

## FINAL EXAMINATION GROUP IV (SYLLABUS 2012)

### SUGGESTED ANSWERS TO QUESTIONS JUNE 2014

#### Paper-17: STRATEGIC PERFORMANCE MANAGEMENT

Time Allowed: 3 Hours

Full Marks : 100

The figures in the margin on the right side indicate full marks.  
Working Notes should form part of the answer.

Whenever necessary, suitable assumptions should be made and indicated in answer by the candidates

This Question paper has been divided into 3 parts viz., Section-A (60 marks),  
Section-B (20 marks) and Section-C (20 marks).

Please note:

- From Section-A: Performance Management, you are to answer Question No. 1&2, which are Compulsory Questions, each carrying 15 marks. Further answer any three Questions from the rest of the Questions in this section, each carrying 10 marks.
- From Section-B: IT & Econometric tool in Performance Management, you are to answer any one Question, carrying 20 marks.
- From Section-C: Enterprise Risk Management, you are to answer any one Question, carrying 20 marks.

#### Section-A (60 Marks) Performance Management

Question No. 1&2 are compulsory, each carrying 15 marks.

Further answer any three Questions from the rest in this section, each carrying 10 marks.

1. M/s. XYZ Steel Plant is one of the most modern Steel Plants in the country. The plant has a capacity of producing 3 Million tonnes of liquid steel and 2.65 Million tonnes of Saleable Steel. The main products of M/s. XYZ Steel Plant are Angles, Billets, Channels, Beams, Squares, Flats, Round Rebars and Wire Rods. The major units in M/s. XYZ Steel Plant are the Coke Ovens, Sinter Plant, Blast Furnace, Steel Melt Shop, Light and Medium Merchant Mill, Wire Rod Mill and Structural Mill.

The vision of M/s. XYZ Steel Plant is to become a 10 Million tonne World Class integrated Steel Plant by 2019-20. Its mission is to be a continuously growing company through technological upgradation, operational efficiency and expansion, producing steel at international standards of cost and quality, ensuring optimal return on investment to stakeholders and meeting the expectations of the customers. The core values of M/s. XYZ Steel Plant are firm commitment, customer satisfaction, continuous improvement and concern for environment.

Today, M/s. XYZ Steel Plant is moving forward with an aura of confidence with pride to enable the company to reach new heights in organizational excellence. But in the

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earlier days, the plant could not attain the envisaged capacity levels and financial viability. There were huge cost over-runs and high capital-related charges. High input costs, recession in steel industry, global competition, sluggish economy both in domestic as well as international market, economic crisis-world-wide, the production of steel had declined. M/s. XYZ Steel Plant was labelled as the 'sick child of the industry'. The company had no alternative but to report to BIFR (Board for Industrial and Financial Reconstruction). Following this, the company was directed to formulate a 'turnaround' strategy for long-term financial viability of the plant. The capital Restructuring proposal of the company was rejected by the government.

The major step taken by the company was an aggressive treasury management. Rescheduling of high cost loans, obtaining softer interest loans from banks, securing cheaper lines of credit for import of raw materials, issue of non-cumulative preference shares, increasing the authorized share-capital, reduction on long-term loans, generation of wealth, made out of internal generation through various measures-were some of the steps taken to tide over this situation.

The plant had taken innovative steps to operate consistently beyond rated capacities in all the production units. Efficient operation management coupled with optimum waste utilization and improved techno-economic parameters, along with cost reduction measures have been the major contributing factors that led to the companies' turnaround.

With regard to the techno-economic front, during the period 1998-99 till date, the plant has made a significant improvement in the specific energy consumption, average converter life, rolling rate, total coke rate, and fuel consumption. Thrust was given for recycling of metallurgical waste. Initiatives taken to recycle the solid waste and utilizing them led to a saving of raw material consumption.

Another major strategy of the company that resulted in the turnaround of the company is various cost reduction measures taken in the plant production. Further, the company had laid emphasis on total involvement by workers' participation in management through suggestion schemes, which played a major role in the rapid growth of techno-economic parameter and the labour productivity.

