute what amount Samli will report as cost of goods sold after it disposes of its overapplied overhead.

Solution 153 (2 min.)

$840,000 – $8,000 = $832,000

BE 154

During 2008, Mix Company incurred the following direct labor costs: January $10,000 and February $20,000. Mix uses a predetermined overhead rate of 120% of direct labor cost. Estimated overhead for the 2 months, respectively, totaled $13,000 and $23,800. Actual overhead for the 2 months, respectively, totaled $12,300 and $21,800.

Instructions
Determine if overhead is over- or underapplied for each of the two months and the respective amounts.

Solution 154 (4 min.)

Overhead applied:
January: 120% × $10,000 = $12,000
February: 120% × $20,000 = $24,000

Over- or underapplied:
January: $12,000 – $12,300 = $300 underapplied
February: $24,000 – $21,800 = $2,200 overapplied

BE 155

At December 31, Ding Company reported the following balances in its accounts:

Cost of Goods Sold	$210,000
Finished Goods Inventory	30,000

The company's balance in its Manufacturing Overhead account at the same date was a debit of $6,600.

Instructions
Prepare the entry to adjust the over- or underapplied overhead amount at December 31.

Solution 155 (2 min.)

Cost of Goods Sold	6,600	
Manufacturing Overhead		6,600

EXERCISES

Ex. 156

The manufacturing operations of Seeley, Inc. had the following balances for the month of January:

	January 1	January 31
Raw materials	$12,000	$13,000
Work in process	21,000	23,000
Finished goods	14,000	16,000

Seeley transferred $250,000 of completed goods out of work in process during January.

Instructions
Compute the cost of goods sold for January.

Solution 156 (3 min.)

$14,000 + $250,000 - $16,000 = $248,000

Ex. 157

A selected list of accounts used by Sloan Manufacturing Company follows:

Code		Code	
A	Cash	F	Accounts Payable
B	Accounts Receivable	G	Factory Labor
C	Raw Materials Inventory	H	Manufacturing Overhead
D	Work In Process Inventory	I	Cost of Goods Sold
E	Finished Goods Inventory	J	Sales

Sloan Manufacturing Company uses a job order system and maintains perpetual inventory records.

Instructions
Place the appropriate code letter in the columns indicating the appropriate account(s) to be debited and credited for the transactions listed below.

Transactions	Account(s) Debited	Account(s) Credited
1. Raw materials were purchased on account.		
2. Issued a check to Estes Machine Shop for repair work on factory equipment.		
3. Direct materials were requisitioned for Job 280.		
4. Factory labor was paid as incurred.		
5. Recognized direct labor and indirect labor used.		

Ex. 157 (cont.)

Transactions	Account(s) Debited	Account(s) Credited
6. The production department requisitioned indirect materials for use in the factory.		
7. Overhead was applied to production based on a predetermined overhead rate of $8 per labor hour.		
8. Goods that were completed were transferred to finished goods.		
9. Goods costing $80,000 were sold for $105,000 on account.		
10. Paid for raw materials purchased previously on account.		

Solution 157 (10–15 min.)

Transactions	Account(s) Debited	Account(s) Credited
1. Raw materials were purchased on account.	C	F
2. Issued a check to Estes Machine Shop for repair work on factory equipment.	H	A
3. Direct materials were requisitioned for Job 280	D	C
4. Factory labor was paid as incurred.	G	A
5. Recognized direct labor and indirect labor used	D, H	G
6. The production department requisitioned indirect materials for use in the factory.	H	C
7. Overhead was applied to production based on a on a predetermined overhead rate of $8 per labor hour	D	H
8. Goods that were completed were transferred to finished goods.	E	D
9. Goods costing $80,000 were sold for $105,000 on account.	B, I	J, E
10. Paid for raw materials purchased previously on account.	F	A

Ex. 158

Finn Manufacturing Company uses a job order cost accounting system and keeps perpetual inventory records. Prepare journal entries to record the following transactions during the month of June.

June 1 Purchased raw materials for $25,000 on account.

8 Raw materials requisitioned by production:

Direct materials	$8,000
Indirect materials	1,000

15 Paid factory utilities, $2,100 and repairs for factory equipment, $3,000.

25 Incurred $78,000 of factory labor.

25 Time tickets indicated the following:

Direct Labor	(4,500 hrs × $12 per hr)	=	$54,000
Indirect Labor	(3,000 hrs × $8 per hr)	=	24,000
			$78,000

25 Applied manufacturing overhead to production based on a predetermined overhead rate of $9 per direct labor hour worked.

28 Goods costing $18,000 were completed in the factory and were transferred to finished goods.

30 Goods costing $15,000 were sold for $20,000 on account.

Solution 158 (16–23 min.)

June 1	Raw Materials Inventory	25,000	
	Accounts Payable		25,000
	(Purchase of raw materials on account)		
8	Work In Process Inventory	8,000	
	Manufacturing Overhead	1,000	
	Raw Materials Inventory		9,000
	(To assign materials to jobs and overhead)		
15	Manufacturing Overhead	5,100	
	Cash		5,100
	(To record payment of factory utilities and repairs)		
25	Factory Labor	78,000	
	Factory Wages Payable		78,000
	(To record factory labor costs)		
25	Work In Process Inventory	54,000	
	Manufacturing Overhead	24,000	
	Factory Labor		78,000
	(To assign factory labor to jobs and overhead)		

Solution 158 (cont.)

