

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 (each carrying 15 marks) from the rest.

1. (a) State whether the following statement are 'True' or 'False'. If 'False', put up the corrected statement. 1x5

(i)	Theory Y style of management is a highly autocratic style.	(0)
(ii)	The matrix organization structure is suitable for large projects.	(0)
(iii)	The key factors of 'Theory of Constraints' are Contribution and Profit.	(0)
(iv)	Life Costing is a technique to establish the total cost of ownership.	(0)
(v)	To convert the assignment problem into a maximization problem, all elements of the matrices are deducted from the highest element in the matrix.	(0)
- (b) Choose the most appropriate one from the stated options and write it down. 1x5

(i)	An effective reward system requires; (A) Increased Production (B) Establishment of Goals (C) All processes are fully utilized (D) None of the above	(0)
(ii)	Demand stimulation could be due to: (A) Pricing (B) Promotion (C) New demand creation (D) All of the above	(0)
(iii)	Target cost management is (A) A management technology to establish a cost target (B) Is a structured approach for determining cost (C) Both of the above (D) None of the above	(0)
(iv)	Balanced Scorecard is a new approach developed by (A) Dr.J.M. Juran and Philip Crosby (B) Dr.W.A. Shewart and Dr.W.E.Edwards (C) Robert Kaplan and David Norton (D) Joseph Maciariello and Calvin Kirby	(0)
(v)	Quality Circle is (A) People–building philosophy (B) Based on the value of the worker (C) Is a problem-solving technique (D) All of the above	(0)
- (c) Explain the following terms, in not more than one–two sentences: 1x5

(i)	Zero defects	(0)
(ii)	Kaizen	(0)

(iii) EFQM	(0)
(iv) Simulation	(0)
(v) Experience Curve	(0)

(d) Write out what the following abbreviations stands for in the context of Enterprise Performance Management: 1x5

(i) JUSE	(0)
(ii) BSC	(0)
(iii) EPMS	(0)
(iv) VAM	(0)
(v) FAST	(0)

- (e) (i) A Company has budgeted break-even sales revenue of Rs.8,00,000 and fixed costs of Rs.3,20,000 for the next period. The sales revenue needed to achieve a profit of Rs.50,000 in the period will be: 2 (0)
- (A) Rs.8,50,000
 (B) Rs.9,25,000
 (C) Rs.11,20,000
 (D) Rs.12,00,000

You answer must be backed up by your working.

- (ii) A Company produced three products using different machines. No other products are made on these machines. The following data is available for January, 2010: 3 (0)
- | | | | |
|------------------------|----|----|----|
| Product | A | B | C |
| Contribution/unit(Rs.) | 36 | 28 | 18 |

Machine hours required per unit:

- (A) Machine 1
 (B) Machine 2
 (C) Machine 3
 (D) None

Your answer must be backed up by your workings.

2. (a) A machine which originally cost Rs.12,000 has an estimated life of 10 years and it depreciated at the rate of Rs.1,200 per year. It has been unused for some time, as expected production orders did not materialize. A special order has now been received which would require the use of the machine for two months. The current net realizable value of the machine is Rs.8,000. If it is used for the job, its value is expected to fall to Rs.7,500. The net book value of the machine is Rs.8,400. Routine maintenance of the machine currently costs Rs.40 per month. With use, the cost of maintenance and repairs would increase to Rs.60 per month. 6 (0)

What would be the relevant cost of using machine for the order, so that it can be charged as the minimum price for the order?

- (b) A review, made by the top management of XYZ Ltd., (which makes only one product), of the result of the first quarter of the year revealed the following: 9 (0)
- | | |
|------------------|------------|
| Sales (in units) | 10,000 |
| Loss | Rs. 10,000 |

Fixed Cost (for the year Rs.1,20,000) Rs. 30,000
Variable cost/unit Rs.800

The Finance Manager, who feels perturbed, suggests that the company should at least break-even in the second quarter with a drive for increased sales. Towards this, the company should introduce better packing, which will increase the cost by Re.0.50per unit.