**Required:**

- (a) Mention the principles of Business Process Re-engineering.
- (b) State the reasons for which M/s. XYZ Steel Plant faced challenges for implementing the Business Process Re-engineering.
- (c) What strategies are taken by M/s. XYZ Steel Plant for facing the challenge? 5+5+5

**Answer:**

**1. (a) The Principles of Business Process Re-engineering:**

The following are the principles of Business Process Re-engineering that can be applied to streamline the work process and thereby achieve significant levels of improvement in quality, time management and cost:

- Organize around outcomes, not tasks
- Identify all the processes in an organization and prioritize them in order of redesign urgency
- Integrate information processing work into the real work that produces the information
- Treat geographically dispersed resources as though they were centralized
- Link parallel activities in the workflow instead of just integrating their results.
- Put the decision point where the work is performed and build control into the

process.

- Capture information once and at the source.

By the mid-1990's, BPR gained the reputation of being a nice way of "downsizing". But the lack of sustained management commitment and leadership, unrealistic scope and expectations and resistance to change-prompted management to abandon the concept of BPR and embrace the next new methodology-'Enterprise Resource Planning'(ERP).

BPR is also known as Business Process Re-design, Business Transformation or Business Process Change Management.

**(b) Reasons for which M/s. XYZ Ltd. faced challenges for implementing the Business Process Re-engineering:**

M/s. XYZ Ltd., in its earlier years, could not attain envisaged capacity levels and financial viability. High capital cost, large borrowing, huge cost over-runs, high capital-related charges, high input costs, high raw materials prices, recession in the steel industry, intense global competition, sluggish economy both in the domestic and international markets, reduction in sales turnover, economic crisis in World wide - were the reasons for the poor show by M/s.XYZ Ltd.,

Due to all these constraints faced by M/s.XYZ Ltd., it was written off as the 'sick child of the industry.' M/s.XYZ Ltd., had to report the fact to BIFR (Board for Industrial and Financial Reconstruction) as the accumulated losses were necessitating reportability for potential sickness. M/s.XYZ Ltd., was directed to formulate a turnaround strategy for long-term financial viability of the plant. M/s.XYZ Ltd., had submitted a capital restructuring proposal to the government, which was rejected.

**(c) Strategies taken by M/s.XYZ Ltd. for facing the challenge:**

The major step taken by the company was an aggressive treasury management. Rescheduling of high cost loans, obtaining softer interest loans from banks, securing cheaper lines of credit for import of raw materials, issue of non-cumulative preference shares, increasing the authorized share-capital, reduction on long-term loans, generation of wealth, made out of internal generation through various measures-were some of the steps taken to tide over the situation.

The plant had taken innovative steps to operate consistently beyond rated capacities in all the production units. Efficient operation management coupled with optimum waste utilization and improved techno-economic parameters, along with cost reduction measures have been the major contributing factors that led to the companies' turn-around.

With regard to the techno-economic front, during the period 1998-99 till date, the plant has made a significant improvement in the specific energy consumption, average converter life, rolling rate, total coke rate, and fuel consumption. Thrust was given for recycling of metallurgical waste. Initiatives taken to recycle the solid waste and utilizing them led to a saving of raw material consumption.

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**2. Tesco & Co. is the world's largest grocery company, dealing in different Fast Moving Consumer Goods (FMCG). Tesco's efforts towards offering better services to its customers**

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and meeting their needs can be traced back to the days when it positioned itself as a company that offered good quality products at extremely competitive prices. Since the customer received the best services, the number of loyal customers increased manifold since the company loyalty card scheme was launched successfully.

To sustain the growth achieved through the launch of loyalty club cards, Tesco decided to adopt of four step approach:

- Launch better
- Bigger stores on a frequent basis
- Offer competitive prices and
- Focus on remote shopping services.

To make sure that its prices were the lowest among all retailers, a dedicated team of employees called 'price checkers' was employed for the task. Tesco's customer base and the frequency with which each customer visited its stores had increased significantly over the years. However, according to reports, the average purchase per visit had not gone up as much as it would have liked to see. For the last ten years, Strategic cost management and Activity based costing have created a framework for company to examine more closely the causes of their cost in order to improve management decisions and corporate profitability. Analyst belief that this was not a very positive situation, they also said that while it was true that Tesco was the market leader by a wide margin, it was also true that other companies were growing rapidly. Given the fact that the company was moving away from its core business by giving thrust on non-food and utility services items and was globalizing rapidly. Observers were doubtful of its ability to maintain the growth it had been posting since its inception.