25	Work In Process Inventory	40,500	
	Manufacturing Overhead		40,500
	(To apply overhead to jobs)		
28	Finished Goods Inventory	18,000	
	Work In Process Inventory		18,000
	(To record completion of production)		
30	Accounts Receivable	20,000	
	Cost of Goods Sold	15,000	
	Sales		20,000
	Finished Goods Inventory		15,000
	(To record sales of finished goods and its cost)		

Ex. 159

Selected accounts of Kosar Manufacturing Company at year end appear below:

RAW MATERIALS INVENTORY			
(a)	40,000	(d)	25,000

WORK IN PROCESS INVENTORY			
(d)	25,000	(g)	140,000
(e)	60,000		
(f)	90,000		

FINISHED GOODS INVENTORY			
(g)	140,000	(h)	120,000

COST OF GOODS SOLD			
(h)	120,000		

FACTORY LABOR			
(b)	110,000	(e)	85,000

MANUFACTURING OVERHEAD			
(c)	75,000	(f)	90,000
(e)	25,000		

Instructions

Explain the probable transaction that took place for each of the items identified by letters in the accounts. For example:

(a) Raw materials costing $40,000 were purchased.

Solution 159 (9–14 min.)

(a) Raw materials costing $40,000 were purchased.
(b) Factory labor costs incurred amounted to $110,000.
(c) Actual manufacturing overhead costs incurred were $75,000.
(d) Direct materials requisitioned for production amounted to $25,000.
(e) Factory labor used consisted of:
    Direct labor $60,000
    Indirect labor 25,000
(f) Manufacturing overhead applied to production was $90,000.
(g) Completed goods costing $140,000 were transferred to finished goods inventory.
(h) Finished goods costing $120,000 were sold.

Ex. 160

Sardin Company begins the month of March with $17,000 of work in process costs from Job 324. Information from job cost sheets shows the following additional costs assigned during March, April, and May of 2008:

	Manufacturing Costs Assigned		
Job No.	March	April	May
324	$26,000		
325	18,000	$23,000	$15,000
326	41,000	11,000	
327		16,000	31,000
328		24,000	46,000

Job 324 was completed in March. Jobs 325 and 327 were completed in May, and Job 326 was completed in April. Jobs are sold during the month after completion. Total revenue for jobs sold during the 3-month period is $145,000.

Instructions
Calculate the balances of the work in process and finished goods inventory accounts at the end of May.

Solution 160 (5–6 min.)

Work in process
Job 328 $24,000 + $46,000 = $70,000

Finished goods
Job 325 $18,000 + $23,000 + $15,000 = $ 56,000
Job 327 $16,000 + $31,000 = 47,000
$103,000

Ex. 161

The gross earnings of factory workers for Dinkel Company during the month of January are $250,000. The employer's payroll taxes for the factory payroll are $30,000. Of the total accumulated cost of factory labor, 75% is related to direct labor and 25% is attributable to indirect labor.

Instructions
(a) Prepare the entry to record the factory labor costs for the month of January.
(b) Prepare the entry to assign factory labor to production.
(c) Prepare the entry to assign manufacturing overhead to production, assuming the predetermined overhead rate is 125% of direct labor cost.

Solution 161 (8–12 min.)

(a)	Factory Labor	280,000	
	Factory Wages Payable		250,000
	Payroll Taxes Payable		30,000

Solution 161 (cont.)

(b)	Work in Process Inventory		210,000	
	Manufacturing Overhead		70,000	
	Factory Labor			280,000
	($280,000 × 75% = $210,000)			
(c)	Work in Process Inventory		262,500	
	Manufacturing Overhead			262,500
	($210,000 × 125% = $262,500)			

Ex. 162

Darden Manufacturing uses a job order cost accounting system. On April 1, the company has Work in Process Inventory of $7,600 and two jobs in process: Job No. 221, $3,600, and Job No. 222, $4,000. During April, a summary of source documents reveals the following:

For	Materials Requisition Slips	Labor Time Tickets
Job No. 221	$2,200	$ 3,600
222	1,700	3,200
223	2,400	2,900
224	2,100	2,800
General use	600	400
Totals	$9,000	$12,900

Darden applies manufacturing overhead to jobs at an overhead rate of 60% of direct labor cost. Job No. 221 is completed during the month.

Instructions

(a) Prepare summary journal entries to record the raw materials requisitioned, factory labor used, the assignment of manufacturing overhead to jobs, and the completion of Job No. 221.

(b) Calculate the balance of the Work in Process Inventory account at April 30.

Solution 162 (10–15 min.)

(a)	April 30	Work in Process Inventory	8,400	
		Manufacturing Overhead	600	
		Raw Materials Inventory		9,000
		Work in Process Inventory	12,500	
		Manufacturing Overhead	400	
		Factory Labor		12,900
		Work in Process Inventory	7,500	
		Manufacturing Overhead		7,500
		($12,500 × 60% = $7,500)		
		Finished Goods Inventory	11,560	
		Work in Process Inventory		11,560
		($3,600 + $2,200 + $3,600 + $2,160 = $11,560)		

Solution 162 (cont.)

