Paper – 15: Strategic Cost Management – Decision Making

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

Question No.1 which is compulsory and carries 20 Marks and answer any 5 Question from Q. No 2 to Q No 8

1. Answer all: **[4×5= 20]**

(a) A company produces five products K, L, M, N, O by performing the three activities, details given below:

Activity	Cost Driver	Cost s	Overhead rates per cost driver
Setting ups	40 setups	₹4,000	₹100
Assembly	10,000 hours	₹1,00,000	₹10
Inspection	20 inspection	₹10,000	₹500

100 units of product K were produced requiring 5 set ups, 1000 assembly hours and 2 inspections. Find Overhead Cost per unit.

(b) AB Ltd is planning to manufacture product K. Following information provides

	Per Unit (₹)
Material (3 kg @₹200)	6.00
Labour	5.00
Variable O/H	4.00
Allocated Fixed O/H	2.00

Material is currently used to make product L whose contribution is ₹5 per unit of L. 2kgms of material is required for each unit of L.
What is the minimum price to be charged per unit of K if material is scarce.

(c) If traditional measures fail, specific performance measures can be used it JIT – comment.

(d) What are the steps in network analysis?

2. (a) A2Z p.l.c supports the concept of tero technology or life cycle costing for new investment decisions converting its engineering activities. The financial side of this philosophy is now well established and its principles extended to all other areas of decision making. The company is to replace a number of its machines and the Production Manager is torn between the Exe Machine, a more expensive machine with a life of 12 years, and the Wye machine with an estimated life of 6 years. If the wye machine is chosen it is likely that it would be replaced at the end of 6 years by another wye machine. The pattern of maintenance and running costs differ between the two types of machine and relevant data are shown below:

		Exe		Wye
Purchase price		₹19,000		₹13,000
Trade-in value/breakup/scrap		₹3,000		₹3,000
Annual repair costs		₹2,000		₹2,600
Overhaul costs	(at year 8)	₹4,000	(at year 4)	₹2,000

Estimated financing costs averaged over machine life
10% p.a. - Exe; 10% p.a. – Wye
You are required to: recommend with supporting figures, which machine to purchase, stating any assumptions made. **[10]**

(b) T Ltd. has two processes Preparing and Finishing. The normal output per week is 7,500 units (completed) at a capacity of 75%

T Ltd. had production problems in preparing and required 2,000 units per week of prepared material for their finishing processes.
The existing cost structure of one prepared unit of T Ltd. at existing capacity

Material	₹2.00 (variable 100%)
Labour	₹2.00 (variable 50%)
Overhead	₹4.00 (variable 25%)

The sale price of a completed unit of T Ltd. is ₹16 with a profit of ₹4 per unit.
Construct the effect on the profits of T Ltd., for six months (25 weeks) of supplying units to T Ltd. with the following alternative transfer prices per unit:

(i) Marginal Cost
(ii) Marginal Cost + 25%
(iii) Marginal Cost +15% Return on capital (assume capital employed ₹20 lakhs)
(iv) Existing Cost
(v) Existing Cost +a portion profit on the basis of (preparing cost / Total cost) x Unit Profit
(vi) At an agreed market price of ₹8.50 Assume on increase in fixed cost.

[6]

3. **(a)** Calculate variances from the following:

STANDARD				ACTUAL		
INPUT	MATERIAL	₹/KG	TOTAL	INPUT	₹/KG	TOTAL
400	A	@50	20,000	420	@45	18,900
200	B	@20	4,000	240	@25	6,000
100	C	@15	1,500	90	@15	1,350
700			25,500	750		26,250

	LABOUR HOURS				LABOUR HOURS		
	100 @₹2 per hour	200			120 Hrs. @₹2.50	300	
	200 Women @ ₹1.50	300	500		240 women @ ₹1.60	384	684
25	Normal Loss			75	Actual Loss		
675			26,500	675			26,034

[10]

(b) Difference between Standard Costing and Budgetary Control. **[6]**

4. **(a)**The budgeted output of a single product manufacturing company for 2015-16 was 5,000 units. The financial results in respect of the actual output of 4,800 unit achieved during the year were as under:

	₹
Direct Material	29,700
Direct Wages	44,700
Variable Overheads	72,750
Fixed Overheads	39,000
Profit	36,600
Sales	2,22,750

The standard direct wage rate is ₹4.50 per hour and the standard variable overhead rate is ₹7.50 per hour.
The cost accounts recorded the following variances for the year.