After the globalization, many companies are convinced that improving corporate profitability requires synergetic effect between all the units and division within the company. Tesco have to take steps like appointing marketing professionals for increased customer satisfaction and primarily examining the links between overall satisfaction and revenue. Meanwhile, the Management Accountant have traditionally focused on cost reduction.

Customer profitability analysis attempts to bring together marketing & accounting professional to analyse, manage and improve customer profitability.

Tesco must understand the present and future customer demands and try to improve its information technology and large database to help refine marketing efforts. Marketing tools and IT Systems now permit companies to get individual customer and customer groups with pin-point accuracy.

You are required:

- (i) State briefly the concept of Analytical Customer Relationship Management, Operating Customer Relationship Management & Collaborative Customer Relationship Management.
- (ii) What strategy is followed by Tesco to sustain the growth achieved?
- (iii) What steps it should follow to beat saturation? 3+6+6

**Answer:**

2. (i) **Analytical Customer Relationship Management** : It is basically Customer Data Analysis, its evaluation, modeling and prediction of customer behaviour. In real life situation, Analytical Customer Relationship Management can gather all the data about customers by using data mining and serves as some sort of help during decision-making.  
**Operative Customer Relationship Management:** Operative Customer Relationship Management mainly supports the actual contact with customers conducted by front

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office workers and general automation of business processes including sales of products, services and marketing. All the communication with the customer is tracked and stored in the Data Base.

**Collaborative Customer Relationship Management:** Collaborative Customer Relationship Management enables all companies along the distribution channel, as well as all departments in a company, to work together and share information about customers. The goal of Collaborative Customer Relationship Management is maximum sharing of relevant information acquired by all departments with the focus on increasing the quality of services provided to customers.

(ii) To sustain the growth achieved through the launch of loyalty club cards, Tesco has to adopt a four pronged approach:

- Launch better
- Bigger stores on a frequent basis
- Offer competitive prices and increase the no. of products offer in the value range and
- Focus on remote shopping services.

To make sure that its prices were the lowest among all retailers, a dedicated team of employees called 'price checkers" are to be employed for the task. Tesco's customer base and the frequency with which each customer visited its stores will increase significantly over the years.

In addition to this, various Strategic Cost Management techniques and Activity Based Costing should be adopted in order to improve management decisions and corporate profitability. Company should focus on distribution channel & customers and expand its operation globally so that it becomes a customer focused company, which believes in enhancing shareholder value.

(iii) After the globalization, many companies are convinced that improving corporate profitability requires synergetic effect between all the units and division within the company. Tesco have to take steps like appointing marketing professionals for increased customer satisfaction and primarily examining the links between overall satisfaction and revenue. Meanwhile, the Management Accountant have traditionally focused on cost reduction.

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3. Ridhi Ltd., will produce 3,00,000 kgs of 'A' and 6,00,000 Kgs of 'B' simultaneously from an input of 9,00,000 kgs of raw material 'C'.

The selling price of A is ₹ 8 per kg and that of B is ₹ 6 per kg.

Processing cost amount to ₹ 54 lacs per month as under:

|  | ₹                |
|--|------------------|
| Raw material C-9,00,000 kgs at ₹ 3 per kg. | 27,00,000        |
| Variable Processing cost                   | 18,00,000        |
| Fixed processing cost                      | 9,00,000         |
| <b>Total</b>                               | <b>54,00,000</b> |

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There is an offer to purchase 60,000 kgs of B additionally at a price of ₹ 4 per kg. Producing additional 60,000 kgs of B will mean 30,000 kgs of A will also be produced simultaneously. The existing market for B will not be affected by accepting the offer. But the selling price is likely to decrease uniformly on all sales.

As a Professional Management Accountant find the minimum reduced average price for A to sustain the increase sales. 10

**Answer:**

3. A and B are produced simultaneously from an input of raw material C. Therefore, when additional 60,000 kgs of B will be produced, then 30,000 kgs of A will also be produced simultaneously.

The input of material C required for these additional 60,000 kgs of B and 30,000 kgs of A will be 90,000 kgs of material C.

