



**Paper 15- Strategic Cost Management- Decision Making**

## Paper-15: Strategic Cost Management- Decision Making

Time allowed:3 hours

Full Marks: 100

The figures in the margin on the right side indicate full

Answer Question No. 1 in Section A, which is compulsory, carrying 20 marks.Further, answer any 5(five) Questions from Section B, each carrying 16 marks

### Section A (20 marks)

1. Choose the most appropriate answer to the following questions giving justification.  $10 \times 2 = 20$

- (i) Stock Control data for Material P are: Annual usage: 3600 units; Cost per unit: ₹100/-; Cost of placing an order: ₹40;Stockholding Cost: 20% of the overall stock volume; Lead time: One month .The EOQ based on the above data is:
- (a) 210 units
  - (b) 175 units
  - (c) 90 units
  - (d) 120 units
- (ii) A company produces a product which is sold at a price of ₹ 160. Its Variable cost is ₹64. The company's Fixed cost is ₹23,04,000 p.a. The company operates at a margin of safety of 40%. The total sales of the company is:
- (a) 210 units
  - (b) 175 units
  - (c) 90 units
  - (d) 120 units
- (iii) For a Learning Curve percentage of 80%, the time to be taken to complete the 4th unit of a 12-unit job involved in the assembly line, if the initial unit requires 80 hours, will be
- (a) 51.52 hrs
  - (b) 41.47 hrs
  - (c) 46.71 hrs
  - (d) 40.95 hrs
- (iv) The P/V ratio of a firm dealing in Electrical equipment is 50% and the margin of safety is 40%. BEP of the firm at a sales volume of ₹ 50,00,000 will be
- (a) ₹ 25,00,000
  - (b) ₹35,00,000
  - (c) ₹30,00,000
  - (d) ₹ 36,00,000

(v) The following information relate to ABC

Activity level	60%	80%
Variable costs (₹)	24,000	32,000
Fixed costs (₹)	40,000	44,000

The differential cost for 20% capacity is

- (a) ₹8,000
- (b) ₹4,000
- (c) ₹12,000
- (d) ₹10,000

(vi) Empire Hotel has a capacity of 100 single rooms and 20 double rooms. Average occupancy is 70% for 365 days of the year. The rent for a double room is kept at 150% of a single room. The total room occupancy days in a year in terms of single room is

- (a) 32193
- (b) 30660
- (c) 31660
- (d) 33215

(vii) By making and selling 9,000 units of a product, a company makes a profit of ₹10,000, whereas in the case of 7,000 units, it would lose ₹10,000 instead. The number of units to break-even is

- (a) 7,500 units
- (b) 8,000 units
- (c) 7,750 units
- (d) 8,200 units

(viii) If project A has a net present value (NPV) of ₹60,00,000 and project B has an NPV of ₹1,00,00,000, what is the opportunity cost if project B is selected?

- (a) ₹40,00,000
- (b) ₹60,00,000
- (c) ₹1,00,00,000
- (d) ₹1,60,00,000

(ix) AB company is a supermarket group that incurs the following costs :

- (A) The bought-in price of the goods
- (B) Inventory finance costs
- (C) Self refilling costs
- (D) Costs of repacking or 'pack out' prior to storage before sale

AB company's calculating of direct product profit (DPP) would include

- (a) Costs (A) and (C) only.
- (b) All of the above cost except (B)
- (c) All of the above costs except (d)
- (d) All of the above costs

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- (x) In the context of Critical Path Analysis, the portion of the float of an activity which cannot be consumed without affecting adversely the float of the subsequent activities is called
- Free float
  - Interfering float
  - Independent float
  - Total float

## Section-B

Answer any five questions.  
Each Question carries 16 marks

16 X5=80

**2(a)** A factory has a key resource (bottleneck) of Facility A which is available for 31,300 minutes per week. Budgeted factory costs and data on two products, X and Y, are shown below

Product	Selling Price/Unit (₹)	Material Cost/Unit (₹)	Time Facility A
X	35	20.00	5 minutes
Y	35	17.50	10 minutes

Budgeted factory costs per week:

₹

Direct labour	25,000
Indirect labour	12,500
Power	1,750
Depreciation	22,500
Space costs	8,000
Engineering	3,500
Administration	5,000

Actual production during the last week is 4,750 units of product X and 650 units of product Y.  
Actual factory cost was ₹78,250.

