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PAPER 3 :COST AND MANAGEMENT ACCOUNTS

Branch: Multiple Date:

Note: Question 1 is compulsory. Attempt any five from the rest.

Question 1 (20marks)

(A)

A Ltd manufactures a special product, which requires 'ZED'. Following particulars were collected for the year –

i. Monthly demand of Zed	7,500 units	(v) Carrying Cost % p.a.	10%
ii. Cost of placing an order	` 500	(vi) Normal Usage	500 units per week
iii. Re-Order Period	5 to 8 weeks	(vii) Minimum Usage	250 units per week
iv. M Cost per unit	`60	(viii) Maximum Usage	750 units per week

Compute - (i) ROQ, (ii) ROL, (iii) Minimum Stock Level, (iv) Maximum Stock Level and (v) Average Stock Level.

(B) A,B and C are three industrial workers working in the Sports Industry and are experts in making Cricket Pads. A,B and C are working in Mahi Sports, Virat Sports and Sikhar Sports Companies respectively. Workers are paid under different incentive schemes. The Company – wise Incentive Schemes are as follows:

Company	Incentive Scheme
Mahi Sports	Emerson's Efficiency System
Virat Sports	Merrick Differential Piece Rate System
Sikhar Sports	Taylor's Differential Piece Work System

The relevant information for the industry is as under:

Standard Working Hours	8 hours a day
Standard Output Per Hour (in units)	2
Daily Wages Rate	` 360
No. of Working Days in a week	6 days

Actual Output for the week are as follows: A – 132 units, B – 108 units, C – 96 units

You are required to Calculate Effective Wages Rate and Weekly Earnings of all the three workers.

(C) A Factory producing Article A also produces a By – products B which is further processed into finished product. The Joint Cost of manufacture is given below and Subsequent Costs are given below:

		Subsequent Cost	
	Joint Cost	A	B
Material	` 5,000	3,000	1,500
Labour	` 3,000	1,400	1,000
Overhead	` 2,000	600	500
Total	` 10,000	5,000	3,000

Selling Prices are A ` 16,000, B ` 8,000 Estimated Profit on Selling Prices is 25% for A and 20% for B.

Assume that Selling and Distribution Expenses are in proportion of Sales Prices. Show how you would apportion Joint Costs of manufacture, and prepare statement showing Costs of Production of A and B.

(D) The standard output of product 'EXE' is 25 units per hour in the manufacturing department of a Company employing 100 workers. The Standard Wage Rate per Labour hour is ` 6.

In a 42 – hour week, the Department produced 1,040 units of 'EXE' despite 5% of the time paid was lost due to an abnormal reason. The hourly wage rates actually paid were ` 6.20, ` 6 and ` 5.70 respectively to 10, 30 and 60 of the workers. Compute the relevant variances.

Question 2 (8 marks)

(A) ML Auto Ltd is a Manufacturer of auto components and the details of its expenses for the previous year are given below:

i.	Opening Stock of Material	` 1,50,000
ii.	Closing Stock of Material	` 2,00,000
iii.	Purchase of Material	` 18,50,000
iv.	Direct Labour	` 9,50,000
v.	Factory Overhead	` 3,80,000
vi.	Administrative Overhead related to Production Activity	` 2,50,400

During next year, the Company has received an order from a Car Manufacturer where it estimates that the Cost of Material and Labour will be ` 8,00,000 and ` 4,50,000 respectively. ML Auto Ltd charges Factory OH as a Percentage of Direct Labour and Administrative OH related to Production, as a Percentage of Factory Cost based on previous year's cost. Cost of Delivery of the components at Customer's Premises is estimated at ` 45,000. Make estimated cost sheet for the next year.

(B) ABC Ltd. budgets the following amounts for its two service departments (Legal and Personnel) in supporting each other and the two production divisions the Micro Computer Division (MCD) and the Peripheral Equipment Division (PED). Budgeted Capacity is as under – (8 marks)

To be supplied by	MCD	PED	Legal	Personnel	Total
Legal (hours)	3,000	1,500	-	500	5,000
Legal (%)	60%	30%	-	10%	100%
Personnel (hours)	45,000	50,000	5,000	-	1,00,000
Personnel (%)	45%	50%	5%	-	100%

Details on actual usage are as follows:

To be supplied by	MCD	PED	Legal	Personnel	Total
Legal (hours)	800	2,400	-	800	4,000
Legal (%)	20%	60%	-	20%	100%
Personnel (hours)	53,200	22,800	4,000	-	80,000
Personnel (%)	66.5%	20.5%	5%	-	100%

The actual expenses were: Legal Department: Fixed ` 7, 20,000 and Variable ` 4, 00,000

Personnel Department: Fixed ` 9, 50,000 and Variable ` 12, 00,000

Fixed Expenses are allocated on the basis of budgeted capacity. Variable Expenses are allocated on the basis of actual usage. You are required to prepare to a statement showing apportionment of expenses of Service Departments (Legal and Personnel) to Production Divisions MCD and PED, by using Simultaneous Equation Method.

