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K19U 2303

Reg. No. :

Name :

V Semester B.Com Degree (CBCSS-Reg./Sup/Imp.)

Examination, November - 2019

(2014 Admn. Onwards)

CORE COURSE

5B10COM : COST ACCOUNTING

Time : 3 Hours

Max. Marks : 40

SECTION - AAnswer **All** questions Each carries $\frac{1}{2}$ mark. (4 \times $\frac{1}{2}$ =2)

1. The aggregation of indirect material cost, indirect wages and indirect expenses is known as _____.
2. _____ is a quantitative record of materials kept in store.
3. Fringe benefits are _____ benefits given by employer to employee in addition to salary and wages.
4. Work certified is always valued at _____.

SECTION - BAnswer any **Four** questions. Each carries **One** mark. (4 \times 1=4)

5. Define Cost?
6. What is Prime cost?
7. What is perpetual inventory system?
8. What is under absorption of overheads?
9. Define joint products.
10. What is cost plus contract?

P.T.O.



SECTION - C

Answer any **six** questions (not exceeding one page). Each carries **three** marks. **(6×3=18)**

11. Enumerate the elements of cost.
12. Explain the terms waste, scrap, spoilage and defective.
13. What is time keeping? What are the methods used for time keeping?
14. Distinguish between allocation and apportionment of over heads.
15. The following information has been obtained from the records of ABC Ltd for the year 2012. Prepare cost sheet from the following information:

	Units	Rs.
Sales	1,00,000	10,00,000
Material (01.01.2012)		50,000
Material (31.12.2012)		35,000
Work-in-Progress (01.01.2012)		45,000
Work-in-Progress (31.01.2012)		60,000
Finished goods (01.01.2012)	20,000	1,00,000
Finished goods (31.01.2012)	40,000	?
Materials purchased		2,00,000
Direct Labour		1,60,000
Manufacturing overhead		1,20,000
Selling Overhead		1,10,000
General Expenses		50,000

16. Two components A and B are used as follows:

Normal usage - 1,200 units

Maximum usage - 1,800 units

Minimum usage - 600 units

Re-order quantity

A - 9,600 units

B - 14,400 units

Re-order period

A - 4 to 6 weeks

B - 2 to 4 weeks

Calculate for each component

- a) Re- order level
- b) Minimum level
- c) Maximum level
- d) Average Stock Level



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17. Worker A finishes a job in 8 hours and worker B finishes the job in 12 hours. The standard time allowed for completing the job is 20 hours and the standard rate per hour is Rs. 5. Calculate the earnings of workers under Halsey and Rowan plans. Also calculate the effective hourly rate.
18. In a factory the following expenses are incurred:
- Power consumption of the machine Rs. 9000 p.a
 - Repairs and maintenance for the entire working life of the machine Rs. 16,000
 - Oil, waste etc. used for this machine Rs. 1,800 p.a
- Other expenses of the entire factory for the year:
- Rent and rates Rs 27,000
 - Lighting Rs 1,200
 - Supervision Rs 3750
 - Sundry expenses Rs 15,000

Other information:

Area of the factory is 10,000 Sqft. Area occupied by the machine is 2,000 Sqft.. Cost of the machine is Rs. 60,000. Estimated life of the machine is 10 years. There are 16 workers in the factory out of them 4 attended to this machine. The degree of supervision is $\frac{2}{5}$ th to this machine. The factory will work for 2,000 hours per annum. Calculate machine hour rate.

SECTION - D

Answer any Two questions Each carries Eight marks. (2×8=16)

19. Product X passes through three processes A, B and C. In each process 2% of total input is lost and 10% is scrap. The scrap is sold at Rs. 50 per kg in process A and B and Rs. 10 per kg in process C. The details of three processes are given below:

	A	B	C
Passed to next process	75%	50%	-
Sent to Ware house	25%	50%	100 %
Expenses:			
Raw materials (Rs)	60,000	14,000	50,000
Raw materials (Kg)	1,000	140	1,348
Direct wages	10,250	9,260	8,000
General expenses	5,150	3,620	1,500

Prepare process accounts and ascertain cost per kg of each process.

