Q.6 Attempt any two:

i. You are given the following information: **5**

Period	Sales (₹)	Profit/Loss (₹)
August 2013	90,000	-10,000
September 2013	1,30,000	+10,000

Calculate:

(a) P/V Ratio,

(b) Fixed overheads,

(c) Level of activity if ₹ 25,000 is to be earned as profit,

(d) Expected profit if sales are budgeted at ₹1,80,000.

ii. The Standard cost card for a product shows the following: **5**

	per unit
Material Cost- 2 kg @ ₹2.50 per kg	₹5.00
Wages- 2 hours @ ₹0.50 per hour	₹1.00

The actual which have emerged from business operations are as follows:

Production	8,000 units
Material consumed- 16,500 kg @ ₹2.40 per kg	₹39,600
Wages paid-18,000 hours @ ₹0.40 per hour	₹ 7,200
	₹46,800

Calculate appropriate Material and Labour Variances.

iii. Management of Pratibha Ltd. which is now operating at 50% of normal capacity expects that the volume of sales will drop below the present level of 5,000 units per month. The income statement for monthly sales shows the following position: **5**

Sales (5,000 units @ ₹3 per unit)	₹15,000
Less: Variable Costs	₹10,000
	₹5,000
Less: Fixed Costs	₹5,000
Profit	Nil

It is proposed that the company should suspend production until market condition improves. The General Manager estimates that a minimum fixed costs amounting to ₹2,000 will be necessary in any event. Advice the management at what level of sales, it should think of suspending production, if the selling price comes down to ₹2.80 per unit.

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Total No. of Questions: 6 *Total No. of Printed Pages:4*

Enrollment No.....

Faculty of Commerce
End Sem Examination May-2023
CM3CO13 Cost Accounting

Programme: B.Com. (Hons.) Branch/Specialisation: Commerce

Duration: 3 Hrs. **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Q.1 i. "Cost accounting is the technique and process of ascertainment of cost" is defined by: **1**

(a) L.B. Dicksee (b) Walter W. Bigg

(c) I.C.M.A., London (d) Harold J. Weldon

ii. The cost of activities relating to create and stimulate demand for company's products and to secure orders is known _____ overheads. **1**

(a) Administrative (b) Factory

(c) Selling and distribution (d) Office

iii. Mixed form of market price and cost price is: **1**

(a) Simple average method (b) Weighted average method

(c) Standard price method (d) Replacement price method

iv. The use of LIFO method is suitable: **1**

(a) At rising prices (b) At falling prices

(c) At constant prices (d) In all conditions

v. If cost price is Rs.18000, profit is 10% on sales, then profit amounted to be: **1**

(a) Rs.1,800 (b) Rs.2,000 (c) Rs.2,200 (d) Rs.2,400

vi. A process loss that does not affect the cost per unit is: **1**

(a) Abnormal loss (b) Normal loss

(c) Standard loss (d) None of these

vii. ____ is a statement showing cost of production of a particular product. **1**

(a) Tender (b) Quotation (c) Cost Sheet (d) Work Sheet

viii. Type of inter-departmental apportionment method is: **1**

(a) Simultaneous equation method (b) Prime cost method

(c) Direct material cost method (d) Machine hour rate method

ix. In break even chart Y-axis represents: **1**

(a) Volume of sales in units (b) Value of sales in rupees

(c) Cost and sales in rupees (d) Value of production in rupees

x. An important difference between marginal costing and absorption costing is regarding the treatment of _____. **1**

(a) Prime cost (b) Direct material

(c) Variable overheads (d) Fixed overheads

Q.2 i. What do you mean by prime cost? **2**

ii. What is the significance of cost accounting to management? In what respect does cost accounting differ from financial accounting? **8**

OR iii. What do you understand by the term cost? Explain the different elements of cost. **8**

Q.3 i. What do you understand by economic order quantity? **2**

ii. Prepare a store ledger from the following information as per LIFO method for March 2020: **8**

Receipts		**Issues**	
March 1	300 units @ ₹2 per unit	March 3	125 units
March 14	250 units @₹3 per unit	March 16	175 units
March 20	560 units @₹2.50 per unit	March 22	90 units

On March 24, 10 units issued on March 16 were returned by the department to the stores and on 31st March a difference of 14 units was found as per physical verification.

