Paper- 15: MANAGEMENT ACCOUNTING – ENTERPRISE PERFORMANCE MANAGEMENT

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

The figures in the margin on the right side indicate full marks.
Attempt Question No. 1 (carrying 25 marks), which is compulsory and any five more questions (each carrying 15 marks) from the rest.

Please: (i) Answer all part of a question at one place only.
(ii) Open a new page for answer to a new question.
Working Notes should form part of the answer.
Whenever necessary, suitable assumptions should be made and indicated in answer by the candidates.

1 (a). State whether the following statements given below are 'True' or 'False'. If True, simply rewrite the given statement (1 mark). If False, state it as False (½ mark) and rewrite the correct statement (½ mark): [1x5]

(i) Shared belief does not ensure greater commitment of the employee to the organization.
(ii) Break Even Chart is dynamic.
(iii) Quality Circle is a group of employees who formally meet together.
(iv) Variable Cost is also known as Indirect Cost.
(v) Balanced Score card is a new approach to Strategic Management and was developed by Joseph Maciariello and Calvin Kirby.

(b) Match Column I with Column II: [½x10=5]

Column I		Column II	
(i)	A Chase Strategy	A.	is price led
(ii)	Value Analysis	B.	most significant development in Business Management
(iii)	Life Cycle Costing	C.	Critical part in HR Plg. process
(iv)	Supply Chain's emergence	D.	Process of analyzing empirical data
(v)	Decision Tree	E.	Vogel's Approximation Method
(vi)	Succession Planning	F.	Technique of last resort
(vii)	Transportation Model	G.	implies matching demand and capacity period by period
(viii)	Target Costing	H.	Rolling-Back Technique
(ix)	Simulation Model	I.	assists mgmt. in decision-making
(x)	Data Mining	J.	Cost Reduction

(c) Expand the following abbreviation: **[1×5]**

(i) FAST
(ii) FMECA
(iii) CER
(iv) EMS
(v) CPOF

(d) Define the following terms: **[1×5]**

(i) Generic Benchmarking
(ii) Six Sigma
(iii) Sensitivity Analysis
(iv) Seiso
(v) Cybernetics

(e) Fill in the blanks with the most appropriate words out of the options indicated in the bracket against each statement: **[1×5]**

(i) Management Control System (MCS) is a set of _____ (inter/intra) related communication.
(ii) The idea behind Lean/JIT is a concept called_____ (idle/ideal) production.
(iii) The Master Production Schedule is divided into units of time called _____ (Drums/Buckets).
(iv) A Customer FAST diagram is usually applied to _____ (average/total) product.
(v) Business Process Perspective refers to_____(internal/external) business processes.

2. (a) A factory engaged in manufacturing plastic buckets is working at 40% capacity and produces 10,000 buckets per month. The present cost break-up for one bucket is as under :

Materials	₹20
Labour	₹6
Overheads	₹10 (60% fixed)

The selling price is ₹ 40 per bucket. If it is decided to work the factory at 50% capacity, the selling price falls by 3%. At 90% capacity, the selling price falls by 5% accompanied by a similar fall in the price of materials.

You are required to prepare a statement showing the profits at 50% and 90% capacities and also determine the break-even points at each of these production levels. **[5]**

(b) A book store wishes to carry 'Ramayana' in stock. Demand is probabilistic and replenishment of stock takes 2 days (i.e. if an order is placed on March 1, it will be delivered at the end of the day on March 3). **[10]**

The probabilities of demand are given below

Demand (daily)	0	1	2	3	4
Probability	0.05	0.10	0.30	0.45	0.10

Each time an order is placed, the store incurs an ordering cost of ₹ 10 per order. The store also incurs a carrying cost of ₹ 0.50 per book per day. The inventory carrying cost in calculated on the basis of stock at the end of each day.

The manager of the bookstore wishes to compare two options for his inventory decision.

Order 5 books when the inventory at the beginning of the day plus order outstanding is less than 8 books.

Order 8 books when the inventory at the beginning of the day plus order outstanding is less than 8.

Currently (beginning 1st day) the store has a stock of 8 books plus 6 books ordered two days ago and expected to arrive next day.

