Paper 10- Cost & Management Accountancy

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Full Marks: 100 **Time allowed: 3 Hours**

Section A

1. Answer Question No.1 which is compulsory carrying 25 Marks

(a) Answer the following **[5 x 2 = 10]**

(i) Given: Sales ₹ 2,00,000; Fixed Cost ₹ 40,000; BEP ₹ 1,60,000. Ascertain the profit.

(ii) A contract is expected to be 80% complete in its first year of construction, as certified. The Contractee pays 75% of the work certified as and when certified and makes final payment on the completion of the Contract. The following information is available for the first year:

	(₹)
Cost of Work uncertified	80,000
Profit transferred to Profit and Loss Account at the end of year 1 on incomplete contract	60,000
Cost of Work to date	8,80,000

Compute the Notional Profit.

(iii) Calculate the efficiency ratio from the following figures:

Budgeted production	160 units
Actual production	120 units
Standard time per unit	10 hours
Actual hours worked	1000

(iv) The following information is given for the next year:
Budgeted Sales – 5,00,000 units.

Finished Goods: Closing Stock – 1,50,000 units; Opening Stock – 80,000 units.

Equivalent units of WIP: Closing Stock – 60,000 units; Opening Stock – 50,000 units.

Calculate the number of equivalent units produced.

(v) X Ltd., produces and markets 3 products-Chairs, Tables and Benches. The company is interested in presenting its budget for the next quarter ending 31st March. It expects to sell 4,200 Chairs, 800 Tables and 500 Benches during the said period at the selling price of ₹50, ₹85 and ₹158 per unit. The following information is made available for this purpose:
Inventory Levels planned:

Particulars	Chairs (Nos.)	Tables (Nos.)	Benches (Nos.)
Opening Stock	400	100	50
Closing Stock	200	300	50

Prepare the Production Budget for the Quarter ending 31st March.

(b) Match the following **[5 x 1 = 5]**

	Column 'A'		Column 'B'
1.	The method which is followed for evaluation of equivalent production when prices are fluctuating.	**A**	Fixed Cost / P/V ratio
2.	In hospital the cost unit is	**B**	Standard yield for actual Mix minus Actual Yield) x Standard yields Price.
3.	Breakeven point (in Value)	**C**	Average price method
4.	Direct material yield variance	**D**	Fixed, variable and semi variable costs.
5.	A flexible budget takes into the account	**E**	Per bed

(c) What is the procedure to be followed for fixing the remuneration of a Cost Auditor? **[5]**

(d) The Cost of a product of MENZ LTD. is given by function $C(q) = 200q - 10q^2 + \frac{1}{3}q^3$.

[Where C(q) stands for Cost function and q for output.]
Calculate, output at which average cost is equal to marginal cost. **[5]**

Section B

(Cost & Management Accounting – Methods & Techniques and Cost Records and Cost Audit)
Answer any three questions from the following
Each question carries 17 marks

2. (a) The share of total production and the cost-based fair price computed separately for each of the four units in industry are as follows:

(Amount in ₹)

Units	A	B	C	D
Share of Production (%)	40	25	20	15
Direct Material	300	360	340	380
Direct Labour	200	240	280	320
Depreciation	600	400	320	200
Other Overheads	600	600	560	480
	1,700	1,600	1,500	1,380
20% Return on Capital Employed	1,260	860	700	460
FAIR PRICE	2,960	2,460	2,200	1,840
Capital Employed per unit:				
Net Fixed Assets (₹ per unit)	6,000	4,000	3,200	2,000
Working Capital (₹ per unit)	300	3,000	300	300
Total Capital (₹ per unit)	6,300	4,300	3,500	2,300

Required:
What should be the uniform price fixed for the product of the industry? **[5]**

(b) MAGATRON LTD. produces and sells four products A, B, C and D. Details of the four products and relevant information are given below for week ended March 29, 2017:

Products	A	B	C	D

Output (units)	120	100	80	120
Cost per unit (₹)				
Direct Material	40	50	30	60
Direct Labour	28	21	14	21
Machine-hours (per unit)	4	3	2	3

The four products are similar and are usually produced in production runs of 20 units and sold in batches of 10 units.

The production overheads during the period are as follows:

	₹
Factory works expenses	20,860
Set up costs	10,500
Stores receiving	7,200
Inspection/Quality control	4,200
Material handling and dispatch	9,240

The production overhead is currently absorbed by using a Machine-hour rate and the company wishes to introduce Activity Based Costing (ABC) system and has identified major cost pools for production overheads and their associated cost drivers.

Information in these activity cost pools and their drivers is given below:

Activity Cost Pools	Cost Drivers
Factory Works Expenses	Machine-hours
Set up costs	Number of production runs
Stores receiving	Requisition raised
Inspection/Quality Control	Number of production runs
Material handling & dispatch	Number of orders executed

The number of requisitions-raised on the stores was 20 for each product and number of orders executed was 42, each order being for a batch of 10 of a product.

Requirements:

(i) Total cost of each product assuming the absorption of overhead on Machine-hour basis.

(ii) Total cost of each product assuming the absorption of overhead by using Activity Based Costing.

