

Roll No.

Total No. of Questions – 6

Total No. of Printed Pages – 16

Time Allowed – 3 Hours

Maximum Marks – 100

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Answers to questions are to be given only in English except in the case of candidates who have opted for Hindi Medium. If a candidate has not opted for Hindi Medium, his/her answers in Hindi will not be valued.

Question No. 1 is compulsory.

Candidates are also required to answer any **four** questions from the remaining **five** questions.

Working notes should form part of the respective answer.

No statistical or other table will be provided with this question paper.

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1. AB Electronics Limited is a well-established manufacturing company manufactures household electronic gadgets like Air Conditioners, Refrigerators, Washing Machines etc. and almost all types of kitchen appliances. Company's main motto is to maintain the quality, for the said purpose company follows Total Quality management (TQM). It is well known for its quality products. In terms of quality, goodwill of the company is very high. As company never compromises in quality, customers trust in company's product. Company is also able to charge good prices from customers due to their quality and brand name.

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The management of AB Electronics Limited has pointed out that since last two years company's sales are decreasing continuously. Customers are not showing interest in their products and company is going on at par despite of good quality products and brand name, company is not able to create its products demand. Company investigated its internal departments to see whether there is an issue of quality. They spend an extra amount of 1% of its cost on testing the products for their quality check and also make a test check on inward and outward materials. As a result of all these, company found that everything is as per its standard.

To resolve this problem, company decided to decrease its selling price for various products so that demand can be increased. In view of this company has decreased its selling price by 5% but decrease in selling price does not affect much. As company has a good name in the market and well known in the market increase in marketing and advertisement expenses is also not justified. Human resources of company are also satisfied with company's policies for them. Company has a good relationship with the workers and also pay a handsome remuneration to them. Internal working atmosphere of company is up to standard and workers work as team members and there are no issues with unions and company employs skilled workers.

Management of company is not able to find out the problem as to why their sales are decreasing despite of good quality and at best prices, so they decided to appoint a team of experts to point out the problem. The experts team investigate the internal procedures as well as make surveys of market

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and also take feedback from customers, then they observe that now a days in modern era there are products with new artificial intelligence which makes life easy. They are easy to use and more efficient and also energy savers and have all features to attract customers and provide more value for money to customer. In modern urban life fully automatic electronic devices which requires fewer human efforts & time and operates on artificial intelligence are preferred. People are more interested in products which they can operate at remote locations using wireless fidelity.

Observations of the expert team are as follows:-

1. Products of AB Electronics Limited are not as per latest technology and company is repeatedly manufacturing the same product since its inception.
2. AB Electronics Limited's products are not based on wireless fidelity technology and not much user friendly.
3. To maintain the quality and durability AB Electronics Limited uses heavy materials demanding large space and extra weight.

According to the expert's team :

The company is doing well in internal processes and also working atmosphere is good and became a fame since last two decades and also follows TQM to some extent but as you know "Change is the law of world" but you have not updated your products with technology and pushing the

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company with outdated technology without considering the long-term sustainability. Quality matter much but features also matters. To resume your position back in the market you need to spend on R&D not on advertisement or test check. If company manufactures goods with latest technology and according to modern era's need, it may beat its competitors because of its goodwill and brand name. So, we suggest you to update your processes and manufacture products with latest technology having easy to use and energy efficient features.

As management of AB Electronics Limited has to be spend a huge amount and efforts to get back its position in the market, company wants to seek your opinion.