(b) Work in Process Inventory, April 30 = $24,440

Job No. 222	$10,820	($4,000 + $1,700 + $3,200 + $1,920)
Job No. 223	7,040	($2,400 + $2,900 + $1,740)
Job No. 224	6,580	($2,100 + $2,800 + $1,680)
	$24,440	

Ex. 163

Manufacturing cost data for Dolan Company, which uses a job order cost system, are presented below:

	Case A	Case B
Direct Materials Used	(a)	$103,000
Direct Labor	$ 70,000	130,000
Manufacturing Overhead Applied	56,000	(d)
Total Manufacturing Costs	230,000	(e)
Work in Process, 1/1/08	(b)	45,000
Total Cost of Work in Process	290,000	(f)
Work in Process, 12/31/08	(c)	40,000
Cost of Goods Manufactured	210,000	(g)

Instructions
Indicate the missing amount for each letter. Assume that overhead is applied on the basis of direct labor cost and that the rate is the same for both cases.

Solution 163 (9–12 min.)

Case A

(a) + $70,000 + $56,000 = $230,000
(a) = $104,000

$230,000 + (b) = $290,000
(b) = $60,000

$290,000 – (c) = $210,000
(c) = $80,000

Case B [Note that the overhead rate from Case A is 80% ($56,000 ÷ $70,000)]

$130,000 × 80% = (d)
(d) = $104,000

$103,000 + $130,000 + $104,000 = (e)
(e) = $337,000

$337,000 + $45,000 = (f)
(f) = $382,000

$382,000 – $40,000 = (g)
(g) = $342,000

Ex. 164

Farr Corporation had the following transactions during its first month of operations:

1. Purchased raw materials on account, $85,000.
2. Raw Materials of $30,000 were requisitioned to the factory. An analysis of the materials requisition slips indicated that $6,000 was classified as indirect materials.
3. Factory labor costs incurred were $125,000 of which $100,000 pertained to factory wages payable and $25,000 pertained to employer payroll taxes payable.
4. Time tickets indicated that $104,000 was direct labor and $21,000 was indirect labor.
5. Overhead costs incurred on account were $112,000.
6. Manufacturing overhead was applied at the rate of 150% of direct labor cost.
7. Goods costing $135,000 are still incomplete at the end of the month; the other goods were completed and transferred to finished goods.
8. Finished goods costing $100,000 to manufacture were sold on account for $130,000.

Instructions

Journalize the above transactions for Farr Corporation.

Solution 164 (12–17 min.)

1.	Raw Materials Inventory	85,000	
	Accounts Payable		85,000
2.	Work in Process Inventory	24,000	
	Manufacturing Overhead	6,000	
	Raw Materials Inventory		30,000
3.	Factory Labor	125,000	
	Factory Wages Payable		100,000
	Payroll Taxes Payable		25,000
4.	Work in Process Inventory	104,000	
	Manufacturing Overhead	21,000	
	Factory Labor		125,000
5.	Manufacturing Overhead	112,000	
	Accounts Payable		112,000
6.	Work in Process Inventory	156,000	
	Manufacturing Overhead		156,000
	($104,000 × 150% = $156,000)		
7.	Finished Goods Inventory	149,000	
	Work in Process Inventory		149,000
	($24,000 + $104,000 + $156,000 = $284,000)		
	($284,000 – $135,000 = $149,000)		
8.	Accounts Receivable	130,000	
	Sales		130,000
	Cost of Goods Sold	100,000	
	Finished Goods Inventory		100,000

Ex. 165

Lando Company reported the following amounts for 2008:

Raw materials purchased	$103,000
Beginning raw materials inventory	5,200
Ending raw materials inventory	4,500
Beginning finished goods inventory	7,600
Ending finished goods inventory	8,000
Direct labor used	25,000
Manufacturing overhead costs applied	36,000
Beginning work in process inventory	6,100
Ending work in process inventory	6,300

Instructions
Calculate (a) the cost of materials used in production and (b) total manufacturing costs.

Solution 165 (4 min.)

(a) Cost of materials used in production: $5,200 + $103,000 – $4,500 = $103,700

(b) Total manufacturing costs: $103,700 + $25,000 + $36,000 = $164,700

Ex. 166

Watson Manufacturing Company employs a job order cost accounting system and keeps perpetual inventory records. The following transactions occurred in the first month of operations:

1. Direct materials requisitioned during the month:

Job 101	$22,000
Job 102	20,000
Job 103	24,000
	$66,000

2. Direct labor incurred and charged to jobs during the month was:

Job 101	$30,000
Job 102	35,000
Job 103	25,000
	$90,000

3. Manufacturing overhead was applied to jobs worked on using a predetermined overhead rate based on 80% of direct labor costs.

4. Actual manufacturing overhead costs incurred during the month amounted to $76,000.

5. Job 101 consisting of 1,000 units and Job 103 consisting of 200 units were completed during the month.

Ex. 166 (cont.)

Instructions

(a) Prepare journal entries to record the above transactions.
(b) Answer the following questions:
1. How much manufacturing overhead was applied to Job 103 during the month?
2. Compute the unit cost of Jobs 101 and 103.
3. What is the balance in Work In Process Inventory at the end of the month?
4. Determine if manufacturing overhead was under- or overapplied during the month. How much?