(iii) Show the differences between (i) and (ii) and Comment. **[3+6+2+1=12]**

3. (a) Division- AY of STATUSLINE Ltd. is a profit centre which produces four products M, N, O and P, Each product is sold in the external market also. Data for the products are:

	M	N	O	P
Market price per unit (₹)	300	292	280	260
Variable production cost per unit (₹)	260	200	180	170
Labour hours required per unit (hrs.)	3	4	2	3

Product P can be transferred to Division-BZ, but the maximum quantity that may be required for transfer is 2500 units of P.

The maximum sales in the external market are:

M-2800 Units; N-2500 Units; 0-2300 Units; and P-1600 Units. Division-BZ can purchase the same product at a price of ₹250 per unit from outside instead of receiving transfer of product P from division-AY.

Required:

What should be the transfer price for each unit for 2500 units of P, if the total labour hours available in Division-AY are 20000 hours? **[8]**

(b) ANSTIM TRANSPORT LTD., a transport company has been given a twenty Kilometer long rout to ply a bus. The bus costs the company ₹10 lakh. It has been insured at 3% per annum. The annual road tax amounts to ₹20,000. Garage rent is ₹4,000 per month. Annual repair is estimated to cost ₹ 23,600 and the bus is likely to last for five years.

The salary of the Driver and the Conductor is ₹6,000 and ₹2,000 per month respectively in addition to 10% of the takings as commission to be shared equally by them. The Manager Salary is ₹14,000 per month and stationery will cost ₹ 1,000 per month. Petrol and Oil will cost ₹500 per 1000 kilometres. The bus will make three round trips per day carrying on average 40 passengers in each trip.

Assuming 15% profit on takings and that the bus will ply on an average 25 days in a month.

Required:

Prepare Operating Cost statement on a full year basis and also calculate the bus fare to be charged from each passenger per kilometre. **[9]**

4. (a) Roshan Ltd., produces three products P, Q and R and for each of them uses three different machines X, Y and Z. Capacity of the machines are limited to 7000 hours for X, 8600 hours for Y and 5400 hours for Z per month. Relevant data for November 2016 are stated below:

Products	P	Q	R
Selling price per unit (₹)	10,000	8,000	6,000
Variable cost per unit (₹)	7,000	5,600	4,000
Machine hours required per unit			
X	20	12	4
Y	20	18	6
Z	20	6	2
Expected Demand (units)	200	200	200

Machine Z is identified as the bottleneck. Calculate the optimum product mix based on the throughput concept and ascertain the total profits if fixed cost amounts to ₹ 7,80,000. **[11]**

(b) How do you treat the fallowing items in Cost Accounting? **[3+3]**

(i) Rectification Cost

(ii) Obsolescence:

5. (a) Gemini chemicals Ltd. Provides the following information from its records:

Material	Quantity (kgs)	Rate/kg (₹)
A	8	6
B	4	4
	12	

During April 2016, 1,000 kgs of GEMCO were produced. The actual consumption of material was as under:

Material	Quantity (kgs)	Rate/kg (₹)
A	760	7
B	500	5
	1,260	

Calculate:

(i) Material cost variance

(ii) Material Price variance
(iii) Material Usage variance **[4+4+4]**

(b) From the following data, prepare a Production Budget for ABC Co. Ltd., for the six months period ending on 30th June, 2016.

Stocks for the budgeted period:

(in units)

Product	As on 01 January, 2016	As on 30 June, 2016
A	6,000	10,000
B	9,000	8,000
C	12,000	17,500

Other relevant data:

Product	Normal loss in production	Requirement to fulfill sales programme (units)
A	4%	60,000
B	2%	50,000
C	5%	80,000

[5]

6. **(a)** What is the procedure for appointment of cost auditor under the Companies Act, 2013? **[8]**

(b) What are the Social objects of Cost Audit? **[6]**

(c) What is the meaning of "Turnover" in relation to the companies (Cost records and Audit) Rules, 2014? **[3]**

Section C

(Economics for managerial decision making)
Answer any two from the following
Each question carries 12 marks

7. **(a)** State the exception of Law of Demand. **[5]**

(b) What are the factors involved in Demand Forecasting? **[7]**

8. **(a)** What are the Pricing policies of a firm for introduction stage of a new product? **[8]**

(b) The total Profit y in rupees of MEDICOS PHARM LTD., a drug company from the manufacture under sale of x drug bottles in given by $y = -\frac{x^2}{400} + 2x - 80$.

Required:

(i) How many drug bottles must the company sell to achieve the maximum profit?

(ii) What is the Profit per drug bottle when this maximum is achieved? **[3+1=4]**

9. **(a)** The demand and supply function under perfect competition are

$y = 16 - x^2$ and $y = 2(x^2 + 2)$ respectively.

Find:

(i) The Market Price;

(ii) Producer's Surplus. **[3+3]**

(b) If the Primal of a LPP is:

Max. $Z = 3x_1 + 5x_2 + 4x_3$

Subject to

$2x_1 + 3x_2 \leq 8$

$3x_1 + 2x_2 + 2x_3 \leq 10$

$5x_2 + 4x_3 \leq 15$,

And x_1, x_2 and $x_3 \geq 0$, What would be its dual? **[4]**

(c) Given Cost Function $C = 3/5x + 15/4$, find

(i) Cost, when the output is 5 units.

(ii) Average Cost of 10 units. **[1+1]**