Using Monte-Carlo Simulation for 10 cycles, recommend, which option the manager, should choose.

The two digits random numbers are given below:

89 34 70 63 61 81 39 16 13 73

3. The marketing Director of a company engaged in the manufacture and sale of a range of products wants to increase the market share and for that purpose proposes to spend ₹ 5,00,000 on advertisement campaign. Two alternative sales budgets have been put forward as under:

Products	**A**	**B**	**C**	**D**
Budget: (Units '000)				
A: Before advertisement	360	560	520	300
B: After advertisement	380	590	545	315
The selling price on variable cost data are as under:				
Selling price / unit (₹)	20	24	50	42
Direct materials / unit (₹)	8	11	25	21
Direct labour / unit (₹)	3	3	6	5
Variable overheads / unit (₹)	2	2	4	3

Direct labour hour rate is ₹ 5 per hour. Fixed overheads amount to ₹ 51,40,000 per annum. The production capacity is limited to 15,00,000 direct labour hours for the ensuing year. A and C however, could be bought on subcontract basis at ₹ 17 and ₹ 40 per unit respectively for sale.

Required:

Present a statement showing profitability of the proposed scheme and state whether the investment in the advertisement campaign is worthwhile. **[15]**

4. (a) Distinguish between Standard Costs and Estimated Cost. **[5]**

(b) A single product company recovers its fixed factory overheads of ₹ 80,000 on the basis of normal output of 1,60,000 units. The actual fixed overheads are same as budgeted fixed overheads. The management account presented the following statement of profit for 3 years on absorption costing basis:

Particulars	2012	2013	2014
Production (Units)	176000	192000	128000
Sales (Units)	160000	128000	160000
	₹	₹	₹
Cost of sales at standard	3,84,000	3,07,200	3,84,000
Production cost variance	1,760 A	1,920 A	1,280 A
Volume variance	8,000 F	16,000 F	16,000 A
Sales	4,80,000	3,84,000	4,80,000
S/Adm. Costs (fixed)	48,000	48,000	48,000
Closing stock	38,400	1,92,000	1,15,200
Profit	54,240	42,880	30,720

A means adverse and F means favourable.

Required:

(i) Redraft the statement on marginal costing basis to show the closing stocks, contribution and profit.

(ii) Prepare a statement reconciling the profits arrived at by you with the profits given above. **[8+2]**

5. (a) A machine used on a production line must be replaced at least every four years. The costs incurred in running the machine according to its age are:

(₹)

Particulars	Age of machine (years)				
	0	1	2	3	4
Purchase price	3,000				
Maintenance		800	900	1,000	1,000
Repairs			200	400	800
Net realizable value		1,600	1,200	800	400

Further replacement will be identical machines with the same costs. Revenue is unaffected by the age of the machine. Assume there is no inflation and ignore tax. The cost of capital is 15%. Determine the optimum replacement cycle.

Present value factors at 15% for years 1, 2, 3 and 4 are 0.8696, 0.6575 and 0.5718 respectively. Present valu7e of annuity at 15% for years 1, 2, 3, and 4 are 0.8696, 1.6257, 2.2832 and 2.8550 respectively. **[10]**

(b) Explain the impact of budgetary control system on human behavior. **[5]**

6. (a) Industrial Metal Works Ltd., have received an enquiry from Calcutta Enterprises for the manufacture and supply of 200 units of a product. The offer if finalized would be a repeat order. The first 100 units at the selling price of ₹ 300 each was completed last month but IMWL did not make any profit or loss on the order. Analysis of the completed order shows the following:

(1) Tooling cost to the extent of ₹ 1,000 was charged totally to the order since the tools would not benefit the production of any subsequent order.

(2) Raw material cost per unit was ₹ 80. An increase of 10% is estimated for the new order.
(3) Finishing cost of the product was ₹ 6 per unit. The operation is highly mechanical and no learning function is applicable.
(4) The cost of inspection was ₹ 2 per unit. This is manual work to which learning function would apply.
(5) Direct labour cost was ₹ 202 per unit. Negotiations with the worker's union is almost complete and as a result of which labour costs are likely to go up by 10% by the time the order materialize.