Solution 166 (15–20 min.)

(a)

1.	Work in Process Inventory	66,000	
	Raw Materials Inventory		66,000
2.	Work in Process Inventory	90,000	
	Factory Labor		90,000
3.	Work in Process Inventory	72,000	
	Manufacturing Overhead		72,000
4.	Manufacturing Overhead	76,000	
	Cash, Payables, etc.		76,000
5.	Finished Goods Inventory	145,000	
	Work in Process Inventory		145,000
	[Job 101 $76,000; Job 103 $69,000—see (b) 2]		

(b) 1. $20,000 ($25,000 × 80%).

2. Unit cost: Job 101, $76; Job 103, $300.

	Job 101	Job 103
Direct materials	$22,000	$24,000
Direct labor	30,000	25,000
Overhead applied	24,000	20,000
Total cost	76,000	69,000
Units	÷ 1,000	÷ 200
Unit cost	$76	$345

3. Work In Process Inventory is $83,000 and consists of work performed on Job 102.

	Job 102
Direct materials	$20,000
Direct labor	35,000
Overhead applied	28,000
Total cost	$83,000

4. Manufacturing overhead costs were underapplied by $4,000 during the month.

Actual manufacturing overhead	$76,000
Manufacturing overhead applied	72,000
Underapplied overhead	$ 4,000

Ex. 167

Carpet Manufacturing is a small manufacturer that uses machine-hours as its activity base for assigned overhead costs to jobs. The company estimated the following amounts for 2008 for the company and for Job 62:

	Company	Job 62
Direct materials	$60,000	$4,000
Direct labor	$25,000	$2,500
Manufacturing overhead costs	$54,000	
Machine hours	90,000	1,350

During 2008, the actual machine-hours totaled 94,000, and actual overhead costs were $53,000.

Instructions

(a) Compute the predetermined overhead rate.
(b) Compute the total manufacturing costs for Job 62.
(c) How much overhead is over or underapplied for the year for the company? State amount and whether it is over- or underapplied.
(d) If Carpet Manufacturing sells Job 62 for $14,000, compute the gross profit.

Solution 167 (7–9 min.)

(a) $54,000 ÷ 90,000 = $0.60 per machine hour
(b) $4,000 + $2,500 + ($0.60 × 1,350) = $7,310
(c) Actual – Applied = Over/Underapplied
$53,000 – ($0.60 × 94,000) = $3,400 overapplied
(d) $14,000 – $7,310 (from (b) above) = $6,690

Ex. 168

The following inventory information is available for Ricci Manufacturing Corporation for the year ended December 31, 2008:

	Beginning	Ending
Inventories:		
Raw materials	$17,000	$19,000
Work in process	9,000	14,000
Finished goods	11,000	8,000
Total	$37,000	$41,000

In addition, the following transactions occurred in 2008:

1. Raw materials purchased on account, $95,000.
2. Incurred factory labor, $110,000, all is direct labor. (Credit Factory Wages Payable).
3. Incurred the following overhead costs during the year: Utilities $11,800, Depreciation on manufacturing machinery $10,000, Manufacturing machinery repairs $9,200, Factory insurance $9,000 (Credit Accounts Payable and Accumulated Depreciation).
4. Assigned $110,000 of factory labor to jobs.
5. Applied $44,000 of overhead to jobs.

Instructions

(a) Journalize the above transactions.
(b) Reproduce the manufacturing cost and inventory accounts. Use T-accounts.

Ex. 168 (cont.)

(c) From an analysis of the accounts, compute the following:
1. Raw materials used.
2. Completed jobs transferred to finished goods.
3. Cost of goods sold.
4. Under- or overapplied overhead.

Solution 168 (16–22 min.)

(a)

1.	Raw Materials Inventory	95,000	
	Accounts Payable		95,000
2.	Factory Labor	110,000	
	Factory Wages Payable		110,000
3.	Manufacturing Overhead	40,000	
	Accounts Payable		30,000
	Accumulated Depreciation		10,000
4.	Work in Process Inventory	110,000	
	Factory Labor		110,000
5.	Work in Process Inventory	44,000	
	Manufacturing Overhead		44,000

(b)

Raw Materials Inventory			
Bal.	17,000		
(1)	95,000		
Bal.	19,000		

Work in Process Inventory			
Bal.	9,000		
(4)	110,000		
(5)	44,000		
Bal.	14,000		

Finished Goods Inventory			
Bal.	11,000		
	8,000		

Factory Labor			
(2)	110,000	(4)	110,000

Manufacturing Overhead			
(3)	40,000	(5)	44,000

Cost of Goods Sold			

(c)
1. Raw materials used = \$17,000 + \$95,000 – \$19,000 = \$93,000.
2. Completed jobs transferred to finished goods = W/P debits \$9,000 + \$154,000 – \$14,000 = \$149,000.
3. Cost of goods sold = \$11,000 + \$149,000 – \$8,000 = \$152,000.
4. Overhead overapplied = \$4,000 (credit balance in Manufacturing Overhead).

Ex. 169

Builder Bug Company allocates manufacturing overhead at $9 per direct labor hour. Job A45 required 5 boxes of direct materials at a cost of $30 per box and took employees 14 hours to complete. Employees earn $15 per hour.

