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 questions (each carrying 15 marks) from the rest.

1. (a) Expand the following abbreviations: **[1×5=5]**

- **(i)** CPOF
- **(ii)** FAST
- **(iii)** RIMS
- **(iv)** OSHAS
- **(v)** FMEA

(b) Define the following terms in not more than two or three lines: **[1×5=5]**

- **(i)** Chase Strategy
- **(ii)** Control Chart
- **(iii)** Cost Breakdown Structure
- **(iv)** Master Production Schedule (MPS)
- **(v)** Detector

(c) Choose the most appropriate one from the stated options and write it down.   **[5×2=10]**

(i) S LTD., has the capacity of production of 80,000 units and presently sells 20,000 units at ₹ 250 each. The demand is sensitive to selling price and it has been observed that with every reduction of ₹ 10 in selling price, the demand is doubled. What should be the target cost at full capacity if profit margin on sale is taken as 20%?
  - A.   ₹ 167.50
  - B.   ₹ 184.00
  - C.   ₹ 145.00
  - D.   None of the above

(ii) A LTD., has developed a new product and just completed the manufacture of first four units of the product. The first unit took 4 hours to manufacture and the first four units together took 10.24 hours to produce. The Learning Curve rate is
  - A.   83.50%
  - B.   80.00%
  - C.   75.50%
  - D.   None of (A), (B) or (C)

(iii) ANKIT LTD., operates Throughput Accounting System. The details of Product A per unit are as under:

Selling Price	₹ 188
Material Cost	₹ 75
Conversion Cost	₹ 50
Time to bottleneck resources	25 minutes

The return per hour for Product A is
A. ₹ 271.20
B. ₹ 150.20
C. ₹ 120.30
D. ₹ 90.40

(iv) A company makes and sells a single product. The selling price and marginal revenue equations are:
Selling Price = ₹ 50 – ₹ 0.001X
Marginal Revenue = ₹ 50 – ₹ 0.002X
Where X is the product the company makes. The variable costs amount to ₹ 20 per unit and the fixed costs are ₹ 1,00,000.
In order to maximize the profit, the selling price should be
A. ₹ 25
B. ₹ 30
C. ₹ 35
D. ₹ 40

(v) A company has budgeted break-even sales revenue of ₹ 12,00,000 and fixed costs of ₹ 4,80,000 for the next period. The sales revenue needed to achieve a profit of ₹ 75,000 in the period will be
A. ₹ 18,50,000
B. ₹ 13,87,000
C. ₹ 11,20,000
D. ₹ 12,00,000

(d) 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=5]

(i) Value Chain Concept and Value Added Concepts are fundamentally same.
(ii) Value Analysis Process is a less important tool than Function Analysis System Technique.
(iii) Effector is another name for Management Information System.
(iv) JIT manufacturing based on 'Push Through Philosophy', helps to provide the right parts at the right time and in right quantity.
(v) A company's approach to make or buy decision depends on whether the company is operating at or below normal volumes.

2. (a) What is Linear Decision Rule? [3]

(b) DB Ltd. operates a conventional stock control system based on re-order levels and Economic Ordering Quantities. The various control levels were set originally based on estimates which did not allow for any uncertainty and this has caused difficulties because, in practice, lead times, demands and other factors do vary.

As part of a review of the system, a typical stock item, Part No. X206, has been studied in detail as follows :

Data for Part No. X206

Lead times.	Probability
15 working days	0.2

20 working days	0.5
25 working days	0.3

Demand per working day	Probability
5,000 units	0.5
7,000 units	0.5

Note: It can be assumed that the demands would apply for the whole of the appropriate lead time.

DB Ltd. works for 240 days per year and it costs ₹ 0.15 p.a. to carry a unit of X 206 in stock. The re-order level for this part is currently 1,50,000 units and the re-order cost is ₹ 1,000.

You are required :

(i) To calculate the level of buffer stock implicit in a re-order level of 1,50,000 units.

(ii) To calculate the probability of a stock-out

(iii) To calculate the expected annual stock-outs in units;

(iv) To calculate the stock out cost per unit at which it would be worth while raising the re-order level to 1,75,000 units. **[8]**

(c) What are the limitations of Linear Programming Technique? **[4]**

3.(a) What are the characteristics and Principles of Business Re-engineering Process? **[5]**

(b) In a textile sales emporium, four saleamen A,B,C and D are available to four counters W,X,Y and Z. Each salesman can handle any counter. The service (in hour) of each counter when manned by each salesman is given below:

Counter	Salesman			
	A	B	C	D
W	41	72	39	52
X	22	29	49	65
Y	27	39	60	51
Z	45	50	48	52

How should the salesmen be allocated appropriate counters so as to minimum the service time? Each salesman must handle one counter. **[10]**

4. (a) The directors of ABC Ltd. manufactures three products A,B and C, have asked for advice on the product mix of the company. The following information is given:

Particulars	Products		
	A	B	C
Standard cost per unit:			
Direct material	20	60	40

Variable overhead		6	4	10
Direct labour:				
Department	Rate/ Hr.	Hrs.	Hrs.	Hrs.
1	₹ 1	28	16	30
2	₹ 2	5	6	10
3	₹ 1	16	8	30
Current production p.a.		10,000	5,000	6,000
Selling price per unit (₹)		100	136	180
Forecast of sales for next year		12,000	7,000	9,000

Fixed overheads p.a. ₹ 4,00,000.