Calculate:

- Total factory costs (TFC)
- Cost per Factory Minute
- Return per Factory Minute for both products
- TA ratios for both products.
- Throughput cost per the week.
- Efficiency ratio

**10**

**(b)** A practicing Cost and Management Accountant now spends ₹0.90 per K.m on taxi fares for his client's work. He is considering two other alternatives the purchase of a new small car or an old bigger car.

Item	New Small Car (₹)	Old Bigger Car(₹)
Purchase Price	35,000	20,000
Sale price after 5 years	19,000	12,000
Repairs and Servicing p.a	1,000	1,200
Taxes and insurance p.a	1,700	700
Petrol consumption per liter (k.m)	10	7
Petrol price per liter	3.5	3.5

He estimates that he does 10,000 Km annually. Which of the three alternatives will be cheaper? If his practice expands he has to do 19,000 Km p.a. where will the cost of the two cars break even and why? Ignore interest and Income-tax. 6

**3(a)** Accelerate Co. Ltd., manufactures and sells four types of products under the brand names of A, B, C and D. The sales mix in value comprises 33 1/3%, 41 2/3%, 16 2/3% and 8 1/3% of products A, B, C and D, respectively. The total budgeted sales (100%) are ₹ 1,20,000 p.m. Operating Costs are—Variable costs: Product A 60% of selling price, Product B 68% of selling price, Product C 80% of selling price, Product D 40% of selling price; Fixed costs: ₹ 29,400 p.m. Required:  
Calculate the break-even-point for the products on overall basis. 8

**(b)** The profit for The Forward Look Ltd. works out to 12.5% of the capital employed and the relevant figures are as under : ₹

Sales	5,00,000
Direct Material	2,50,000
Direct Labour	1,00,000
Variable Overheads	40,000
Capital Employed	4,00,000

The new Sales Manager who has recently joined the Company estimates for the next year a profit of about 23% on the capital employed provided the volume of Sales is increased by 10% and simultaneously there is an increase in Selling Price of 4% and an overall cost reduction in all the elements of cost by 2%.

Verify the contention of the Sales Manager by computing in detail the cost and profit for the next year and state whether his proposal can be adopted by the management. 8

**4(a)** A brass foundry making castings which are transferred to the machine shop of the company at standards in regard to material stocks which are kept at standard price are as follows:-

Standard Mixture 70% Copper : 30% Zinc

Standard Price Copper ₹2,400 per ton

Zinc ₹ 650 per ton

Standard loss in melting 5% of input

Figures in respect of a costing period are as follows:

Commencing stocks	Copper	100 tons	
	Zinc	60 tons	
	Copper	110 tons	
	Zinc	50 tons	
	Copper	300 tons	
	Zinc	100 tons	
Metal Melted	400 tons		
Casting produced	3758 tons		

Present figures showing : Material Price, Mixture and Yield Variance. 8

**(b)** Requisites for Installation of a Uniform Costing System. 8

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**5(a)** XYZ Ltd which has a system of assessment of Divisional Performance on the basis of residual income has two Divisions, Alfa and Beta. Alfa has annual capacity to manufacture 15,00,000 numbers of a special component that it sells to outside customers, but has idle capacity. The budgeted residual income of Beta is ₹ 1,20,00,000 while that of Alfa is ₹ 1,00,00,000. Other relevant details extracted from the budget of Alfa for the current year were as follows

Particulars	
Sale (Outside Customer)	12,00,000 @ ₹ 180
Variable cost p.u	160
Divisional fixed cost	₹ 80,00,000
Capital employed	90,00,000
Cost of Capital	10%

Beta has just received a special order for which it requires components similar to the ones made by Alfa. Fully aware of the idle capacity of Alfa, beta has asked Alfa to quote for manufacture and supply of 3,00,000 numbers of the components with a slight modification during final processing. Alfa and Beta agree that this will involve an extra variable cost of ₹ 6 per unit.