**Hence the cost of processing 90,000 kgs of material C will be as follows:**

|   | ₹         |
|---|-----------|
| (i) Cost of raw material C (90,000 kgs x ₹3)  | 2,70,000  |
| (ii) Variable Processing Cost (90,000 kgs x ₹2)   | 1,80,000  |
| (iii) Total Cost of processing <b>(i) + (ii)</b>  | 4,50,000  |
| (iv) Sales revenue from 60,000 kgs of B (60,000 kgs x ₹4)   | 2,40,000  |
| (v) Balance Cost to be recovered <b>(iii) – (iv)</b>  | 2,10,000  |
| (vi) Current Sales revenue from the sale of 3,00,000 kgs of A (3,00,000 kgs x ₹8)                                       | 24,00,000 |
| (vii) Total Sales Revenue to be earned from the sale of A (3,00,000 kgs + 30,000 kgs <b>(v) + (vi)</b> )                | 26,10,000 |
| (viii) Hence minimum price per kg of A to recover (₹26,10,000 from sale of 3,30,000 kgs of A) (₹26,10,000/3,30,000 kgs) | 7.91      |

**Conclusion:** The minimum reduced average price for A for sustaining the increased sales = ₹7.91

4. Kunika Ltd. Co. has different divisions which are working as Strategic Business Units. Division A of the company is a profit making centre, which produces four products W, X, Y & Z. Each product is sold in the external market and the company has provided the following information:

|                                      | W   | X   | Y   | Z   |
|--------------------------------------|-----|-----|-----|-----|
| Market Price per unit (₹)            | 150 | 146 | 140 | 130 |
| Variable cost of production per unit | 130 | 100 | 90  | 85  |
| Labour Hours required per unit       | 3   | 4   | 2   | 3   |

Product Z can be transferred to Division B but the maximum quantity that may be required for transfer is 2500 units of Z.

|  | W    | X    | Y    | Z    |
|--|------|------|------|------|
| The maximum sales in the external market (units) | 2800 | 2500 | 2300 | 1600 |

Division B can purchase the same product at a price of ₹ 125 per unit from outside instead of receiving transfer of product Z from Division A.

You are required to calculate the transfer price for each unit for 2500 units of Z, if the total labour hours available in division A are:

- (i) 20,000 hours  
(ii) 30,000 hours

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Answer:

**4. (i) Key Factor Allocation for External Sales purposes**

|     | Particulars                                  | W        | X      | Y     | Z     | Total  |
|-----|--|----------|--------|-------|-------|--------|
| (a) | Sale Quantity                                | 2,800    | 2,500  | 2,300 | 1,600 |        |
| (b) | Labour Hours required per unit               | 3        | 4      | 2     | 3     |        |
| (c) | Total Hours required for Sale Quantity (axb) | 8,400    | 10,000 | 4,600 | 4,800 | 27,800 |
| (d) | Selling Price per unit                       | 150      | 146    | 140   | 130   |        |
| (e) | Variable Cost per unit                       | 130      | 100    | 90    | 85    |        |
| (f) | Contribution per unit (d-e)                  | 20       | 46     | 50    | 45    |        |
| (g) | Contribution per hour (f ÷ b)                | 6.67     | 11.50  | 25.00 | 15.00 |        |
| (h) | Rank   | IV       | III    | I     | II    |        |
| (i) | Allocation of 20,000 hours for production    | 600(Bal) | 10,000 | 4,600 | 4,800 | 20,000 |
| (j) | Allocation of 30,000 hours for production    | 8,400    | 10,000 | 4,600 | 4,800 | 27,800 |

**(ii) Computation of Transfer Prices**

|  |   |  |
|--|---|--|
| Hours Available                            | 20,000 hours  | 30,000 hours   |
| Int. Tfr Quantity                          | 2,500 units of Z  | 2,500 units of Z   |
| Time reqd. for Tfr                         | 2500x3=7500 hours   | 2500x3=7500 hours  |
| Time Diversion & Opportunity Costs         | First 600 hrs from W at 6.67 per hr = 4,000<br>6.900 hrs from x at 11.50 per hour = <u>79,350</u><br>83,350 | First 2,200 hrs = Spare capacity = Nil<br>Next 5,300 hrs from W at 6.67 per hr = <u>35,350</u><br>35,350 |
| Opp. cost per unit Variable costs per unit | ₹ 33.34 (83,350/2500)<br>₹ 85.00 (given)  | ₹ 14.14 (35,350/2500)<br>₹ 85.00 (given)   |
| Minimum Transfer Price                     | ₹ 118.34 per unit   | ₹99.14 per unit  |
| Maximum Transfer Price                     | ₹ 125.00 per unit.  | ₹ 125.00 per unit.   |