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20. Contractors Ltd. were engaged on one contract during the year .The contract price was Rs. 6,00,000. The trial balance on 31st December is given below:

	Rs.	Rs.
Share Capital		1,20,000
Sundry creditors		12,000
Land and Buildings	48,000	
Bank	16,500	
Contract account:		
Materials	1,12,500	
Plant	30,000	
Wages	1,50,000	
Expenses	15,000	
Cash received (80% of work certified)		2,40,000
	<u>3,72,000</u>	<u>3,72,000</u>

Of the plant and materials charged to the contract, plant costing Rs. 4,500 and materials costing Rs. 3,600 were destroyed by fire. On 31st December plant which cost Rs. 6,000 was returned to store. The value of materials on site was Rs. 4,500. Cost of uncertified work was Rs. 3,000. Charge 10% depreciation on plant. Prepare Contract account and Balance sheet.

21. From the following details, write up stores Ledger Account under FIFO method.

- January 1 Opening balance 100 units at Rs. 5 each
- January 5 Received 500 units at Rs 6.
- January 7 Issued 300 units
- January 9 Issued 100 units
- January 12 Received 500 units at Rs. 5
- January 14 Received 400 units at Rs. 5.50
- January 20 Issued 350 units.
- January 24 Issued 150 units.
- January 27 Received 250 units at 5.75
- January 31 Issued 200 units

The stock verifier found shortage of 10 units on 16 January and another shortage of 15 units on 26 January.

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Answer key

Section A

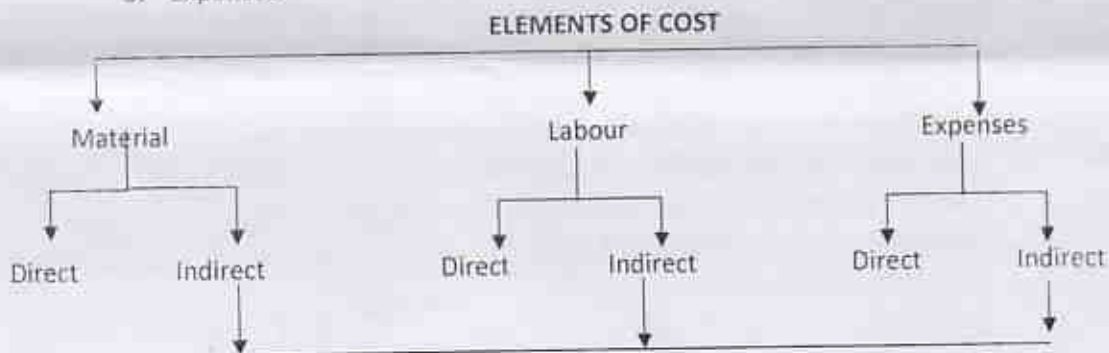
1. The aggregation of indirect material cost, indirect wages and indirect expenses is known as **Overheads**
2. **Bin** is a quantitative record of materials kept in store.
3. Fringe benefits are **non-monetary** benefits given by employer to employee in addition to salary and wages.
4. Work certified is always valued at **cost**

Section B

5. Cost is defined as the amount of expenditure (actual or notional) incurred on, or attributable to, a given thing.
6. The cost that can be identified with and allocated directly to a cost unit or cost centre is known as prime cost. It is also known as direct cost. $\text{Prime cost} = \text{Direct material} + \text{Direct Labour} + \text{Direct expense}$.
7. It is a system of records maintained by the controlling department, which reflects the physical movement of stocks and their current balance.
8. Under absorption means charging the accounts with less amount of overhead than what is actually incurred. It is transferred to an account called overhead adjustment account.
9. Two or more products of equal importance, produced simultaneously from the same process, are known as joint products. Eg. Oil industry, gasoline.
10. Cost plus contract is a contract in which the value of the contract is ascertained by adding a certain percentage of profit over the total cost of work.