You are required :

- | | |
|--|---|
| (a) As per strategic position analysis where does the company stand. | 2 |
| (b) Demonstrate the applicability of Six C'S of TQM in AB Electronics Limited. | 6 |
| (c) Give your recommendation for implementation of Six Sigma techniques in AB Electronics Limited. | 6 |
| (d) Currently at which phase of life cycle in AB Electronics Limited product is going on and also list out the uses of product life cycle. | 3 |
| (e) "Change is the law of world." State these words in contrast of this situation. | 3 |

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2. (a) A Limited is manufacturing a part, which is used in computer. Presently the company follows traditional system of the purchasing, quality check, storage and processing. CEO of the company has suggested that by implementing Just in time inventory system for material purchases, the company will benefit a lot. As per present policy of inventory, raw material required for 2 months production and finished goods equivalent to the 2 weeks production are kept in stock. Other information are as under :

- The Average inventory of raw material is held by the company throughout the year. Purchase cost of the raw material is ₹ 15 Crores for the year. Now on applying Just in time, the company decided to take its production requirement directly from the suppliers. This will result into an increase of the 10% in the cost of raw material purchased but will save the inventory holding cost by ₹ 70 Lakhs. Raw material inventory insurance will not be required now, which is ₹ 1.40 Crores per annum. Savings in other overheads will be ₹ 20 Lakhs per annum.
- Projected production for the year is 2,00,000 Units. The company plans to maintain inventory of finished goods as per present policy only. There is a possibility of production stoppages due to unavailability of raw material from the suppliers. This could happen due to delay in delivery by the suppliers. The labour works in one 8-hour shift per day and will remain idle if there is no material to work on. Due to stoppage of production for this reason, it is possible to have stockout of 4,000 units in a year. Stockout represents lost sales opportunity due to unavailability

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of finished goods i.e. the customer walks away without purchasing any product. However, if overtime is done by labour the stockout may be reduced to 2,500 units. This overtime will cost ₹ 20 Lakhs.

- Currently, sale price is ₹ 6,000 per unit. Raw material procurement cost is ₹ 1,000 per unit, that will increase by 10% under Just in time inventory system. Other variable overheads are ₹ 3,250 per unit.

Required :

A. Advise on :

(i) Acceptability of the company regarding implementation of the Just in time procurement system. **4**

(ii) Necessity of overtime cost be incurred to reduce Stockout. **2**

B. RECOMMEND factors that the management needs to consider before implementing the just in time procurement system. **4**

(b) ORAL LTD is engaged in marketing of wide range of electronic goods. The area is divided in four zones - North, South, East and West. Each zone has zonal sales head. The company fixes annual sales target for zonal heads. The cost of sales target fixed during 2021 is as under :

North ₹ 25,00,000

South ₹ 22,00,000

East ₹ 26,50,000

South ₹ 20,00,000

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The Zonal sales managers are paid commission @ 10% on sales made by them. During 2021 the sales commission paid for each zone is as under :

North ₹ 3,00,000

South ₹ 2,90,000

East ₹ 3,10,000

West ₹ 2,40,000

The summary of the variances calculated for each zone are as under :

Particulars	North	South	East	West
Sales Price Variance	40,000 F	60,000 A	50,000 A	20,000 A
Sales Volume Variance	60,000 A	2,60,000 F	1,50,000 F	80,000 F
Sales Margin Mix Variance	1,40,000 A	80,000 F	1,70,000 F	30,000 A

The Company wants to award an incentive to the best performer among all the zonal managers on the basis of :

1. Contribution earned to the company
2. Achievement of the sales target.
3. Sales margin achieved against target margin.

Required :

- (A) Calculate the amount of sales target fixed and the actual amount of contribution earned in case of each of the zonal sales manager. **5**
- (B) Analyze the overall performance of these zonal sales managers taking three relevant base factors and recommend the best performer. **4+1**

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3. SR Limited deals in readymade garments and its clients majorly include medium and large outlets. There are regular complaints from clients regarding delivery issues. As SR Limited understand the critical behaviour of clients and want to establish "Customer Profitability Analysis" (CPA) so that critical customers who are key factors can be recognized. SR Limited provide following information regarding its four major customers :

Particulars	A	B	C	D
No. of Units Sold	36,000	48,000	42,000	56,000
Contribution per unit	36	45	48	45
No. of purchase order	100	200	150	100
No. of deliveries (Normal)	3	4	4	5
Kilometer per delivery	100	50	250	350