- 5. The Operation costs of a product produced by ZYX Ltd. are ₹ 53. Presently, the company produces only 600 units p.a. to sell at ₹ 55 per unit due to hard competition in the market. But with existing facilities, production can be increased to 1000 units if additional production can be sold in the market. The Company accordingly introduced Target Costing on Market Research, New Design for the product and changes in the process so that costs are brought down substantially and market share can be increased. The estimates for the next year are:**

|                      |               |
|----------------------|---------------|
| Target Selling Price | ₹ 50 per unit |
| Target Profit margin | 10% on sales  |
| Target Volume        | 900 units     |

**Required:**

- (a) Calculate the target costs per unit and target costs for the expected volume, and  
 (b) Compare the existing profit with target profit. 5+5

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**Answer:**

**5. Statement of Target Costs**

| Particulars                               | Per Unit (₹) | For 900 units (₹) |
|---|--------------|-------------------|
| Target selling price                      | 50           | 45,000            |
| Less: Target profit margin (10% of sales) | 5            | 4,500             |
| Target costs                              | 45           | 40,500            |

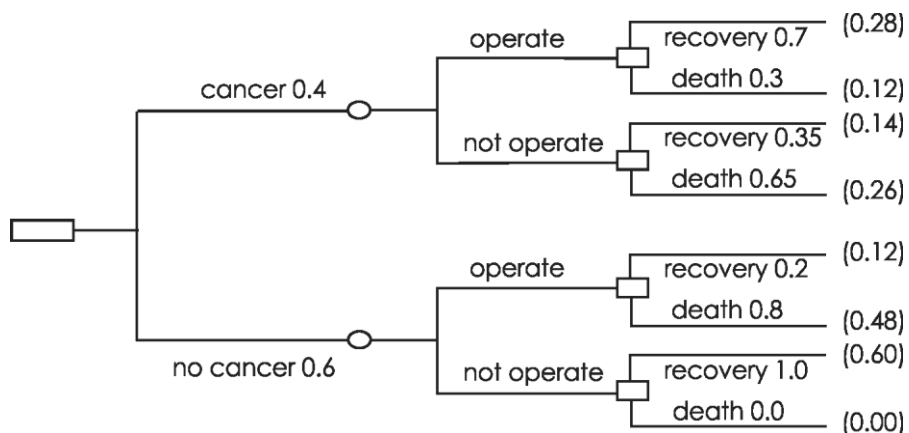
**(b) Comparative Profit Statement**

| Particulars | Existing Position |               | Proposed Position |               |
|-------------|-------------------|---------------|-------------------|---------------|
|             | Per unit (₹)      | 600 units (₹) | Per unit (₹)      | 900 units (₹) |
| Sales       | 55                | 33,000        | 50                | 45,000        |
| Less: Costs | 53                | 31,800        | 45                | 40,500        |
| Profit      | 2                 | 1,200         | 5                 | 4,500         |

**6. There is 40% chance that a patient admitted to the hospital is suffering from Cancer. A doctor has to decide whether a serious operation should be performed or not. If the patient is suffering from Cancer and the serious operation is performed, the chance that he will recover is 70%, Otherwise it is 35%. On the other hand, if the patient is not suffering from Cancer and the serious operation is performed, the chance that he will recover is 20%, otherwise it is 100%. Assume that recovery and death are the only possible results. Construct an appropriate decision tree. What decision should the doctor take? 5+5**

**Answer:**

**6.**



The decision tree has been constructed as per the problem.  
 Probability of recovery on operation =  $0.28 + 0.12 = 0.40$   
 Probability of recovery for no operation =  $0.14 + 0.60 = 0.74$   
 As  $0.74 > 0.40$ , so the operation should not be done for recovery.