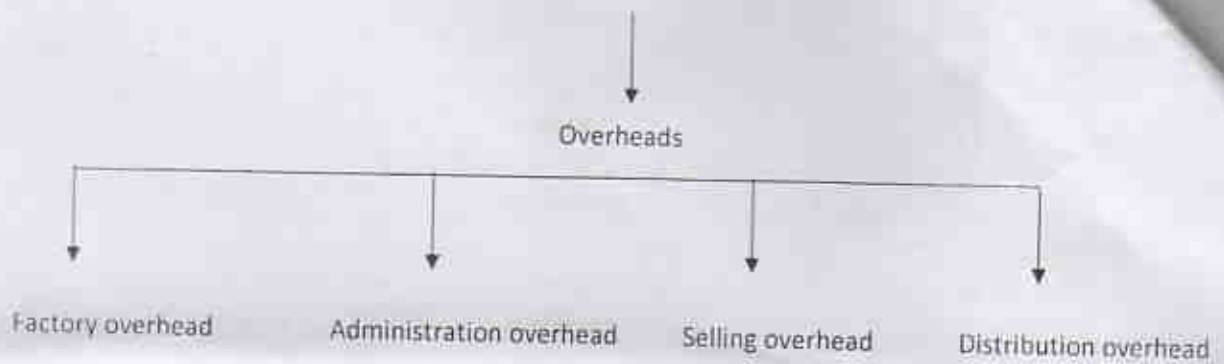
Section C

11. The analysis of total cost of production on the basis of nature of expenses incurred is referred to as elements of cost. There are three elements of cost namely:
 1. Materials
 2. Labour
 3. Expenses



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The total expenditure consisting of material, labour and expenses can further be classified as under:

Prime cost	= Direct material + Direct Labour + Direct expenses
Works cost	= Prime cost + Factory overhead
Cost of production	= Works cost + Administration overhead
Total cost (cost of sales)	= Cost of production + selling and distribution overhead

12. Waste: Waste is the portion of basic raw material lost in processing, having no recovery value.

Waste is complete loss. eg. Gases, dust

Scrap: Scrap is the incidental material residue coming out of certain types of manufacturing process, usually of small amount and low value, recoverable without further processing.

Spoilage: Spoilage refers to goods damaged beyond rectification and which are to be sold without further processing. They are spoiled goods sold as second and third quality goods.

Defectives: It is that portion of production which can be rectified and turned into good units by putting in extra material, labour and overheads.

13. Time keeping refers to the process of recording the time of worker's arrival at and departure from the factory for the purpose of attendance and preparation of wage sheets.

Methods of Time keeping:

1. Manual methods
2. Mechanical methods

1. Manual methods: In this, time keeping is done by time keeping clerks.

- I. Attendance Register or Master Roll: Under this method, a time keeper is posted at the gate of the factory to enter the timings of arrival and departure of workers in the register.
- II. Metal disc or Token method: Under this method, each worker is provided with a metal disc. On entering the factory, the worker takes his numbered metal disc from the board and put it into a box.

2. Mechanical methods:

- I. Time recording clock: In this method, each worker is given a time card. These cards are arranged in a rack near the factory gate. On arrival the worker has to pick up his card from the rack and insert it in the recording clock.
- II. Dial time Recorder: Dial time recorder has a dial with a number of holes. Each hole bears a number which corresponds to the identification number of the worker concerned. While entering the factory, the worker moves the arm and press it in to the hole allotted to him.

14. Cost allocation means "the allotment of whole items of cost to Cost Centre or Cost units" whereas Cost apportionment means "the allotment of proportions of items of cost to cost centers or cost units."

Allocation	Apportionment
1. It is the allotment of whole items of cost to cost centre or cost units.	1. It is the allotment of proportions of items of cost to cost centers or cost units.
2. In allocation, there is no need for basis of charging overhead to different departments.	2. In apportionment, appropriate bases are required for overhead distribution.
3. The nature of cost used for allocation is direct to that department.	3. The nature of cost used in apportionment is indirect in nature.
4. In allocation, Cost control is possible.	4. Cost control is difficult.

15.

Cost sheet

Elements of Cost	Rs
Direct Material:	
Opening stock of raw material	50,000
Add: Purchases of material	2,00,000
	2,50,000
Less: Closing stock of material	35,000
Material consumed	2,15,000
Direct Wages	1,60,00
Prime cost	3,75,000
Factory overhead	1,20,000
Add: Opening Work-in-Progress	45,000
	5,40,000
Less: Closing Work-in-Progress	60,000
Works cost	4,80,000
Administration overhead (General expense)	50,000
Cost of Production	5,30,000
Add: Opening stock of finished goods	1,00,000
	6,30,000
Less: Closing stock of finished goods	1,76,667
Cost of goods sold	4,53,333
Selling and distribution overhead	1,10,000
Cost of sales	5,63,000
Profit	4,36,667
Sales	10,00,000

