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) Fill in the blanks with the most appropriate words: [5×1=5]

   (i)   FAST or Function Analysis System Technique is an evolution of the _____ process.
   (ii) Kaizen is a Japanese term comprising KAI = _____ and ZEN = _____.
   (iii) Real-time communication is a possible function that can be enabled through the use of _____ tools.
   (iv) _____ _____ is the demonstrated systematic tendency to be over-optimistic about key project.
   (v)   Enterprise Risk Management deals with _____ and _____ affecting value creation.

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

   (i)   ABC Ltd., is preparing its Sales Budget for the coming 3 months. The Sales Department has given an estimate that Sales will be 2,40,000 units, if the monsoon is good and 1,60,000 units if the monsoon is poor. The probability that the monsoon will be poor is 0.4. The expected Sales Volume for next quarter would be:
   A. 1,44,000 units
   B. 64,000 units
   C. 2,08,000 units
   D. None of these.

   (ii) The Selling price of the single product manufactured by a company is fixed at ₹ 3,000 per unit. In the coming year, 500 units of the product are likely to be sold. If the total value of investments of the company is ₹ 30 lakhs and it has a target ROI of 15%, the target cost would be :
   A. ₹ 1,860
   B. ₹ 1,900
   C. ₹ 2,100
   D. None of these.

   (iii) A company using a detailed system of standard costing finds that the cost of investigation of variances is ₹60,000 and if after investigation, it is found that the situation is out of control, the cost of correction is ₹1,00,000. If no investigation is made, the present value of extra cost involved is ₹4,00,000. The probability of process, being out of control, is 20%. The cost of investigation would be :
   A. ₹ 80,000
   B. ₹ 20,000
   C. ₹ 12,000
   D. None of these.

   (iv) Snow Ball Ltd., operates Throughput Accounting System. The details of Product A per unit are as under:

Selling Price ₹ 75
Material Cost ₹ 30
Conversion Cost ₹ 20
Time to bottleneck resources 10 minutes
The return per hour for Product A is
A. ₹ 270
B. ₹ 150
C. ₹ 120
D. ₹ 90

(v) Sales Volume   20,000 units
Selling Price per unit   ₹5.00
Marginal Cost per unit   ₹3.00
Fixed Cost   ₹10,000 per annum
Compute the Margin of Safety.
A.₹25,000
B.₹10,000
C.₹75,000
D.₹30,000

(c) Define the following terms in not more than two or three sentences: [5×1=5]
  (i)   Functional Structure
  (ii)   Bill-of-Materials (BOM)
  (iii) Master Production Schedule (MPS)
  (iv)   Linear Programming
  (v)   Succession Planning

(d) State with reason whether the following statement are "True" or "False".   [5×1=5]

  (i)   In VAT Analysis, a T-logical structure (many-to-many flow) starts with one or a few raw materials, and the product expands into a number of different products as it flows through its routings.
  (ii)   Rope is the constraint and therefore sets the pace for the entire system. In simpler terms, the rope is the rate or pace of production set by the system's constraints.
  (iii) A Chase Strategy implies matching demand and capacity period by period. This could result in a considerable amount of hiring, firing or laying off of employees; insecure and unhappy employees; increased inventory carrying cost; problems with labour unions and erratic utilization of plant and equipment.
  (iv)   Bench marking is a process of continuously comparing an organization's business process against the business leader anywhere in the world to gain information that will help the organization to take action to improve performance.
  (v)   Data Mining is the process of analyzing empirical data. It also enables the extrapolation of information. Such extrapolated results are then used in forecasting and defining trends.

2. (a) Explain Quality Planning, Quality Control & Quality Improvement.   [5]

(b) Green Leaf Ltd., has adopted a Standard Costing System. The Standard output for a period is 20,000 units. The Standard Cost and Profit per unit is given below:

	₹

Direct Materials (6 units @ ₹1.50)	9.00
Direct Labour (6 hrs. @ ₹1.00)	6.00
Direct Expenses	1.00
Factory Overheads:	
Variable Overheads	0.50
Fixed Overheads	0.60
Administrative Overheads	0.60
	17.70
Profit per unit	2.30
Selling Price (Fixed by Government)	20.00

Actual production and sales for a period was 14,400 units.

The following are the variance worked out at the end of the period:

	Favourable (₹)	Adverse (₹)
Direct Materials:		
Price Variance	–	8,500
Usage Variance	2,100	–
Direct labour:		
Rate Variance	–	8,000
Efficiency Variance	6,400	–
Factory Overheads:		
Variable Expenditure Variance	800	–
Fixed Expenditure Variance	800	–
Fixed Volume Variance	–	3,360
Administrative Overheads:		
Expenditure Variance	–	800
Volume Variance	–	3,360

You are required to :
(i) Ascertain the details of cost and prepare the Profit and Loss Account in the statement for
the period, showing actual profit. [4+3]
(ii) Reconcile the actual profit with the standard profit. [3]

3. (a) What is 'Quality'? What is its relevance to Cot Management? [6]

(b) A small-scale manufacturing unit has employed skilled persons for doing pressing and welding operations on various products. The welders produce two products, M^1 and M^2. The press operators also produce two products, N^1 and N^2. Due to specific skill requirements, the press operators can't do welding job and vice-versa. The labour hours and cost data in respect of the above 4 products are as under.