The Sales Manager has an alternative proposal. For the second quarter, additional sales promotion expenses can be increased to the extend of Rs.5,000 and a profit of Rs.5,000 can be aimed at during the period with increased sales.

The Production Manager feels otherwise. To improve the demand, the selling price/unit has to be reduced by 3%. As a result, the sales volume can be increased to attain a profit level of Rs.4,000 for the quarter.

The Managing Director asks you, as a Cost and Management Accountant, to evaluate the three proposals and to calculate the additional sales volume that would be required in each case, in order to help him to take a decision.

3. (a) After observing heavy congestion of customers over a period of time in a petrol station, Mr. Ustad has decided to set up a petrol pump facility on his own in a nearby site. He has compiled statistics relating to the potential customer arrival pattern and service pattern as given below. He has also decided to evaluate the operations by using the simulation technique.

5+5 (0)

Arrivals		Services	
Inter-arrival time(minutes)	Probability	Inter-arrival time(minutes)	Probability
2	0.22	4	0.28
4	0.30	6	0.40
6	0.24	8	0.22
8	0.14	10	0.10
10	0.10		

Assume:

- (i) The clock starts at 8.00 hours.
- (ii) Only one pump is set-up.
- (iii) The following 12 Random Nos., are to be used to depict the customer arrival pattern 78, 26, 94, 08, 46, 63, 18, 35, 59, 12, 97 and 82
- (iv) The following 12 Random Nos. are to be used to depict the service pattern 44, 21, 73, 96, 63, 35, 57, 31, 84, 24, 05 and 37.

You are required to find out the

- (i) Probability of the pump being idle.
- (ii) Average time spent by a customer waiting in queue.

- (b) State briefly the shortcomings of Balance Scorecard.

5 (0)

4. (a) A travelling salesman has to visit 5 cities. He wishes to start from a particular city, visit each city once and then return to his starting point. The travelling cost for each city from a particular city is given below:

7 (0)

	To city				
From city	A	B	C	D	E
A	—	4	7	3	4
B	4	—	6	3	4
C	7	6	—	7	5

D 3 3 7 — 7
E 4 4 5 7 —

What is the sequence of the visit of the salesman, so that the cost is the optimal?

(b) What do you mean by "Bench trending"?

2+2+4 (0)

Name the different types of "Bench trending"?

List the basic steps in any one of the types of Bench trending.

5. The Managers of Soundtrack Ltd., were surprised at a recent newspaper article, which suggested that the company performance in the last two years had been poor. The MD commented that the turnover had increased by nearly 17% and pre-tax profit by 25% between the last two financial years and that the company compared well with others in the same industry.

13+2 (0)

The company seeks your opinion on the issue and provides you with the following details:

Rs.in Crores

Profit and Loss Account extracts for the year

	2007-08	2008-09
Turnover	326	380
Pre-tax accounting profit(*)	67	84
Taxation	23	29
Profit after tax	44	55
Dividends	15	18
Retained earnings	29	37

Balance Sheet extracts for the year ending

	2007-08	2008-09
Fixed Assets	120	156
Net Current Assets	130	160
	<u>250</u>	<u>316</u>
Financed by:		
Shareholders funds	195	236
Medium and long-term loans	55	80
	<u>250</u>	<u>316</u>

(*) After deduction of the economic depreciation of the company's fixed assets. This is also the depreciation used for tax purposes.