OR iii. The following figures are taken from the records of M/s Rahul & Co., Mumbai for the year 2020.The valuation of inventory is ₹1 per kg or litre. **8**

	Opening Stock	Purchases	Closing Stock
Material X	700 kg	11,500 kg	200 kg
Material Y	200 litre	11,000 litre	1,200 litre
Material Z	1,000 kg	1,800 kg	1,200 kg

Calculate the material turnover ratio of the above material and express in number of days the average inventory is held.

Q.4 i. What are cost sheets? What are their advantages? **2**

ii. The cost sheet of a sewing machine is as under: **8**

	₹
Material	80
Labour	40
Variable expenses	20
Fixed expenses	40
Total cost	180
Profit	20
Selling Price	200

No. of machines produced and sold 30,000. Capacity is 40,000 machines. Should the Company accept an export order for 5,000 machines at ₹160 per machine?

OR iii. The following particulars were obtained from the records of Sapna Refinery: **8**

	Oil No. 1 ₹	Oil No.2 ₹
Production of Crude Oil		
Materials	20,000	16,000
Wages	400	300
Steam	120	120
Sale of by-products	520	420
Refining		
Materials	1,000	500
Wages	500	300
Steam	100	100
Sale of by-products	800	700
Blending		
Wages	2,000	
Steam	200	
Packing Materials	800	

Rent, rates, etc. amounted to ₹6,000; these are to be apportioned equally to each process and in production of crude oil, in the ratio of 1:1 between Oil No. 1 and Oil No. 2 and in the case of refining in the ratio of 3:2 between Oil No. 1 and Oil No. 2. In the case of blending, the whole proportionate amount is to be charged. Prepare process account from the above details.

Q.5 Attempt any two:

i. Define fixed expenses, variable expenses and semi-variable expenses giving three examples of each. **5**

ii. What is meant by Absorption of overheads? How will you account for them in your books? Explain. **5**

iii. The following information relate to three jobs of cloth manufacture: **5**

	Jeans	Suit	Shirt
Output (in units)	1,000	500	100

Total factory overhead ₹24,000

Find out factory overhead of each type of cloth, if 1 shirt is equivalents to 4 jeans and 2 suits are equivalent to 1 shirt.

P.T.O.

[2]

[3]

P.T.O.

Marking Scheme
Cost Accounting - CM3CO13

Q.1	i)	(c) I.C.M.A., London	1 Mark	**1**
	ii)	(c) Selling and distribution	1 Mark	**1**
	iii)	(a) Simple average method	1 Mark	**1**
	iv)	(a) At rising prices	1 Mark	**1**
	v)	(b) Rs.2000 (18000*100/90= 2000)	1 Mark	**1**
	vi)	(a) Abnormal Loss	1 Mark	**1**
	vii)	(c) Cost Sheet	1 Mark	**1**
	viii	(a) Simultaneous Equation Method	1 Mark	**1**
	ix)	(c) Cost and sales in Rupees	1 Mark	**1**
	x)	(d) Fixed Overheads	1 Mark	**1**

Q.2 i. Prime Cost. The aggregate of Direct Materials Cost, Direct Labour Cost and Variable Direct expenses (or chargeable expenses is the Prime Cost. It is also known as First Cost, Flat **2**

Cost or Direct Cost. The basic objective to determine prime cost is to be identifying direct cost because all direct expenses are included in prime cost.

ii. According to Blocker and Weltemer 'Cost Accountant is to serve management in the execution of policies and in comparison of actual and estimated results in order that the value of each policy may be appraised and changed to meet the future conditions'. **8**

Following are Main Functions of Cost Accountant :

(1) To work out cost per unit of the different products manufactured by the organisation;

(2) To compute profits earned on each of the products and to advise management as to how these profits can be improved;

(3) To help management in control of inventory so that there may be minimum locking up of capital in stocks of raw materials, stores, work-in-process and finished goods;

(4)To install and implement cost control systems like Budgetary Control and Standard Costing for the control of expenditure on materials, labour and overheads;

(5)To advise management on future expansion.