Working notes

Calculation of units produced

$$\begin{aligned} \text{Units produced} &= \text{unit sold} + \text{closing stock} - \text{opening stock} \\ &= 1,00,000 + 40,000 - 20,000 \\ &= 1,20,000 \end{aligned}$$

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Valuation of closing stock

$$\begin{aligned} \text{Vale of closing stock} &= \frac{\text{Cost of production} \times \text{Closing stock}}{\text{Units produced}} \\ &= \frac{5,30,000 \times 40,000}{1,20,000} \\ &= 1,76,667 \end{aligned}$$

16. Re- order level = Maximum consumption \times Maximum Re-order period

$$A = 1,800 \times 6 = 10,800 \text{ units}$$

$$B = 1,800 \times 4 = 7,200 \text{ units}$$

Minimum level = Re- order level - (Normal consumption \times Normal Re-order period)

$$A = 10,800 - (1,200 \times 5) = 4,800 \text{ units}$$

$$B = 7,200 - (1,200 \times 3) = 3,600 \text{ units}$$

Average Delivery Time = $\frac{\text{Minimum Delivery Time} + \text{Maximum Delivery Time}}{2}$

$$A = \frac{4 + 6}{2} = 5 \text{ Weeks}$$

$$B = \frac{2 + 4}{2} = 3 \text{ Weeks}$$

Maximum Level = (Re- order level + Re- order Quantity)

- (Minimum consumption \times Minimum Re-order period)

$$A = 10,800 + 9,600 - (6,000 \times 4)$$

$$= 18,000 \text{ units}$$

$$B = 7,200 + 14,400 - (6,000 \times 2)$$

$$= 20,400 \text{ units}$$

Average stock level = $\frac{\text{Minimum stock level} + \text{Maximum stock level}}{2}$

$$A = \frac{4,800 + 18,000}{2} = 11,400 \text{ units}$$

$$B = \frac{3,600 + 20,400}{2} = 12,000 \text{ units}$$

17. Halsey Plan

Earnings = (Time Taken \times Rate) + $\frac{1}{2}$ (Time saved \times Rate)

Effective hourly rate = Earnings / Time taken

Worker AEarnings = (8 \times 5) + $\frac{1}{2}$ (12 \times 5)

$$= 70$$

Effective Hourly rate = 70 / 8 = 8.75

Worker BEarnings = (12 \times 5) + $\frac{1}{2}$ (8 \times 5)

$$= 80$$

Effective Hourly rate = 80 / 12 = 6.67

Rowan plan

$$\text{Earnings} = (\text{Time taken} \times \text{Rate}) + \left(\frac{\text{Time taken} \times \text{rate} \times \text{time saved}}{\text{Standard Time}} \right)$$

$$\text{Worker A} = (8 \times 5) + \left(\frac{8 \times 5 \times 12}{20} \right)$$

$$= 64$$

$$\text{Effective hourly rate} = 64 / 8 = 8$$

$$\text{Worker B} = (12 \times 5) + \left(\frac{12 \times 5 \times 8}{20} \right)$$

$$= 84$$

$$\text{Effective hourly rate} = 84 / 12 = 7$$

18.

Calculation of Machine Hour Rate

	Rs.	Per Hour Rs.
<i>Standing Charges per year</i>		
Rent and Rates $\left(\frac{27,000 \times 2,000 \text{ Sq. Ft.}}{10,000 \text{ Sq. Ft.}} \right)$	5,400	
Lighting $\left(1,200 \times \frac{2,000 \text{ Sq. Ft.}}{10,000 \text{ Sq. Ft.}} \right)$	240	
Supervision $\left(3750 \times \frac{2}{5} \right)$	1,500	
Sundry Expenses (according to workers (15,000 x 4/16)	3,750	
	10,890	
Working hours per year	2000	
Hourly Rate of Standing Charges (10,890 / 2000 hours)		5.45
Machine Expenses per hour		
Power (9000 / 2000 hours)		4.50
Repairs & maintenance $\left(\frac{16,000}{10 \text{ years} \times 2000 \text{ hours}} \right)$		0.80
Oil, waste etc (1800 / 2000 hours)		0.90
Depreciation (Cost 60,000 / 20,000 hours working life)		3.00
		14.65
Machine Hour Rate		

Section D

19.