IMWL expects profit of 10% on the cost of the proposed contract but insists on retaining for itself the benefit of learning function. On the other hand, Calcutta Enterprises is prepared to allow for all cost increase and higher profit margin of 15% on cost but wants to have the advantage of cost saving taking into account 80% learning effect.
You are required to determine the manufacturer's price and determine the buyer's price. **[4+4]**

(b) Ever Forward Ltd., is manufacturing and selling two products: Splash and Flash at selling prices of ₹ 3 and ₹ 4 respectively. The following sales strategy has been outlined for the year 2014.
(i) Sales planned for year will be ₹ 7.20 lakhs in the case of Splash and ₹ 3.50 lakhs in the case of Flash.
(ii) To meet competition, the selling price of Splash will be reduced by 20% and that of Flash by 12½%.
(iii) Break-even is planned at 60% of the total sales of each product.
(iv) Profit for the year to be achieved is planned as ₹ 69,120 in the case of Splash and ₹ 17,500 in the case of Flash. This would be possible by launching a cost reduction programme and reducing the present annual fixed expenses of ₹ 1,35,000 allocated as ₹ 1,08,000 to Splash and ₹ 27,000 to Flash.

You are required to present the proposal in financial terms given clearly the following information:
(a) Number of units to be sold of Splash and Flash to break-even as well as the total number of units of Splash and Flash to be sold during the year.
(b) Reduction in fixed expenses product-wise that is envisaged by the Cost Reduction Programme. **[2+5]**

7. (a) A manufacturing company purchase one of the components required for the manufacture of product from two sources, viz, Supplier A and Suppler B. The price quoted by Supplier A is ₹ 15.00 per hundred numbers of the component and it is found that on the average 3% of the total receipt from this source is defective. The corresponding quotation from Supplier B is ₹ 14.50 but the defectives would go up to 5% for the total supply. If the defectives are not detected, they are utilized in production causing a damage of ₹ 15.00 per hundred components.

The company intends to introduce a system of inspection for the components on receipt which would cost ₹ 2.00 per hundred components. Such an inspection will, however, be able to detect only 90% of the defective components received. No

payment will be made for components found to be defective in inspection.

Offer your opinion, (a) whether inspection at the point of receipt is justified, and (b) which of the two suppliers should be asked to supply. Assume total requirements, of components to be 10,000 numbers. **[(3½+3½)+1]**

(b) Ravi, Richard, Rahim and Roop Singh are regional salesman distributing the product of Super Perfumes Ltd. The selling price of the product is ₹ 400 per unit. The sales quota and the standard selling expenses for the year are:

Salesman	Sales quota	Standard selling expenses
Ravi	7,50,000	2,25,000
Richard	9,00,000	2,47,500
Rahim	11,50,000	2,87,500
Roop Singh	6,00,000	2,25,000

Actual data for the year were as follows:

Particulars	Ravi	Richard	Rahim	Roop Singh
Days on field work	200	175	225	250
Kilometers covered	20,000	18,000	18,000	30,000
	₹	₹	₹	₹
Sales	8,00,000	10,00,000	10,50,000	5,20,000
Salary	80,000	80,000	80,000	80,000
Free Samples	9,000	7,500	5,375	8,000
Postage and Stationery	8,000	9,000	10,000	6,000
Other Expenses	9,000	5,000	4,000	10,000

The salesmen are allowed conveyance allowance of ₹ 1.50 per kilometer and a daily allowance of ₹ 80 per day for the days spent on field work. Ravi gets a commission of 6 per cent of sales and others are given a commission of 5 per cent on sales. Corporate sales office expenses are chargeable at the rate of ₹ 30 per unit sold in the case of Ravi and Richard and ₹ 40 per unit in the case of Rahim and Roop Singh. Prepare a schedule showing the selling cost variances by salesmen. **[7]**

8. Write Short Notes on any three out of the following: **[3x5]**

(i) Backflush accounting

(ii) Kaizen Costing

(iii) Value Chain Management

(iv) Margin of Safety