Remaining answer- Image 1

OR iii. Cost:- "Cost is the amount of expenditure(actual or notional) incurred on, or attributable to, a given thing."- ICMA **8**

The elements that constitute the cost of manufacture are known as the elements of cost. Such element of cost is divided into three categories. They are Material, Labour and Expenses. Again, these elements of cost are divided into two categories such as Direct Material and Indirect Material, Direct Labour and Indirect Labour, Direct Expenses and Indirect Expenses. All direct material, direct labour and direct expenses are added to get prime cost. Likewise all indirect material, indirect labour and indirect expenses are added to get overhead. Again, overhead is divided into four categories. They are factory overhead, administration overhead, selling overhead and distribution overhead.

1. **Direct Material**: 2. **Indirect Material**: 3. **Direct Labour**: 4. **Indirect Labour**: 5. **Direct Expenses**: 6. **Indirect Expenses**: 7. **Overhead**: 8. **Factory Overhead**:9. **Administration Overhead**:
10. **Selling Overhead**: 11. **Distribution Overhead**:

Q.3 i. ECONOMIC ORDER QUANTITY: An important objective of inventory control is to minimise the cost of inventory and for this purpose various aspects and levels of inventory are considered. One of these aspects is to determine the size of order so that total inventory cost may be minimum and if there is any offer of discount, etc. by the supplier, that should be exploited properly. In this context an important concept is 'Economic Order Quantity (E.0.Q), which is also known as Economic Lot Size. **2**

ii. **8**

Date	Receipt			Issues			Balance		
	Qty.	Rate	Amt.	Qty.	Rate	Amt.	Qty.	Rate	Amt.
2016	Units	₹	₹	Units	₹	₹	Units	₹	₹
March	300	2	600	-	-	-	300	2	600
1							175	2	350
March	-	-	-	125	2	250	175	2	
3							250	3	1100
	250	3	750	-	-	-	175	2	

March 14	-	-	-	175	3	525	75 175	3 2	575
March 16	560	2.50	1400	-	-	-	75 560	3 2.50	1975
March 20	-	-	-	90	2.50	225	175 75	2 3	1750
March 22	10	3	30	-	-	-	470 175	2.50 2	
March 24	-	-	-	10	3	30	75 470	3 2.50	1780
March 30				4(shortage)	2.50	10	10 175	3 2	
							75 466	3 2.50	1740

OR iii. Let us first ascertain the material consumed of each. **8**

Material Consumed = (Opening Stock + Purchases –Closing Stock)

X= 12000 Kg Y=10000 Ltr Z= 1600 Kg

Let us now ascertain the average inventory of each.

Average Inventory = (Opening Stock + Closing Stock)/2

X= ₹450 Y= ₹700 Z= ₹1100

Inventory Turnover Ratio = Value of material consumed during a period / Value of average inventory held during a period

X= 26.67 Y=14.29 Z= 1.46

If expressed in no. of days the inventory turnover will be

= (Value of average inventory * days of period)/ Material Consumed

X= 14 days app. Y= 26 days app. Z= 250 days app.

Note: It is clear from that the inventory turnover rate of X Material is the highest and that of Z material is the lowest. So the purchase of Z Material need be controlled.

Q.4 i. A cost sheet analyzes the components of cost in order to show the per-unit cost for a given product. Business managers use cost sheets as reference documents to help manage purchasing and production costs, and to find the right selling prices for products and services. The main advantages of a Cost Sheet are as follows: (i) It provides the total cost figure as well as cost per **2**

unit of production. (ii) It helps in cost comparison. (iii) It facilitates the preparation of cost estimates required for submitting tenders.

ii. For making extra 5000 units, the production will not be beyond the capacity, hence their will not be any change in fixed cost. The present fixed cost is 30000 * ₹40 = ₹ 1200000 **8**

Statement of Cost and Profit

Particulars	Present (30000)	Export (5000)	Total (35000)
	₹	₹	₹
Materials@₹ 80	2400000	400000	2800000
Labour @₹ 40	1200000	200000	1400000
Variable Expenses@₹ 20	600000	100000	700000
Fixed Expenses	1200000	-	1200000
Total Cost	5400000	700000	6100000
Profit	600000	100000	700000
Sales (30000@₹200; 5000 @ ₹160)	6000000	800000	6800000

Decision: It is clear from the above statement that export order should be accepted because: (a) there is an increase in profit by ₹ 100000, (b) capacity will be used in a better way, and (c) there will be an opportunity to enter in a Foreign market.