Further, the type of labour required by Dept. 2 is in short supply and it is not possible to increase

the manpower of this department beyond its present level.

A. You are required to prepare a statement showing the most profitable mix of the products to be made and sold. The statement which should be presented in two parts should show :

   (i) the profit expected on current budgeted production; and

   (ii) the profit which could be expected if the most profitable mix was produced.

B. You are also required to bring out any problems which are likely to arise if the product mix in A. (ii) above were to be adopted. **[10]**

(b) What is MRP II and what are the essential elements of it? **[5]**

5. **(a)** O.B.C Ltd. is evaluating its Research and Development programme for the year 2012. The five projects under consideration all appear to offer favourable profitability if they can be carried out successfully to completion. But ₹ 10 lakhs only has been provided against R&D in the Budget for 2012.

   The following information is relevant :

Expenditure (₹ Lakhs)			Probability of success	
Project	To date	To complete	Commercially	Technically
1	15	1	0.7	0.4
2	12	3	0.8	0.5
3	11	3	0.5	0.9
4	6	7	0.4	0.5
5	4	10	0.3	0.9

   Which Projects should be completed in 2012 and why? **[5]**

(b) Following are the data collected in running a machine, the cost of which is ₹60,000 are given below:

Year	1	2	3	4	5
Resale Value	42,000	30,000	20,400	14,400	9,650
Cost of Spares	4,000	4,270	4,880	5,700	6,800
Cost of labour	14,000	16,000	18,000	21,000	25,000

Determine the optimum period for replacement of machine. **[5]**

(c) What is Bench trending and how does it differ from Bench Marking? **[5]**

6. (a) Indo Gulf Fertilizers Ltd. supports the concept of the terotechnology or life cycle costing for new investment decisions covering its engineering activities.

The company is to replace a number of its machines and the Production Manager is to run between the "X" machine, a more expensive machine with a life of 12 years, and the "W" machine with an estimated life of 6 years. If the "W" machine chosen it is likely that it would be replaced at the end of 6 years by another "W" machine. The pattern of maintenance and running costs differs between the two types of machine and relevant data are shown below :

Particulars	X	Y
Paurchase Price	₹19,000	₹13,000
Trade-in-value	₹3,000	₹3,000
Annual repair costs	₹2,000	₹2,600
Overhead costs (in 8th & 4th year respectively)	₹4,000	₹2,000
Estimated financing costs averaged over machine life (p.a)	10%	10%

You are required to recommend, with supporting figures, which machine to purchase, stating any assumptions made. **[6]**

(b) Write a note on Target Costing. **[5]**

(c) What are the objectives of JIT production methods? **[4]**

7. (a) What is meant by the term Value Analysis? **[3]**

(b) A Mutual Fund has cash resources of ₹200 million for investment in a diversified portfolio. Table below shows the opportunities available, their estimated annual yields, risk factor and term period details.

Formulate a Linear Program Model to find the optimal portfolio that will maximize return, considering the following policy guidelines :

• All the funds available may be invested.

• Weighted average period of at least five years as planning horizon.

• Weighted average risk factor not to exceed 0.20

• Investment in real estate and speculative stocks to be not more than 25% of the monies invested in total.

Investment type	Annual yield (percentage)	Risk factor	Term period (years)
Bank deposit	9.5	0.02	6
Treasury notes	8.5	0.01	4
Corporate deposit	12.0	0.08	3
Blue-chip stock	15.0	0.25	5
Speculative stocks	32.5	0.45	3
Real estate	35.0	0.40	10

[5]

(c) P Ltd. has two divisions, S and T, S transfer all its output to T, which finishes to work. Cost and revenues at various levels of capacity are as follows :

Output (Units)	S. costs (Units)	T Net revenues (i.e., revenue minus costs incurred in T) (₹)	Profit (₹)
600	600	2,950	2,350
700	700	3,250	2,550
800	840	3,530	2,690
900	1,000	3,780	2,780
1,000	1,200	4,000	2,800
1,100	1,450	4,200	2,750
1,200	1,800	4,350	2,550

Company profits are maximised at ₹ 2,800 with output of 1,000 units. If P Ltd. wish to select a transfer price in order to establish S and T as profit centres, what transfer price would motivate the managers of S and T together to produce 1,000 units, no more and no less?

P Ltd. wants that the transfer price should be set at ₹ 2.10 per unit. Comment on this proposal.

[7]

8. **Write a short on any three of the following:** **[5×3=15]**
   (a) Demand Stimulation
   (b) Succession Planning
   (c) Query Tools
   (d) Mainframes