Question 3 (8 marks)

(A) ABC Motors assembles and sells Motor Vehicles at ` 24,000 per Vehicle. It uses an actual costing system, in which unit costs are calculated on a monthly basis. Data relating to March and April months of a year are:

Particulars	March	April
Unit data: Beginning Inventory	0	150
Production	500	400
Sales	350	520
Variable Cost data:		
Manufacturing Costs per unit produced	` 10,000	` 10,000
Distribution Costs per unit sold	` 3,000	` 3,000
Fixed Cost Data:		
Manufacturing Costs	` 20,00,000	` 20,00,000
Marketing Costs	` 6,00,000	` 6,00,000

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1. Present Income Statements for ABC Motors in March and April under – (a) Variable Costing, (b) Absorption Costing.

2. Explain the differences between (a) and (b) for March and April.

(B) Concorde Ltd manufactures two products using two types of materials and one grade of labour. Shown below is an extract from the Company's working papers for the next month's budget: (8 marks)

		Product-A	Product-B
Budgeted Sales (in units)		2,400	3,600
Budgeted Materials Consumption per unit (in kg):	Material-X	5	3
	Material-Y	4	6
Standard Labour Hours allowed per unit of product		3	5

Material-X and Material-Y cost ` 4 and `6 per kg and Labourers are paid `25 per hour. Overtime Premium is 50% and is payable, if a Worker works for more than 40 hours a week. There are 180 Direct Workers.
The target Productivity (or Efficiency) Ratio for the productive hours worked by the Direct Workers in actually manufacturing the products is 80%. In addition, the Non-Productive Down-Time is budgeted at 20% of the Productive Hours worked.
There are four 5-days weeks in the budgeted period and it is anticipated that Sales and Production will occur evenly throughout the whole period.

It is anticipated that stock at the beginning of the period will be:

Product A	Product B	Material X	Material Y
400 units	200 units	1,000 kgs	500 kgs

The anticipated Closing Stocks for the budget period are as below:

Product A	Product B	Material X	Material Y
4 days Sales	5 days Sales	10 days Consumption	6 days Consumption

Prepare Material Purchase Budget and Wages Budget for Direct Workers, showing the quantities & values, for the next month.

Question 4

(A) ABC Ltd manufactures four products A, B, C & D in the same factory. The following information is given for a certain period - (8 marks)

Product	A	B	C	D
Good Output (number of units)	720	600	480	504
Average Yield (%)	80	80	96	90
Machine Hours per unit of Input	4	3	2	1

The Plant works such that after machining, the defectives in each run are automatically segregated and dumped separately in a container. The good units pass through the process and are further checked for quality by the inspectors of quality control who charge by the number of batches inspected.

The total Production and Selling Overheads of the Company are the following for the period –

Machine Operation and Maintenance	` 66,375
Set-up Costs	` 19,200
Stores Receiving	` 21,400
Inspection	` 24,000
Finished Goods - Packing / Despatch	`14,400

The following additional information is given -

1. A Material Requisition is made for every 25 units of Input.
2. Machines need to be set-up and tuned after each Production Run.
3. Production is in batches of 24 good units for all the products.
4. Units of A and B are packed in boxes that have 24 units capacity each antfC and D are packed in smaller boxes of 12 units capacity. The smaller box costs half the price of the bigger box. Each box contains only one type of product. There is no product mix up in packing.

Choose appropriate Activity Cost Drivers for each Overhead Cost and calculate the Overhead Cost per unit of good output for each of the products under the ABC System.

(B) BPR Ltd keep books on integrated systems. The following balances appear in the books as on 1st April of a Fin. Year - (8 marks)

Particulars	Dr.	Cr
Stores Control A/c	40,950	—
Work in process A/c	38,675	—
Finished Goods Control A/c	52,325	-
Bank A/c	-	22,751
Debtors A/c and Creditors A/c	27,300	18.200
Fixed Assets A/c and Provision for Depreciation A/c	1,47,875	11,375
Share Capital A/c	-	1,82,000
Provision for Doubtful Debts A/c	-	3,72
Factory Overheads Outstanding A/c	-	6,250
Prepaid Administration Overheads A/c	9,975	-
Profit and Loss A/c	-	72,800
Total	3,17,100	3,17,100

The transactions for the year ended 31st March were as given below:

Particulars	`	Particulars	`
Direct Wages	1,97,925	Production OH paid during the year	91,000
Indirect Wages	11,375	Production OH outstanding at the end of the year	7,775
Purchases of Materials on credit	2,27,500	Administration OH paid during the year	27,300
Materials issued to production	2,50,250	Selling Overheads incurred	31,850
Materials issued for repairs	4,550	Payment to Creditors	2,29,775
Goods finished during the year (at cost)	4,89,125	Payment received from Debtors	6,59,750
Credit Sales	6,82,500	Depreciation on Machinery	14,789
Cost of Goods Sold	5,00,500	Administration OH outstanding at the end of the year	2,225
Production OH absorbed	1,09,200	Provision for Doubtful Debts at end of the year	4,590

Write up the accounts in the Integrated Ledger of BPR Ltd and prepare a Trial Balance.