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## Section-B (20 Marks)

**IT & Econometric tool in Performance Management**  
**You are to answer any one Question, carrying 20 marks.**

7. (a) Explain in detail the concept and function of Artificial Neural Network. 14  
(b) Explain the concept of DATA WAREHOUSES. 6

**Answer:**

7. (a) **Artificial Neural Network (ANN):** ANN is a mathematical model that tries to simulate the structure and functionalities of biological neural network. Basic building block of every ANN is artificial neuron, that is, a simple mathematical model (function). Such a model has three simple sets of rules: multiplication, summation and activation. At the entrance of artificial neuron, the inputs are weighted i.e., every input value is multiplied with the individual weight. In the middle section of artificial neuron is the sum function that sums all weighted inputs and bias. At the exit of artificial neuron, the sum of previously weighted inputs and bias is passing through activation function. This is also called transfer function.

Although the working principles and simple set of rules of artificial neuron looks like nothing special, the full potential and calculation power of these models come to life when we start to interconnect them into ANN. These ANN use simple fact that complexity can grow out of merely few basic and simple rules.

In order to fully harvest the benefits of mathematical complexity that can be achieved through interconnection of individual ANN and not just making the system complex unmanageable. We usually do not interconnect these ANN randomly. In the past, researchers have come up with several "standardized" topographies of ANN. These predefined topographies can help us with easier, faster and more efficient problem-solving.

Different types of ANN topographies are suited for solving different types of problems. After determining the type of given problem we need to decide for topology of ANN we are going to use and then fine-tune it. We need to fine-tune the topology itself and its parameters. Fine tuned topology of ANN does not mean that we can start using our ANN, it is only a precondition. Before we can use our ANN we need to understand that it is capable of solving any type of problem.

After choosing topology of an ANN and the fine-tuning of the topology, we can start using it for solving the given problem. ANN have been in use for sometime now and we can find them working in areas such as process control, chemistry, gaming, radar systems, automotive industry, space industry, astronomy, genetics, banking, fraud - detection, etc., and for solving of problems like regression analysis, time-series prediction, pattern recognition, decision-making, data-processing, filtering, clustering, etc, naming just a few.

(b) **Data Warehousing (DW):** Data Warehousing is the science of storing data for the purpose of meaningful future analysis. It deals with the mechanism of electronically storing and retrieving data so that some analysis can be performed on that data to

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corroborate and support a business decision or to predict a business outcome. DW technologies provide historical, current and predictive views of business operations by analyzing the present and historical business data. Data analysis is often done using visualization techniques that turn complex data into images that tells compelling story. Raw data by this process of analysis help management take right decisions.

Once the data is there in Data Warehouse, business intelligence techniques can be applied to that data for analysis and reporting.

A DW is a subject oriented, non-volatile, integrated, time-variant collection of data, in support of management's decisions. Thus DW is an electronically stored collection of integrated data that can be used for the purpose of intelligent analysis.

Although the existence of a DW is not a pre-requisite for data-mining, in practice, the task of data mining, especially for large companies, is made a lot easier by having access to a data warehouse. A primary goal of a DW is to increase the "intelligence" of a decision process and the knowledge of the people involved in this process.

A DW can be viewed as an organization's repository of data, set up to support strategic decision-making. The function of the DW is to store the historical data of an organization in an integrated manner that reflects the various facets of the organization and business. The data in a warehouse are never updated but used only to respond to queries from end users who are generally decision-makers.

Typically, a DW s are huge, storing billions of records. In many instances, an organization may have several local or departmental DW s often called as Data Marts. A Data Mart is a DW that has been designed to meet the needs of a specific group of users. It may be large or small, depending on the subject area.

8. (a) Six Sigma identifies several key roles for its successful implementation. Discuss. 8  
(b) Discuss the different types of Online Analytical Processing (OLAP)? 6  
(c) Discuss the importance of Decision Support Systems for gaining the Competitive Advantage. 6

Answer:

8. (a) Six Sigma identifies Several Key Roles for its Successful Implementation. They are:
- **Executive Leadership:** It includes the CEO and other members of top management who are responsible for setting up a vision for Six Sigma Implementation. They also empower the other role holders with the freedom and resources to explore new ideas.
  - **Champions:** Champion takes responsibility for Six Sigma Implementation across the organization in an integrated manner. Champions also act as mentors to Black Belts.
  - **Master Black Belt:** Master Black Belt identified by champions, act as in-house coaches on Six Sigma. They devote 100% of their time to Six Sigma. They assist Champions and guide Black Belts and Green Belts.
  - **Black Belts:** Black Belts operates under Master Black Belts to apply Six Sigma methodology to specific projects. They devote 100% of their time to Six Sigma.
  - **Green Belts:** Green Belts are the employees who take up Six Sigma Implementation along with their other job responsibilities and operating under the guidance of Black Belts.