Other Information:

- (i) Soundtrack had non-capitalized leases valued at Rs.10 crore in each year 2007-09.
- (ii) Balance Sheet capital employed at 31.03.2007 was Rs. 223 crore.
- (iii) The company's pre-tax cost of debt was estimated to be 9% in 2007-08 and 10% in 2008-09.
- (iv) The company's cost of equity was estimated to be 15% in 2007-08 and 17% in 2008-09.
- (v) The target capital structure is 60% equity and 40% debt.
- (vi) The effective tax rate was 35% in both 2007-08 and 2008-09.
- (vii) Economic depreciation was Rs.30 crore in 2007-08 and Rs.35 crore in 2008-09.
- (viii) Other non-cash expenses were Rs.10 crore per year in both 2007-08 and 2008-09.
- (ix) Interest expense was Rs.4 crore in 2007-08 and Rs.6 crore in 2008-09.

Required:

- (i) Estimate the Economic Value Added (EVA) for Soundtrack Ltd., for both 2007-08 and 2008-09.

[40- (Problem) (Long) () 45109]

- (ii) Comment upon the performance of the company.

- 6 (a) Write a note on Sensitivity Analysis applied to a capital project. Name the four main variables in a

3+2 (0)

capital project on which sensitive analysis is done.

- (b) X Ltd. must choose whether to go ahead with either of two mutually exclusive projects A and B. The expected profits are as follows:

6+4 (0)

	Profit if there is Strong demand	Profit/(Loss) if there is Weak demand
Project A (Rs.)	4,000	(1,000)
Project B (Rs.)	1,500	500
Probability of demand	0.3	0.7

- (i) What would be the decision based on expected values, if no information about demand were available?
(ii) What is the value of Perfect Information about the demand?

7. M/s, Dynamic Foundry Ltd., is feeling the effects of a general recession in the industry. Its budget for the coming half year is based on an output of only 500 Tones of casting/month, which is less than half of its capacity. The prices of casting vary with the composition of the metal and the shape of the mould but they average Rs.175/Tonne.

10+5 (0)

The following details are from the Monthly Production Cost Budget at 500 Tonne levels:

	Core making	Melting and Pouring	Moulding	Cleaning and Grinding
Labour (Rs.)	10,000	16,000	6,000	4,500
Variable overhead (Rs.)	3,000	1,000	1,000	1,000
Fixed overhead	5,000	9,000	2,000	1,000
	<u>18,000</u>	<u>26,000</u>	<u>9,000</u>	<u>6,500</u>
Labour and O.H. rate/direct labour hour	9.00	6.50	6.00	5.20

Operation at this level has brought the company to the brink of break-even. It is feared that if the lack of work continues, the company may have to lay off some of the most highly skilled workers, whom it would be difficult to get back, when the volume picks up later on.

No wonder, the Works Manager at this juncture, welcome an order for 90,000 castings, each weighing about 40 lbs., to be delivered on a regular schedule during the next six months. As the immediate concern of the Works Manager is to keep his work force occupied, he does not want to lose the order and is ready to recommend a quotation on a no-loss and no-profit basis.

Materials required would cost Re.1/- per casting, after deducting scrap credits. The direct labour hour per casting required for each department would be:

Core making	0.09
Melting and Pouring	0.15
Moulding	0.06
Cleaning and Grinding	0.06

Variable overheads would bear a normal relationship to labour cost in the Melting and Pouring department and in the Moulding department. In the core making, cleaning and grinding, however, the extra labour requirements would not be accompanied by proportionate increases in variable overhead. Variable overhead would increase by Rs.1.20 for every additional labour hour in core making and by 30 paise for every additional labour hour in cleaning and grinding. Standard wage rates are in operation in each department and no labour variances are anticipated.

To handle an order as large as this, certain increases in factory overheads would be necessary amounting to Rs.1,000 a month for all departments put together. Production for this order would be spread evenly over the six months period.

You are required to:

[48- () () 45117]

- (i) Prepare a revised monthly labour and overhead cost budget, reflecting the addition of this order.
- (ii) Determine the lowest price, which can be given as the quotation for 90,000 castings without incurring a loss.

8. Write short notes on

5x3

(i) Enterprise Risk Management;

(0)

(ii) Just-in-Time approach (Advantages and Disadvantages);

(0)

(iii) Aggregate Planning.

(0)