Process A Account

	Units (Kg)	Amount (Rs)		Units(Kg)	Amount (Rs)
To Raw materials	1,000	60,000	By Loss in weight (1000X 2%)	20	---
To Direct wages		10,250	By Sale of scrap (1000 X 10% @ 50 /kg)	100	5,000
To General expenses		5,150	By Sent to warehouse (1000 - 120 = 880 X 25%) @ 80/ kg	220	17,600
			By Process B a/c @ 80/kg $\left[\frac{75,400 - 5000}{880 \text{ units}} \right]$	660	52,800
	1000	75,400		1000	75,400

Process B Account

	Units (Kg)	Amount (Rs)		Units(Kg)	Amount (Rs)
To Process A a/c	660	52,800	By Loss in weight (800X 2%)	16	---
To Raw materials	140	14,000	By Sale of scrap (800 X 10% @ 50 /kg)	80	4,000
To Direct wages		9,260	By Sent to warehouse (800 - 96 = 704 X 50%) @ 107.5/ kg	352	37,840
To General expenses		3,620	By Process C a/c @ 107.5/ kg $\left[\frac{79,680 - 4000}{704 \text{ units}} \right]$	352	37,840
	800	79,680		800	79,680

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Process C Account

	Units(Kg)	Amount (Rs)		Units(Kg)	Amount (Rs)
To Process B a/c	352	37,840			
To Raw materials	1,348	50,000	By Loss in weight (1,700 X 2 %)	34	---
To Direct wages		8,000	By Sale of scrap (1,700 X 10 % @ 10 /kg)	170	1,700
To General expenses		1,500	By Sent to warehouse	1,496	95,640
			97,340-1,700 1,496units @ 63.93/ kg		
	1,700	97,340		1,700	97,340

20.

Contract Account

	Amount (Rs)		Amount (Rs)
To Materials	1,12,500	By Work in progress	
To Wages	1,50,000	Work certified 3,00,000	
To Expenses	15,000	Work uncertified 3,000	3,03,000
To Plant	30,000	By P & L A/c	
To Notional profit c/d	31,050	Plant lost 4,500	8,100
		Material Lost 3,600	5,400
		By plant returned(6000-600)	4,500
		By materials at site	17,550
		By Plant at site	
		(30,000 - 4500 - 6000) x 10% of	
	3,38,550	19500	3,38,550
To P & L A/c			
31,050 X 2/3 X 80/100	16,560		31,050
To WIP Reserve	14,490		
	31,050		31,050

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Balance sheet as on 31st December

Liabilities	Amt	Assets	Amt
Share capital	1,20,000	Land & buildings	48,000
sundry Creditors	12,000	Plant in store	5,400
P&L A/c		Plant at site	17,550
Profit	16,560	Material at site	4,500
Less Loss By Fire	<u>8,100</u>	Bank	16,500
	8,460	Work in Progress	
		Work Certified	3,00,000
		Work Uncertified	<u>3,000</u>
			3,03,000
		Less: Reserve	<u>14,490</u>
			2,88,510
		Less : Cash Received	2,40,000
			48,510
	<u>1,40,460</u>		
			<u>1,40,460</u>

21.

Stores Ledger Account
(FIFO Method)

Date	Receipts				Issues				Balance		
	GR No.	Qty	Rate(Rs)	Amt	MR No.	Qty	Rate(Rs)	Amt	Qty	Rate	Amt
Jan 1									100	5	500
5		500	6	3000					100	5	500
									500	6	3000
7						100	5	500	300	6	1800
						200	6	1200			
9						100	6	600	200	6	1200
12		500	5	2500					200	6	1200
									500	5	2500
14		400	5.50	2200					200	6	1200
									500	5	2500

								400	5.50	2200	
16					Shortage	10	6	60	190	6	1140
									500	5	2500
									400	5.50	2200
20						190	6	1140	340	5	1700
						160	5	800	400	5.50	2200
24						150	5	750	190	5	950
									400	5.50	2200
26					Shortage	15	5	75	175	5	875
									400	5.50	2200
27		250	5.75	1438					175	5	875
									400	5.50	2200
									250	5.75	1438
31						175	5	875	375	5.50	2063
						25	5.50	137	250	5.75	1438

Closing stock- 375 units at Rs 5.50 = 2063

250 units at Rs. 5.75 = 1438

625 units

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