OR iii. **8**

Crushing Process (Production of Crude Oil)

Particulars	Oil No.1	Oil No.2	Particulars	Oil No.1	Oil No.2
To Materials	20000	16000	By Sale of	520	420
To Wages	400	300	by- products		
To Steam	120	120	By refining		
To Rent, Rates, etc. (6000*1/3 in 1:1)	1000	1000	process	21000	17000
	21520	17420		21520	17420

Refining Process

Particulars	Oil No.1	Oil No.2	Particulars	Oil No.1	Oil No.2

To Crushing Process	21000	17000	By Sale of by- products	800	700
To Materials	1000	500	By refining process	23000	18000
To Wages	500	300			
To Steam	100	100			
To Rent, Rates, etc. (6000*1/3 in 3:2)	1200	800			
	23800	18700		23800	18700

Blending Process

To Refining Process		By Finished Stock	46000
Oil No. 1	23000		
Oil No. 2	18000		
To Wages	2000		
To Steam	200		
To Packing Materials	800		
To Rent, Rates, etc (6000*1/3)	2000		
	46000		46000

Q.5 i. 1) Fixed Overheads. Fixed overhead is one which tends to be unaffected by variation in volume of output. The fixed overheads are related to the periods, and so the fixed costs are also known as Period Costs. The examples of fixed overheads are: rental taxes of the factory land and building, insurance charges of plant machine, manager's salary and the salary of the office staff. **5**

(2) Variable Overheads. The variable overhead is one which tends to vary directly with volume of output. The variable cost increases in direct proportion with the increase in production, and decreases in the same proportion with the decrease in production. It is known as Direct cost. The examples of variable overhead are : Indirect Material; Indirect Labour; Fuel and Power; Lighting; Heating; Overtime; Small tools; Store expenses; Postage; Stationery; etc.

(3) Semi-variable Overhead. It is an overhead which is partly fixed and partly variable. It means that a part of the expense does not change while the

other part of the same expense changes with change in the volume of output. Generally, no costs are truly fixed or truly variable.

Semi-variable overheads are also known as Semi-fixed overheads. There is hardly any difference between these two terms. However, if the fixed part of the item of expense is more than the variable, it may be called Semi-fixed. Similarly, where variable part is greater than the field part, it may be named Semi-variable. Here we would use the term Semi-variable' only.

ii. ABSORPTION OF OVERHEADS: The final step in the Distribution Plan of production overheads is to recover or absorb the overheads in the cost of products, individual jobs, processes, batches, or other convenient units. The overheads filling to the share of a department through the process of allocation or Apportionment, is to be absorbed by the cost units of that department. What we require ultimately is to determine the cost of production, and so the overheads are ultimately to be merged by absorption into the cost units. This is known as 'Absorption of Overhead. **5**

DETERMINATION OF OVERHEAD RATES

The total overhead divided by the quantity or the value of the base selected determines the overhead rate. The following are the overhead rates:

1. Actual Rate; 2. Predetermine Rate, and 3.Standard Rate.

OR iii. Apportionment ratio of factory overhead: **5**

4jeans= 1 shirt

1000 jeans= 1*1000/4= 250 shirts

2 suits = 1 shirt

500 suits=1*500/2=250 shirts

So the ratio is:

Jeans: Suits: Shirts= 250:250:100 or 5:5:2

So, Factory Overhead Absorbed:

Jeans =24000*5/12= 10000

Suits =24000*5/12=10000

Shirt=24000*2/12=4000

Q.6 i. Change in Profit= 20,000 [10,000-(-10,000)] **5**

Change in sales= 40,000 (1,30,000-90,000)

(a) P/V Ratio =Change in Profit*100/Change in sales
=20,000*100/40,000=50%

(b) Fixed Overheads:
F=S*P/V Ratio – Profit
=(1,30,000*50%- 10,000) = 55,000

(c) S=F+P / P/V Ratio = 55,000+25,000 / 50% = 1,60,000
(d) Profit= S*P/V Ratio –F
=(1,80,000*50%)-55,000 = 35,000

ii. Materials Labour **5**

SQ=2*8000=16000kg	ST=2*8000=16000 hrs
SP=2.50	SR=0.50 per hr
AQ=16500 kg	AT=18000 hrs
AP=2.40	AR= 0.40 per hr