Order Processing Cost – 12,000 Per Order

Product Handling Cost – 0.90 per unit

Transport Cost – ₹ 18 per Kilometer

Required :

- Evaluate the Customer Profitability by calculating Total Profit as well as Profit Per Unit from each customer for SR Limited and interpret each customer. 4+4
- Demonstrate three fundamental aspects of CRM to facilitate building relationship with profitable customer. 6
- Enumerate two benefits of Customer Profitability Analysis (CPA). 2
- Discuss the relevance of Customer Profitability Analysis in reference to Banking and Hotel sector. 4

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4. (a) Vasco Limited manufactures 3 products UV, DV and XV. Due to scarcity of machine hours, management of Vasco Limited is planning to adopt throughput accounting in the company. Information relating to products are as follows :

	UV	DV	XV
Selling price per unit	₹ 5,000	₹ 4,000	₹ 3,500
Material Cost	₹ 2,500	₹ 2,500	₹ 2,000
Machine Hours required	5	6	4
Maximum annual demand	3,000 units	4,000 units	2,000 units

Total factory cost is ₹ 1,05,00,000 and available machine hours are 35,000 hours.

Vasco Limited has to supply 2,500 units of product DV to Alfa Limited as per a court judgement which cannot be denied.

Required :

- (i) Rank the products using throughput accounting and prepare a statement showing optimal mix for maximization of profit. 5
- (ii) Whether court judgement has affected the optimum plan of profit of the company, if yes, by which amount ? 2
- (iii) Briefly explain 3 operational measures of theory of constraints. 3

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- (b) Discuss the effect of Budget difficulty on Performance Evaluation.

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Kingstorm & Co. manufactures industrial tools. Management is having emphasize on quality and well-known name among customers. The following details are provided by the kingstorm :

Process Time	-	2 days for batch
Move time	-	0.5 days per batch
Wait time	-	3 days per batch
Inspection time	-	1.5 days per batch
Queue time	-	4.5 days per batch
Units per batch	-	40 Units

You are required to

- (i) Calculate manufacturing Cycle Efficiency (MCE) and interpret it. **2**
 - (ii) Manufacturing Cycle Time. **1**
 - (iii) Delivery Cycle Time. **1**
 - (iv) Calculate the New Manufacturing Cycle Time and Manufacturing Cycle Efficiency (MCE) if queue time is eliminated to 3 days using lean production. **1**
- (c) What is Oligopoly market structure ? Discuss the various pricing strategies and non pricing strategies in oligopoly market structure. **5**

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5. (a) XYZ Company is a manufacturer of a instrument which have monopoly in the market. The company is manufacturing this instrument since 2000. Two parts, part 'A' and part 'B' are required to manufacture this instrument. Part 'A' is manufactured at plant situated in Gujarat. Part B is manufactured at plant situated in Rajasthan. The instrument is being made by assembling the parts in assembling plant situated in 'Gurgaon'. The Part 'A' and Part 'B' cannot be sold individually in the market.

Recently, the company has decided to benchmark the performance of the each plant individually by setting the cost targets. For this a new CEO has been appointed. The newly appointed CEO suggested that to assess the performance of each plant, a divisional transfer pricing policy is required to be implemented in each plant. For this Managing director of the company is opined that the transfer price should be decided by Negotiating or bargaining price between each divisional manager. CEO is not in agreement with the opinion of the Managing Director.

You have been appointed to analyze and give advice :

- (i) Whether opinion of the Managing Director is correct. Give reasons. 2
- (ii) Options available for deciding the method of transfer pricing. 8
- While giving your advice discuss the advantages, disadvantages and behavioral consequences of each method.

(b) What is EMA ? Categories the undermentioned costs under following dimensions

Environmental Prevention Costs

Environmental Appraisal Costs

Environmental Internal Failure Costs

Environmental External Failure Costs

Different costs :

(i) Evaluating and picking pollution control equipment

(ii) Performing contamination tests

(iii) Creating environmental policies

(iv) Audit of environmental activities

(v) Improved systems and checks in order to prevent fines / penalties

(vi) Environmentally driven R & D

(vii) Failure in disposing toxic material

(viii) Cost of restoring land to its natural state

(c) (i) Implementation of the Target Costing technique requires intensive market research. Give your comments.