**(b) Different types of On-line-Analytical Processing (OLAP) :**

OLAP systems have been traditionally categorized using the following:

**(i) Multidimensional On-line Analytical Processing (MOLAP):**

MOLAP is the classic form of OLAP and is sometimes referred to as just OLAP. MOLAP stores this data in optimized multi-dimensional array storage, rather than in a relational database. Therefore it requires the pre-computation and storage of information in the cube.

**(ii) Relational On-line Analytical Processing (ROLAP):**

ROLAP works directly with relational databases. The base data and the dimension tables are stored as relational tables and new tables are created to hold the aggregated information. ROLAP tools do not use pre-calculated data cubes but instead pose the query to the standard relational database and its tables in order to bring back the data required to answer the question.

**(iii) Hybrid- OLAP(HOLAP):**

There is no clear agreement across the industry as to what constitutes "HOLAP", except that a database will divide data between relational and specialized storage. For example- for some vendors, a HOLAP database will use relational tables to hold the larger quantities of detailed data and use specialized storage for at least some aspects of the smaller quantities of more-aggregate or less-detailed data. HOLAP addresses the shortcomings of MOLAP and ROLAP by combining the capabilities of both the approaches. HOLAP tools can utilize both pre-calculated cubes and relational data sources.

**Other types:**

(iv) Web-based On-line Analytical Processing (WOLAP)

(v) Desktop On-line Analytical Processing (DOLAP)

(vi) Real-time On-line Analytical Processing (RTOLAP)

**(c) Decision Support Systems (DSS):**

In a world of constant flux, informed and thoughtful decision-making is the cornerstone of business success. As a manager, you must make decisions that affect your business every day, some critical and some not so important. DSS allow faster decision-making, identification of negative trends and better allocation of business resources all to the benefit of you and your organization. DSS are a specific class of computer-based information systems that support your decision-making activities. A DSS analyses business data and provides inter-active information support to managers and business professionals during the decision-making process, from problem recognition to implementing your decision.

**DSS use:**

(i) Analytical models

(ii) Specialized databases

(iii) A Decision maker's own insights and judgments and

(iv) An interactive, computer-based modeling process to support semi-structured business decisions.

A key component to any DSS is Business Intelligence reporting tools and methodologies. These provide us with rich reporting, monitoring and data analysis, which are necessary for effective and fast decision-making.

**Gain Competitive Advantage with DSS:**

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One way of gaining competitive advantage is through the use of Computerized DSS. The other benefits of DSS are:

- Speeding up process of decision-making
- Increasing organizational control
- Speeding up problem-solving in an organization
- Helping automate managerial processes
- Improving personal efficiency
- Eliminating value chain activities.

## Section-C (20 Marks) Enterprise Risk Management

You are to answer any one Question, carrying 20 marks.

9. (a) Define the term "Enterprise Risk Management". Write a few lines on the same. Why "Enterprise Risk Management" is needed? 2+4+4  
(b) State the different Strategic Decision for Risk Management? 10

**Answer:**

**9. (a) Enterprise Risk Management:**

The Enterprise Risk Management (ERM) is defined as "a process, effected by an entity's Board of Directors, management and other personnel, applied in strategy setting across the enterprise". It is designed to identify potential events that may affect the entity and manage risk to be within its risk appetite.

ERM provides reasonable assurance regarding the achievement of entity objectives. Thus, ERM is:

- (a) A process, ongoing and following through an entity.
- (b) Effected by people at every level of an organization.
- (c) Is applied in Strategy-setting
- (d) Designed to identify potential events affecting the entity and manage risk within its risk appetite.

ERM is about designing and implementing capabilities for managing the risks that matter. It deals with risk and opportunities affecting value creation or preservation.