Instructions
Compute the total cost of Job A45.

Solution 169 (5 min.)

Direct materials (5 boxes × $30)	$150
Direct labor (14 hours × $15)	210
Manufacturing overhead (14 hours × $9)	126
Total job cost of Job A45	$486

Ex. 170

Job cost sheets for Howard Manufacturing are as follows:

Job No 210 Quantity 1,500

Date	Direct Materials	Direct Labor	Manufacturing Overhead
July 1	7,000	8,000	12,000
8	8,500		
10		11,000	
15	5,500		
25		14,000	

Job No 211 Quantity 1,200

Date	Direct Materials	Direct Labor	Manufacturing Overhead
July 1	4,000	6,000	9,000
10	9,000		
15		8,000	
20	7,000		
27		12,000	

Instructions
(a) Answer the following questions.

1. What was the balance in Work in Process Inventory on July 1 if these were the only unfinished jobs?
2. What was the predetermined overhead rate in June if overhead was applied on the basis of direct labor cost?
3. If July is the start of a new fiscal year and the overhead rate is 20% higher than in the preceding year, how much overhead should be applied to Job 210 in July?
4. Assuming Job 210 is complete, what is the total and unit cost of the job?

Ex. 170 (cont.)

5. Assuming Job 211 is the only unfinished job at July 31, what is the balance in Work in Process Inventory on this date?

(b) Journalize the summary entries to record the assignment of costs to the jobs in July. (*Note:* Make one entry in total for each manufacturing cost element.)

Solution 170 (15–20 min.)

(a) 1. Job 210 — $7,000 + $8,000 + $12,000 = $27,000
Job 211 — $4,000 + $6,000 + $9,000 = 19,000
$46,000

2. Manufacturing overhead rate = 150% of direct labor cost ($12,000 ÷ $8,000 or $9,000 ÷ $6,000)

3. July overhead rate = 150% × 120% = 180%
Overhead applied in July = $25,000 × 180% = $45,000

4.

Direct materials	$ 21,000
Direct labor	33,000
Manufacturing overhead ($12,000 + $45,000)	57,000
Total cost	$111,000
Unit cost ($111,000 ÷ 1,500)	$74

5.

Direct materials	$20,000
Direct labor	26,000
Manufacturing overhead ($9,000 + $36,000)	45,000
Total cost of work in process	$91,000

(b)

Work in Process Inventory	30,000	
Raw Materials Inventory		30,000
Work in Process Inventory	45,000	
Factory Labor		45,000
Work in Process Inventory	81,000	
Manufacturing Overhead		81,000

Ex. 171

Garner Company begins operations on July 1, 2008. Information from job cost sheets shows the following:

	Manufacturing Costs Assigned		
Job No.	July	August	September
100	$12,000	$8,800	
101	9,800	9,700	$12,000
102	6,000		
103		11,800	6,000
104		5,800	7,000

Ex. 171 (cont.)

Job 102 was completed in July. Job 100 was completed in August, and Jobs 101 and 103 were completed in September. Each job was sold for 50% above its cost in the month following completion.

Instructions

(a) Compute the balance in Work in Process Inventory at the end of July.
(b) Compute the balance in Finished Goods Inventory at the end of September.
(c) Compute the gross profit for August.

Solution 171 (10–13 min.)

(a) Work in Process Inventory

July	Job 100	$12,000
	Job 101	9,800
Balance, July 31		$21,800

(b) Finished Goods Inventory

	Job 101	$31,500
	Job 103	17,800
Balance, Sept. 30		$49,300

(c) Gross Profit

Month	Job Number	Sales	COGS	Gross Profit
August	102	$9,000	$6,000	$3,000

Ex. 172

The accounting records of Roland Manufacturing Company include the following information:

	Dec. 31	Jan. 1
Work in process inventory	$ 70,000	$ 50,000
Finished goods inventory	120,000	160,000
Direct materials used	350,000	
Direct labor	220,000	
Selling expenses	125,000	

Manufacturing overhead is applied at a rate of 150% of direct labor cost.

Instructions

Answer the following questions:

1. What is the total of the debits to Work in Process Inventory during the year?
2. What is the amount transferred to Finished Goods Inventory during the year?
3. What is the cost of goods sold?

Solution 172 (10–14 min.)

1.

Direct Materials	$ 350,000
Direct Labor	220,000
Manufacturing Overhead Applied ($220,000 × 150%)	330,000
Total debits	$900,000

2.

WORK IN PROCESS INVENTORY			
Balance	50,000	Transferred to	
From (1)	900,000	Finished Goods	880,000
Balance	70,000		

3.

FINISHED GOODS INVENTORY			
Balance	160,000	Cost of Goods Sold	920,000
From WIP (see 2)	880,000		
Balance	120,000		

Ex. 173

Martin Company applies manufacturing overhead based on direct labor hours. Information concerning manufacturing overhead and labor for the year follows:

Actual manufacturing overhead	$118,000
Estimated manufacturing overhead	$110,000
Direct labor hours incurred	4,800
Direct labor hours estimated	5,000

Instructions
Compute (a) the predetermined overhead rate and (b) the amount of applied manufacturing overhead.