	M^1	M^2	N^1	N^2
Hours per unit	4	4	5	2
Price per unit (₹)	100	100	160	130

Direct Material per unit (₹)	36	44	70	90
Direct Labour Rate per hour	₹8	₹8	₹8	₹8
Variable Overheads per unit	₹4	₹4	₹6	₹6

The unit incurs ₹1,00,000 per annum on fixed costs for producing the above products. The available labour hours for welding are 20,000 and for pressing 16,000.

The unit has also observed that the market can absorb minimum 2,000 units of M^1 2,500 units of M^2, 1,800 units of N^1 and 2,200 units of N^2. The demand keeps on fluctuating. The manager of the shop has, therefore suggested that the workers should be trained to do either of welding or pressing job so that any excess demand can be fulfilled. It is estimated that this decision will increase the burden of fixed costs by ₹10,000 p.a.

Which option should the company go for? [9]

4. **(a)** Discuss the principal four steps of Target Costing. [5]

   (b) A Company manufactures around 200 mopeds. Depending upon the availability of raw materials and other conditions, the daily production has been varying from 196 mopeds to 204 mopeds, whose probability distribution is as given below:

Production/Day	196	197	198	199	200	201	202	203	204
Probability	0.05	0.09	0.12	0.14	0.20	0.15	0.11	0.08	0.06

The finished mopeds are transported in a specially designed three storied lorry that can accommodate only 200 mopeds. Using the following 15 random numbers 82,89,78,24, 53,61,18,45,04,23,50,77,27,54,10 simulate the process to find out:

   (i) What will be the average number of mopeds waiting in factory?
   (ii) What will be the average number of empty space on the lorry? [10]

5. **(a)** State what is Cause – Effect Diagram and when should it be used? [5]

   (b) The average number of defectives in 22 sampled lots of 2,000 rubber belts each was found to be 16%. Compute the Value of Upper Control Limit, Lower Control Limit and the Value of Central Line for p-chart. [2+2+1]

   (c) Write a note on Supply Chain Metrics. [5]

6. **(a)** What is product Life Cycle Costing? State its characteristics and benefits. [1+2+2]

   (b) Operating cost and resale price of equipment A^1 whose purchase price is ₹10,000 are given here:

Year	1	2	3	4	5	6	7
Operating Cost (₹)	1,500	1,900	2,300	2,900	3,600	4,500	5,500
Resale Value (₹)	5,000	2,500	1,250	600	400	400	400

What is the optimum period for replacement? [3]

(c) A pharmaceutical Company has 100 kg. of A, 180 kg. of B and 120 kg of C available per month. They can use these materials to make three basic pharmaceutical products namely 5-10-5,5-5-10 and 20-5-10, where the numbers in each case represent the percentage by weight of A, B and C respectively in each of products. The cost of these raw materials are given below:

Ingredient	Cost per Kg (₹)
A	80
B	20
C	50
Inter Ingredients	20

Selling prices of these products are ₹50.5, ₹53.00 and ₹55.00 per kg. respectively. There is a capacity restriction of the company for the product 5-10-5; so as they cannot produce more than 30 kg per month. Determine how much of each of the products they should produce in order to maximize their monthly profit. [7]

7. **(a)** How is the business activities classified for value chain analysis purpose? [5]

(b) ABC Ltd. have two alternative projects (A & B) under consideration, the company can select the project and loose the other, as all the projects have to be done now. The information on the projects is given below:

Project A – Capital investment of ₹60,000 is required. If the project is completed in time then revenues of ₹1,00,000 will be received. If not completed on time, a penalty of ₹5,000 per day of delay will be deducted from ₹1,00,000 with a maximum penalty of ₹15,000. The probabilities of delay are:

0 days delay	0.75
1 day delay	0.10
2 day delay	0.10
3 or more day delay	0.0.5

Project B - ₹75,000 are required as initial investment. After the first phase is completed, the company will get ₹75,000. If completed in 2 days , ABC Co. , have the option of getting a follow up project that will require expenditure of ₹20,000 and revenues of ₹50,000 with 70% chances and ₹75,000 with 30% chances. If more than 2 days are required for the first, the option for follow up project will not be there. ABC Co. feel that they have equal chances of completing the first phase in 2 days. Construct the decision tree , analyse and give the conclusion. [4+6]

8. Write short notes on any three: [5×3=15]
   (a) Relationship between objects in a System
   (b) Theory of Constraints
   (c) Crowned Prince Syndrome
   (d) Management Control System