Variances	Favourable	Adverse
	₹	₹
Material Price	-	300
Material Usage	-	600
Wage Rate	750	-
Labour Efficiency	-	2,250
Variable Overhead Expense	3,000	-
Variable Overhead Efficiency	-	3,750

Fixed Overhead Efficiency	-	1,500
Selling Price	6,750	-

Required:
(i) Prepare a statement showing the original budget.
(ii) Prepare the standard product cost sheet per unit.
(iii) Prepare a statement showing the reconciliation of originally budgeted profit and the actual profit. **[12]**

(b) Write a short note on significance of Activity Based Costing. **[4]**

5. (a) Subas Ltd. is engaged in the production of floral concentrates which have uses in a wide variety of fields from cosmetics to toiletries. At the moment the concentrates are produced and sold to perfume manufactures, who in turn supply the producers of the ultimate products. The directors of Subas are concerned about the higher profitability at the product end of the trade compared with the production of the concentrates, and ask you to explore the possibilities of vertical expansion.
(i) What is Vertical Expansion? Explain with example.
(ii) In the given case what are the issues to be examined before deciding on vertical expansion? **[8]**

(b) Amit Ltd. provides the following details on its new product.
Years 1 and 2; R & D Costs: ₹2,40,000, Design costs ₹1,60,000
Years 3 to 6: Other Functional Costs:

Function	One-Time Costs	Costs per unit
Production	₹1,00,000	₹25
Marketing	₹70,000	₹24
Distribution	₹50,000	₹16
Customer Service	₹80,000	₹30

The sale quantities during the Product Life Cycle at various Selling Prices are

Selling Prices per unit (₹)	400	480	600
Sale Quantity	5,000	4,000	2,500

Ignoring time value of money, compute the Net Incomes generated over the Product Life Cycle at various prices. Which price should the company select? **[8]**

6. (a) A manufacturing concern has a multi-purpose plant capable of operating at full capacity at 5,000 machine hours per month. It may produces three products inter-changeable, for which the output and cost details are as follows-

Product	Output per machine hour	Material Costs
A	500 units	₹42.50 per 1,000 units
B	250 units	₹17.50 per 1,000 units
C	1,000 units	₹30.00 per 1,000 units

Labour Costs ₹15 per machine hour while Variable Overheads will be ₹5 per machine hour. The Fixed Costs of this department is ₹1,00,000 per monthly production period. The Company estimates from past experience that the full capacity can be used at all times if machine time can be freely moved from one product to another as dictated by demand and is anxious to establish suitable product selling prices (per 1,000 units). The three price fixing methods under consideration are:
- To fix prices at product cost plus 20%
- To fix prices so as to give a contribution of Rs.35 per machine hour
- To fix prices arbitrarily (per 1,000 units) as product A-₹150, Product B-₹230 and Product C-₹90.

Prepare a comparative statement of prices that would be charged under the three methods. Suggest which method should be adopted. **[10]**

(b) Enumerate the steps involved in Target Costing. **[6]**

7. (a) The budgeted overheads and cost driver volumes of XYZ are as follows.

Cost Pool	Budgeted overheads (₹)	Cost Driver	Budgeted Volumes
Material procurement	5,80,000	No. of orders	1,100
Material handling	2,50,000	No. of movements	680
Set-up	4,15,000	No. of set ups	520
Maintenance	9,70,000	Maintenance hours	8,400
Quality control	1,76,000	No. of inspection	900
Machinery	7,20,000	No. of machine hours	24,000

The company has produced a batch of 2,600 components of AX-15, its material cost was ₹1,30,000 and labour cost ₹2,45,000. The usage activities of the said batch are as follows.
Material orders – 26, maintenance hours – 690, material movements – 18, inspection – 28, set ups – 25, machine hour – 1,800
Calculate – cost driver rates that are used for tracing appropriate amount of overheads to the said batch and ascertain the cost of batch of components using Activity Based Costing. **[8]**

(b) An automobile production line turns out about 100 cars a day, but deviation occur owing to many causes. The production is more accurately described by the probability distribution given below:

Production per day	Probability	Production per day	Probability
95	0.03	101	0.15
96	0.05	102	0.10
97	0.07	103	0.07
98	0.10	104	0.05
99	0.15	105	0.03
100	0.20	Total	1.00

Finish cars are transported across the day, at the end of the each day; by ferry has space for only 101 cars.

Required:
(I) What will be the average number of cars waiting to be shipped?
(II) What will be the average area of empty space on the boat?
The fifteen random numbers are given: 20, 63, 46, 16, 45, 41, 44, 66, 87, 26, 78, 40, 29, 92, & 21. **[8]**

8. Write short note on the following: **[4×4=16]**
(a) Value Engineering
(b) Throughput Costing
(c) 6 C's of total quality Management
(d) Application of Network Analysis.