ERM is about establishing the oversight, control and discipline to drive continuous improvement of an entity's risk management capabilities in a changing operating environment.

**Need for ERM:**

ERM needs to be implemented for the following reasons:

- (i) Reduce unacceptable performance variability
- (ii) Align and integrate varying views of risk management.
- (iii) Build confidence of investment community and stake-holders.
- (iv) Enhances corporate governance.
- (v) Successfully respond to a changing business environment
- (vi) Align strategy and corporate culture.

**(b) Strategic Decision for Risk Management:**

The following are the different Strategic decisions for Risk Management:

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- **Risk Handling:** In ideal risk management, a prioritization process is followed, whereby risks with the greatest loss and the greatest probability of occurring are handled first and risks with lower probability loss are handled later.
- **Risk Reduction:** This strategy is attempted to decrease the quantum of losses arising out of a risky happening e.g., earthquake, storm, flood etc.,
- **Risk Avoidance:** This strategy results in complete elimination of exposure to loss due to a specific risk. It may involve avoidance of an activity, which is risky.
- **Risk Retention:** This strategy is adopted when risk cannot be avoided, reduced or transferred. It involves accepting the loss when it occurs by taking risky proposal or risky assignment where there are no other alternatives to avoid risk.
- **Risk Transfer:** It means causing another party to accept the risk. It involves a process of shifting risk responsibility on others. Insurance is one type of Risk Transfer
- **Risk Hedging:** It is a systematic process of reducing risk associated with an investment proposal or in some other assignments, where risk is inevitable.
- **Risk Diversification:** It involves identifying both systematic and unsystematic risks.
- **Risk Sharing:** Taking an insurance coverage for the exposure is the common method of sharing risk
- **Risk pooling:** It is the process of identification of separate risks and put them all together in a single blanket, so that the monitoring, integrating or diversifying risk can be implemented.

10. (a) What are the leading indicators for Sickness of a company? 12  
(b) What actions you would suggest for preventing corporate failures? 8

**Answer:**

**10. (a) Leading Indicators for Sickness of a Company:**

Just as diseases are identified by certain symptoms, industrial sickness can be identified by the following symptoms:

- Continuous reduction in turn-over.
- Piling up of inventory
- Continuous reduction of net profit to sales ratio.
- Continuous cash losses, leading to erosion of tangible net worth.
- Default in payment of interest on borrowings and default in repayment of term loan installments.
- The 'sundry debtors' as well as the 'sundry creditors' keep growing and reaching a disproportionately high level
- Approaching the banker for temporary overdraft at frequent intervals.
- High turnover of personnel, especially at senior levels.
- Change in accounting procedure with a view to window dressing.
- Delay in finalization of accounts.

**(b) Preventing Corporate Failures:** It is a fact that some companies perform well and that some under-perform and some fail. In many, if not most cases, these companies are led by executives, who are quite experienced.

Below are some recommendations that can help to reduce the risk of failures of organizations:

- (i) Appointment of non-executive directors:** The non-executive directors will bring their special expertise and knowledge on strategies, innovative ideas and business planning of the organization. They will monitor the work of the executive management and will help to resolve situations where conflict of interest arises.

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Overall, the non-executive directors will act as a cross-check.

- (ii) **Audit Committees:** Very often, there is occurrence of fraud in management and financial reporting. The presence of the audit committees will help to resolve this problem. Audit committees have the potential to reduce the occurrence of fraud by creating an environment where there is both discipline and control.
- (iii) **Development of environment learning mechanism:** Some organizations fail because they lose touch with their environment. Therefore, to counter this problem, there is a need to develop the environmental learning mechanism. Through it, new information can be brought on a continuous basis. This is mainly done by carrying customer-feedback surveys. In this way, the organization can realign itself with the new needs and challenges.
- (iv) **Focus on R&D:** Organizations can generate new knowledge by investing and focusing more on R&D. Thus, there will be more ideas how to make the products much better than that of their competitors.
- (v) **Improving the performance of the Production Function:** Production and Productivity figures must look up. The cost of production should decrease. The quality must further improve.
- (vi) **Technological up gradation:** The Company should upgrade its technology to overcome the problem of obsolescence. Out-dated technology should be discarded and the company could go in for introducing new technology.