Solution 173 (4 min.)

(a) Predetermined overhead rate: $110,000 ÷ 5,000 = $22 per direct labor hour

(b) Applied manufacturing overhead: 4,800 × $22 = $105,600

Ex. 174

Landis Company uses a job order cost system in each of its two manufacturing departments. Manufacturing overhead is applied to jobs on the basis of direct labor cost in Department A and machine hours in Department B. In establishing the predetermined overhead rates for 2008, the following estimates were made for the year:

	Department	
	A	B
Manufacturing overhead	$1,750,000	$1,600,000
Direct labor cost	1,400,000	1,200,000
Direct labor hours	100,000	100,000
Machine hours	200,000	400,000

Ex. 174 (cont.)

During January, the job cost sheet showed the following costs and production data:

	Department	
	A	B
Direct materials used	$195,000	$128,000
Direct labor cost	100,000	110,000
Manufacturing overhead incurred	135,000	130,000
Direct labor hours	8,000	8,400
Machine hours	16,000	34,000

Instructions

(a) Compute the predetermined overhead rate for each department.
(b) Compute the total manufacturing cost assigned to jobs in January in each department.
(c) Compute the balance in the Manufacturing Overhead account at the end of January and indicate whether overhead is over- or underapplied.

Solution 174 (15–20 min.)

(a) Predetermined overhead rates:
Department A (using direct labor cost): $1,750,000 ÷ $1,400,000 = 125%
Department B (using machine hours): $1,600,000 ÷ 400,000 = $4 per machine hour

(b) Total manufacturing costs by department:

Department A:	
Direct materials	$195,000
Direct labor cost	100,000
Manufacturing overhead applied ($100,000 × 125%)	125,000
Total manufacturing costs	$420,000
Department B:	
Direct materials	$128,000
Direct labor cost	110,000
Manufacturing overhead applied (34,000 hrs. × $4)	136,000
Total manufacturing costs	$374,000

(c)

MANUFACTURING OVERHEAD			
Dept. A	135,000	Dept. A	125,000
Dept. B	130,000	Dept. B	136,000
	265,000		261,000
Bal. Underapplied	4,000		

Ex. 175

Edwards Company applies manufacturing overhead to jobs on the basis of machine hours used. Overhead costs are expected to total $1,600,000 for the year, and machine usage is estimated at 200,000 hours.

In January, $173,000 of overhead costs are incurred and 22,000 machine hours are used. For the remainder of the year, $1,720,000 of additional overhead costs are incurred and 214,000 additional machine hours are worked.

Ex. 175 (cont.)

Instructions
(a) Compute the manufacturing overhead rate for the year.
(b) What is the amount of over- or underapplied overhead at January 31? How should this amount be reported in the financial statements prepared on January 31?
(c) What is the amount of over- or underapplied overhead at December 31?

Solution 175 (11–14 min.)

(a) $8 per machine hour ($1,600,000 ÷ 200,000)

(b)

Incurred	$173,000
Applied ($8 × 22,000)	176,000
Overapplied overhead	$ 3,000

This amount should be reported as an unearned revenue in the current liability section of the January 31 balance sheet.

(c)

Incurred ($173,000 + $1,720,000)	$1,893,000
Applied ($8 × 236,000)	1,888,000
Underapplied overhead	$ 5,000

Ex. 176

Klinger Company estimates that annual manufacturing overhead costs will be $2,400,000 for 2008. The actual overhead costs at the end of 2008 are $2,490,000. Activity base information for 2008 follows:

Activity Base	Estimated	Actual
Direct Labor Cost	$2,000,000	$2,100,000
Direct Labor Hours	200,000	212,000
Machine Hours	150,000	152,000

Instructions
(a) Compute the predetermined overhead rate for each activity base.
(b) Compute the amount of overhead applied in 2008 for each activity base.
(c) Compute the amount of under- or overapplied overhead for 2008 for each activity base.

Solution 176 (12–16 min.)

(a) Predetermined overhead rate as a % of direct labor cost:
$2,400,000 ÷ $2,000,000 = 120%

Predetermined overhead rate per hour of direct labor:
$2,400,000 ÷ 200,000 = $12 per hour

Predetermined overhead rate per machine hour used:
$2,400,000 ÷ 150,000 = $16 per machine hour

Solution 176 (cont.)

(b) Overhead applied as a % of direct labor cost:
$2,100,000 × 1.20 = $2,520,000

Overhead applied per hour of direct labor:
212,000 × $12 = $2,544,000

Overhead applied per machine hour used:
152,000 × $16 = $2,432,000

(c) Over- or Underapplied Overhead
($2,520,000 – $2,490,000 = $30,000 Overapplied)

($2,544,000 – $2,490,000 = $54,000 Overapplied)

($2,432,000 – $2,490,000 = $58,000 Underapplied)

Ex. 177

Vannoy Manufacturing Company makes specialty tools. In January, Vannoy incurs manufacturing costs of $10,000,000 for direct materials, direct labor, and overhead. 25% of the total costs represents overhead applied. The overhead rate is $1 for every $2 of direct labor costs incurred. Inventory balances were:

	January 1	January 31
Raw materials	$400,000	$500,000
Work in process	600,000	800,000
Finished goods	400,000	200,000

At the end of January, there was $1,000 of overapplied overhead.