Material Variances:
MCV=(SQ*SP)-(AQ*AP) = (16000*2.50)-(16000*2.40) =400 (F)
MPV= AQ(SP-AP) =16500(2.50-2.40)=1650(F)
MUV= SP(SQ-AQ)=2.50(16000-16500)= 1250 (A)

Labour Variances:
LCV=(ST*SR)-(AT*AR) = (16000*0.50)-(18000*0.40) =800 (F)
LRV= AT(SR-AR) =18000(0.50-0.40)=18000(F)
LEV= SR(ST-AT)=0.50(16000-18000)= 1000 (A)

iii. Present Contribution =S-VC **5**
= 15,000 - 10,000 = ₹5,000
Contribution per unit =3 -2=₹1
Net Escapable Fixed Cost = 5,000 - 2,000 = 3,000
Shut-down Point (in units) = 3,000/1 =3,000 units
When the selling price is reduced to ₹ 2.80:
Contribution per unit =2.80 -2=0.80
Shut-down point (in units)= 3,000/0.80 =3,750 units
Advice: Thus at existing selling price plant should be shut-down only when sales are less than ₹ 6,000 or 3,000 units. When selling price is reduced, plant should be shut-down when sales are below ₹10,500 or 3,750 units.

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DIFFERENCE BETWEEN COST ACCOUNTING SYSTEM AND FINANCIAL ACCOUNTING SYSTEM

The following are the main differences between the two systems :

Basis of Difference	*Cost Accounting*	*Financial Accounting*
1. *Need of Accounts*	Kept by business engaged either in manufacturing or in rendering services where the cost per unit is to be ascertained.	Kept by all types of business houses, big or small, whether engaged in trading, manufacturing or non-profit making associations.
2. *Record of Expenses*	Maintain full and detailed records pertaining to all the three elements of cost, *viz.*, materials, labour and expenses.	Record all types of expenses and incomes and also items of profit appropriation. However, they do not keep detailed records of elements of cost.
3. *Availability of Information*	Provide data and reports to management for cost-ascertainment, planning, control and decision-making.	Provide general information to management and outside parties in the form of Profit & Loss A/c and Balance Sheet of the business as a whole.
4. *Ascertainment of Cost*	Ascertain the cost of each product, job or order and then show profit/loss made on each.	Do not show profit/loss on each product, job or order individually.
5. *Period of Information*	Provide information to management as and when desired, daily, weekly, monthly, quarterly, etc.	Provide operating net results and financial position at the end of financial year.
6. *Estimates vs. Actual*	To calculate the cost, the indirect expenses included therein are based on estimates.	Show historical costs, *i.e.*, they include expenses having actually been incurred in the financial year.
7. *Focus Area*	Greater control is exercised on materials and stores, labour and overhead costs by budgetary control and standard costing. No emphasis is given to cash-in-hand and Bank transactions.	Greater emphasis is laid on cash and financial position. They do not attach that importance to control of materials, labour and overheads.
8. *Calculation of Tender Price*	As the cost is available, it is easier to fix selling price and quote for tende₹	No correct tender prices can be quoted.
9. *Comparison of Cost*	The production costs of a period can be compared with previous corresponding period and the difference analysed.	Such comparison of costs of individual production is not easy.
10. *Relative Efficiency*	Provide information on the relative efficiencies of plant, machinery, labour and departments.	The relative efficiency of workmen, plants, etc. cannot be easily judged.
11. *Valuation of Stock*	Stocks are valued at costs.	Stocks are valued at cost price or market price, whichever is lower.
12. *Internal vs. External*	These accounts are for internal transactions and do not form the basis of receipts and payments to outside parties.	They form basis for external transactions also, and record receipts, payments and credit transactions.
13. *Legal Compliance*	The Companies Act has made it obligatory for certain industries to maintain Cost Accounting, otherwise it is voluntary to maintain cost them.	It is almost necessary to maintain this accounting to run business. To meet the requirements of Companies Act, and Income-tax Act, it is obligatory to keep them.
14. *Presentation*	Charts, graphs, diagrams, statements, etc. are much used in this system for informatory reports to management.	Not much use is made of such presentation in this system.