(ii) State the impact of Target Costing on profitability.

6. (a) SMS Hospital operates a 60-bed capacity Healthcare Unit and charges ₹ 4250 per bed per day from the patients. Following data have been provided for the year ended March 2022.

Fees Collected during the year 5,10,00,000

Variable Cost 2,10,00,000

Fixed Cost 1,80,00,000

The requirement of nursing staff is in the ratio of 500 : 1 mean for every 500-patient bed day 1 nurse requires. The remuneration of the nurse is ₹ 2,40,000 per annum.

Management of the hospital have following projections for the upcoming year :

- (i) Variable cost will go up by 10%
- (ii) Fixed cost will increase by ₹ 68,00,000 per annum.
- (iii) Salary of the nursing staff and charges from patients will remain same.

The number of patients is also not likely to increase in the next year.

The management is considering to open an ICU instead of above-mentioned Healthcare Unit which will be at par in initial 2 years but earn profits after that. ICU will also increase goodwill and social reputation of the Hospital.

You are required to :

- | | |
|---|---|
| (i) Prepare statement to show profitability of existing Healthcare Unit for 2022 and upcoming year. | 3 |
| (ii) Break Even Bed Capacity on the basis of projections for upcoming year. | 4 |
| (iii) Your advice on the basis of Financial as well as Non-Financial Factors to switch off from Healthcare Unit to ICU. | 3 |

(Note : - Nursing staff salary will be taken as Fixed Cost.)

- (b) A Consultancy firm having its branches across India is facing the problem of non-timely completion of services. Client are not satisfied with their services just because of delay. However, firm has a qualified team of professionals in different fields and the team members are highly qualified and experts in their field.

On investigation it was found that the main reason of delay is mobile phones of staff. Staff spent their valuable time on mobile phones however staff uses his or her mobile phones for 2 to 3 minutes at a time but frequency is high. As a result, on an average daily every staff member spends ½ hour to 1 hour on receiving personal calls and on social media. It looks just a small issue but its effect is large as it also diverts their minds from their ongoing work also.

As it is a consultancy firm, it is not possible for staff members to work without phones because they have to converse with client's officials time to time and clients also calls them to tell their additional requirements and feedbacks.

To resolve this problem, management has decided to provide landline phones. Now staff members have to submit their mobile phones at reception and they are not allowed to take them at their workplace. Staff members are advised to use landline phones and firm mail-id to contact the clients. As per management opinion it will improve their efficiency up to 25% but there are some issues in which management wants your opinion

- (i) Whether clients will be compatible with such type of arrangements ? 2
- (ii) Will it affect the morale of staff members and will it affect long term sustainability of firm ? Give reasons. 3
- (c) KRK Limited deals in spare parts of motorbike. Since last 2 years, it has shown loss even though it has negotiated with the suppliers very well and was able to purchase the goods at very competitive rates. The newly appointed CEO believed that there is a need of Implementation of Balanced Scorecard. CEO met the Managing Director and stated that "The Balanced Scorecard is a collection of critical performance measures that have some special properties. The performance measures are derived from a company's vision, strategy and objectives. Performance measures should be chosen so that they are balanced between outcome and lead measures."

Managing Director of the KRK limited was very happy with the CEO and it was decided that from the beginning of the next financial year the Balanced Scorecard will be implemented. For implementing the Balanced Scorecard, following strategic objectives were decided to begin with :

- (i) Expansion of eco-friendly product line.
- (ii) Improve ROI.
- (iii) Customer retention
- (iv) Reduction in time spent in non-value added activities.
- (v) Improve on time delivery to customers.

You are required to classify the above strategic objectives by perspective and suggest a measure for each objective. 5