Instructions
(a) Determine the cost of raw materials purchased in January.
(b) Prepare a cost of goods manufactured schedule for January 2008.
(c) Compute the cost of goods sold for January.

Solution 177 (15–20 min.)

(a)

Overhead applied ($10,000,000 × 25%)	=	$2,500,000
Direct labor used ($2 × $2,500,000)	=	$5,000,000
Direct materials used ($10,000,000 – $7,500,000)	=	$2,500,000

Ending raw materials inventory	$ 500,000
Direct materials used	2,500,000
	3,000,000
Less: Beginning raw materials inventory	400,000
Raw materials purchases	$2,600,000

Solution 177 (cont.)

(b)

VANNOY MANUFACTURING COMPANY
Cost of Goods Manufactured Schedule
For the Month Ended January 31, 2008

Work in process, January 1		$ 600,000
Direct materials used	$2,500,000	
Direct labor	5,000,000	
Manufacturing overhead applied	2,500,000	
Total manufacturing costs		10,000,000
Total cost of work in process		10,600,000
Less: Work in process, January 31		800,000
Cost of goods manufactured		$ 9,800,000

(c)

Finished goods, January 1	$ 400,000
Cost of goods manufactured	9,800,000
Cost of goods available for sale	10,200,000
Finished goods, January 31	200,000
Cost of goods sold	$10,000,000

Ex. 178

The following information is available for Kanza Company at December 31, 2008:

1. Inventory balance

	Beginning of Year	End of Year
Finished Goods	$14,000	$10,000
Work in Process	6,000	8,000
Raw Materials	10,300	6,500

2. Debit postings to Work in Process Inventory during the year were:

Direct materials	$90,000
Direct labor	50,000
Manufacturing overhead applied	75,000

3. Sales totaled $310,000 for the year.

Instructions

(a) Prepare a condensed cost of goods manufactured schedule.
(b) Prepare an income statement for the year through gross profit.

Solution 178 (14–18 min.)

(a)

KANZA COMPANY
Cost of Goods Manufactured Schedule
For the Year Ended December 31, 2008

Work in process, January 1		$ 6,000
Direct materials used	$90,000	
Direct labor	50,000	
Manufacturing overhead applied	75,000	
Total manufacturing costs		215,000
Total cost of work in process		221,000
Less: Work in process, December 31		8,000
Cost of goods manufactured		$213,000

(b)

KANZA COMPANY
(Partial) Income Statement
For the Year Ended December 31, 2008

Sales		$310,000
Cost of Goods Sold		
Finished Goods, January 1	$ 14,000	
Cost of goods manufactured	213,000	
Cost of goods available for sale	227,000	
Finished Goods, December 31	10,000	
Cost of goods sold		217,000
Gross profit		$ 93,000

COMPLETION STATEMENTS

179. Cost accounting involves the measuring, recording, and reporting of _____ costs.

180. There are two basic types of cost accounting systems: (1)_____ system, and (2)_____ system.

181. A _____ cost system is appropriate when similar products are continuously produced, whereas a _____ cost system would be more appropriate if the product is custom-made.

182. In a job order system, raw materials purchased are charged to the _____ account.

183. Of these three accounts; Raw Materials Inventory, Factory Labor, and Manufacturing Overhead, _____ is not a control account.

184. If $25,000 direct materials are requisitioned for a job and $7,000 of indirect materials are requisitioned for general use, the debit to Work In Process Inventory should be for $_____.

185. The cost of producing a particular job under a job cost system is accumulated on a record called a _____.

186. Manufacturing overhead is applied to jobs by means of a _____ rate.

187. If actual manufacturing overhead was greater than the amount of manufacturing overhead applied to jobs, the Manufacturing Overhead account will have a _____ balance and overhead is said to be _____.

188. At the end of the year, any balance in the Manufacturing Overhead account should be eliminated as an adjustment to _____.

Answers to Completion Statements

179. product
180. job order cost, process cost
181. process, job order
182. Raw Materials Inventory
183. Factory Labor
184. 25,000
185. job cost sheet
186. predetermined overhead
187. debit, underapplied
188. cost of goods sold

MATCHING

189. Match the items in the two columns below by entering the appropriate code letter in the space provided.

A. Cost accounting	F. Process cost system
B. Materials requisition slip	G. Job cost sheets
C. Time ticket	H. Predetermined overhead rate
D. Cost accounting system	I. Overapplied overhead
E. Job order cost system	J. Underapplied overhead

_____ 1. Used to apply manufacturing overhead to jobs.

_____ 2. Measures, records, and reports product costs.

_____ 3. When actual manufacturing overhead costs are greater than the overhead applied to products.

_____ 4. Manufacturing cost accounts are fully integrated into the general ledger.

_____ 5. Source document which authorizes issuance of raw materials to production.

_____ 6. Appropriate when products have distinguishing and heterogeneous characteristics.

_____ 7. Constitute a subsidiary ledger for Work in Process Inventory.

_____ 8. Indicates number of hours that employees work and the account to be charged.

_____ 9. Appropriate when products are similar and are produced continuously.

_____ 10. When actual manufacturing overhead costs are less than the overhead applied to products.

Answers to Matching

1. H	6. E
2. A	7. G
3. J	8. C
4. D	9. F
5. B	10. I

SHORT-ANSWER ESSAY QUESTIONS

S-A E 190

A job order cost accounting system is fully integrated into the general ledger of a company. Identify the major general ledger accounts used in a job order cost system. Explain how manufacturing costs flow through these accounts so that inventories may be costed and income determined when goods are sold.