You are required to calculate

Calculate the transfer price which Alfa should quote to Beta to achieve its budgeted residual income.

8

**(b)** PB Ltd. has decided to adopt JIT policy for materials. The following effects of JIT policy are identified-

(1) To implement JIT, the company has to modify its production and material receipt facilities at a capital cost of ₹ 10,00,000. The new machine will require a cash operating cost ₹ 1,08,000 p.a. The capital cost will be depreciated over 5 years.

(2) Raw material stockholding will be reduced from ₹ 40,00,000 to ₹ 10,00,000.

(3) The company can earn 15% on its long-term investments.

(4) The company can avoid rental expenditure on storage facilities amounting to ₹ 33,000 per annum. Property Taxes and insurance amounting to ₹ 22,000 will be saved due to JIT programme.

(5) Presently there are 7 workers in the store department at a salary of ₹ 5,000 each per month. After implementing JIT scheme, only 5 workers will be required in this department. Balance 2 workers' employment will be terminated.

(6) Due to receipt of smaller lots of Raw Materials, there will be some disruption of production. The costs of stock-outs are estimated at ₹ 77,000 per annum.

Determine the financial impact of the JIT policy. Is it advisable for the company to implement JIT system?

8

**6(a)** The following was the pattern for demand of cars rented out by a tourist operator observed for 100 days :

No of Cars	5	7	10	15
No of Days	20	30	40	10

The random numbers are 88, 76, 10, 05, 23 Required :

(i) Simulate the demand for cars over five days.

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(ii) How many cars should the operator have in order to have at least 75% probability of fulfilling the demand based on your simulated results ?

5+3=8

(b) A company has four zones open and four salesmen available for assignment. The zones are not equally rich in their sales potentials. It is estimated that a typical salesman operating in each zone would bring in the following annual sales:

Zone: A: 1,26,000; Zone B: 1,05,000; Zone C: 84,000; Zone D: 63,000.

The four salesmen are also considered to differ in ability. It is estimated that working under the same condition their yearly sales would be proportionately as follows:

Salesman P: 7; Salesman Q: 5; Salesman R: 5; Salesman S: 4. If the criterion is maximum expected total sales, the intuitive answer is to assign the best salesman to the richest zone, the next best to the second richest zone and so on. Verify this by the method of assignment. **8**

**7(a)** Given the following information regarding a project and the time duration of each activity :

Activity	Preceding activity	Normal Time (days)
A	-	16
B	-	20
C	A	8
D	A	10
E	B,C	6
F	D,E	12

Required :

- Draw the activity network of the project.
- Find critical path and duration of the project.
- Find the total float and free-float for each activity.

2+2+4 = 8

(b) A Company produces the products P, Q and R from three raw materials A, B and C. One unit of product P requires 2 units of A and 3 units of B. A unit of product Q requires 2 units of B and 5 units of C and one unit of product R requires 3 units of A, 2 unit of B and 4 units of C. The Company has 8 units of material A, 10 units of B and 15 units of C available to it. Profits/unit of products P, Q and R are ₹3, ₹5 and ₹4 respectively.

- Formulate the problem mathematically,
- Write the Dual problem.

**8.** Write short notes on any four of the following:

4x4= 16

- Back flush Accounting
- Life Cycle Costing
- Assignment
- Features of Target Costing
- Principles of Total Quality Management (TQM)