Question 5 (8 marks)

(A)

i) What is the meaning of Cost plus Contract?

ii) What do you mean by differential cost?

(B) Z Limited obtained a Contract No. 999 for ` 50 Lakhs. Details of this contract for the year ended 31st March are – (8 marks)

Particulars	`	Particulars	`
Materials Purchased	1,60,000	Electricity Charges	25,000
Materials issued from Stores	5,00,000	Plant Hire Expenses	60,000
Wages and Salaries Paid	7,00,000	Sub-Contract Cost	20,000
Drawing and Maps	60,000	Materials returned to Stores	30,000
Sundry Expenses	15,000	Materials returned to Suppliers	20,000

The following balances relating to the Contract No.999 for the year are available:

Particulars	As at Beginning of the Year	As at End of the Year
Work Certified	` 12,00,000	`35,00,000
Work Uncertified	` 20,000	` 40,000
Materials at Site	` 15,000	` 30,000
Wages Outstanding	` 10,000	` 20,000

The Contractor receives 75% of Work Certified in cash. Prepare Contract Account and Contractee's Account.

Question 6 (8 marks)

(A) XYZ Auto Ltd is in the business of selling cars. It also sells insurance and finance as part of its overall business strategy. The following information is available for the Company –

Particulars	Physical units	Sales Value
Sales of Cars	10,000 Cars	` 30,000 Lakhs
Sales of Insurance	6,000 Policies	` 1,500 Lakhs
Sales of Finance	8,000 Loans	` 19,200 Lakhs

The Revenue Earnings from each line of business before expenses are as follows -

Sale of Cars - 3% of Sales Value, Sale of Insurance - 20% of Sales Value, Sale of Finance - 2% of Sales Value.

The expenses of the Company are as follows –

Salesman Salaries	` 200 Lakhs	Documentation Cost per Insurance Policy	` 100
Rent	` 100 Lakhs	Documentation Cost for each Loan	` 200
Electricity	` 100 Lakhs	Direct Sales Expenses per Car	` 5,000
Advertising	` 200 Lakhs		

Indirect Costs have to be allocated in the ratio of physical units sold. You are required –

- Make a Cost Sheet for each product allocating the Direct and Indirect Costs, and also showing the product-wise profit and Total Profit.
- Calculate the percentage of profit to revenue earned from each line of business.

Note: For a Dealer in Cars, Insurance Policies and Loans, the entire sales value of the products / services do not constitute its Income. Only the Commission Portion thereof (called Revenue Earnings in this question), constitutes Dealer's Income.

(B) The product manufactured by a light engineering factory undergoes two operations. The following data are available relating incurred on production during November – (8 marks)

Particulars	Machining	Finishing
Units as input	90,000	60,000
Expenses incurred in process -	`	`
Direct Material	2,70,000	Nil
Direct Labour	1,28,000	45,000
Overheads	64,000	1,35,000

At the end of the month, there were 30,000 units lying incomplete in Machining Operation. While the full quantity of Materials has been consumed for the total production, the expenditure on Labour and Overheads was estimated to be 2/3rd in respect of the incomplete products.

You are required to prepare a detailed cost statement showing the Final Cost per unit assuming –

1. Completed units of Machining Operation are transferred to the Finishing Operation.
2. Finishing Operation has completed all the units received from the Machining Operation during November leaving no work in progress at the end of the month.

Question 7 (8 marks)

(A)

i) What are the main objectives of cost accounting in a manufacturing org?

ii) Discuss the treatment of overtime premium in cost accounts

(B) Arnav Ltd manufactures and sells its Product R-9. The following figures have been collected from cost records of last year for the product R-9: (8 marks)

Elements of Cost	Variable Cost portion	Fixed Cost
Direct Material	30% of Cost of Goods Sold	—
Direct Labour	15% of Cost of Goods Sold	—
Factory Overhead	10% of Cost of Goods Sold	` 2,30,000
General & Administration Overhead	2% of Cost of Goods Sold	` 71,000
Selling & Distribution Overhead	4% of Cost of Sales	` 68,000

Last Year, 5,000 units were sold at ` 185 per unit. From the given data find the following:

(a) Break-Even Sales (in Rupees)

(b) Profit earned during last year

(c) Margin of Safety (in %)

(d) Profit if the Sales were 10% less than the Actual Sales.