Solution 190

When a job order cost accounting system is fully integrated into the general ledger of a company, the major general ledger accounts used are Raw Materials Inventory, Factory Labor, Manufacturing Overhead, Work in Process Inventory, and Finished Goods Inventory. As manufacturing costs are incurred, they are debited to the Raw Materials Inventory, Factory Labor, and Manufacturing Overhead accounts. As materials are used, labor is assigned, or overhead is applied, the costs are taken out of these accounts and debited to Work in Process Inventory. When jobs are finished, the costs flow from the Work in Process Inventory account to the Finished Goods Inventory account, and when jobs are sold, the costs are transferred to Cost of Goods Sold from Finished Goods Inventory.

S-A E 191

Manufacturing overhead items are indirect product costs that cannot be traced to individual products. Explain how manufacturing overhead costs are accumulated and how they are assigned to products in a job order cost system.

Solution 191

As manufacturing overhead costs are incurred, they are debited to the Manufacturing Overhead account. As jobs move through the factory, manufacturing overhead costs are applied to specific jobs using the predetermined overhead rate. This rate is computed prior to the beginning of the year by dividing estimated annual overhead costs by expected annual operating activity (generally expressed as direct labor hours, direct labor cost, or machine hours). The overhead is applied by determining how much activity was expended on a particular job (for example, direct labor hours), and applying the rate to that activity.

S-A E 192 (Ethics)

People Carrier Systems, Inc. (PCS) modifies vans that seat 15–20 people by adding additional safety features or wheelchair ramps. Most of its customers are cities and counties, who use the vans to transport school children, the elderly, or the handicapped. The company has specialized in a no-frills approach, emphasizing safety, high quality, and low cost. The company's president was quoted as saying, "Let the other guys make a van pretty. We get people where they need to go—faster, better, and cheaper than anybody else."

The company obtains jobs by being the lowest bidder in a sealed bidding process. Recently, the company was solicited by a top-10 college to submit a bid for a van to be used by its athletic team. Some specialized items were required, such as the school's logo on the outside of the van, and the vinyl seats had to be covered in school colors. The company submitted a bid, and was very surprised to obtain it.

S-A E 192 (cont.)

When the job was being prepared, the job manager pointed out that several extra costs could result in this job showing a loss. The boss, an ardent supporter of sports in general and this team in particular, told the manager to just record the standard labor and overhead cost for this job. He says that they could use the present rate for specialized jobs, and increase the overhead application rate (used in submitting bids) by 5% for future routine jobs. "After all," he says, "nobody else comes close to our price anyway. This could start a whole new line of business for us."

Required:

1. Who are the stakeholders in the decision to increase overhead for routine jobs?
2. Is the decision to subsidize special jobs by increasing the overhead rate on routine jobs ethical? Briefly explain.

Solution 192

1. The stakeholders include:
   - The employees and managers of PCS
   - Customers who purchase standard vans
   - Customers who purchase sports vans
   - Shareholders of PCS

2. The decision could be considered ethical, if the company clearly understands that it is allowing the customers of the standard vans to cover some of the costs of the specialty ones. This might not be a bad decision, especially if the specialty business is only a small fraction of the total business.

   The company might be compromising its own best interests, however, if it arbitrarily damages relationships with existing customers in order to gain others. It seems undeniable that established customers are preferable to untested ones. While probably ethical, the decision may not be a good one.

S-A E 193 (Communication)

Bridal Treasures, Inc. makes customized wedding gowns. The customer selects a pattern for the basic gown, and then selects fabric and trim. Once the design and the materials have been agreed upon, a Statement of Estimated Cost is signed by the company and by the customer.

Overhead is applied based on the number of days a gown is in process. Usually, five gowns are being worked on at a time. Therefore, each gown is charged 1/5 of a daily estimated overhead amount.

Customer Ruth Hardin's wedding dress took four days to complete. However, after the first three days had elapsed, Linda Lony, a movie personality, suddenly decided to get married, and ordered a very lavish gown. All other work was suspended, and the work on Ms. Hardin's dress was delayed six days. The final day of its construction was on the tenth day after it had been begun.

Required:

You are the accounting manager for Bridal Treasures. Write a memo to the billing department. Instruct them as to the appropriate number of overhead days to charge to Ms. Hardin's account.

Solution 193

TO: Billing Department

FROM: M. Long, Accounting Manager

RE: Overhead billing, Gordon account

As you know, our standard procedure in billing overhead is to simply multiply our daily overhead rate by the number of days the gown was in our possession. However, for the Hardin gown, and any other jobs we suspended for the Linda Lony gown, we should not charge for the days the gowns were in our possession but not being worked on.

We should adjust the billing for the Linda Lony gown, so that it absorbs the full daily cost of overhead, since it actually was the only job worked on during those six days. The Hardin job should be charged only four days of overhead. Other suspended jobs should be treated similarly.

Please call if you have questions.

(signed)