PAPER – 17: Strategic Performance Management

Paper – 17 : Strategic Performance Management

Time Allowed: 3 Hours   **Full Marks: 100**

Section A

**Answer Question No. 1 which is compulsory Carries 20 Marks and answer
any 5 questions from Q. No. 2 to Q. No. 8.**

1. **Answer any 4 from the below**

(a) The Return on Investment (ROI). Profit margin percentage and asset turnover ratio of the three divisions are as follows.

	Return on Investment	Profit Margin Percentage	Asset Turnover ratio
Division A:	$\dfrac{₹2,00,000}{₹20,00,000} = 10\%$	$\dfrac{₹2,00,000}{₹38,00,000} = 5.26\%$	$\dfrac{₹38,00,000}{₹20,00,000} = 1.9$
Division B:	$\dfrac{₹5,00,000}{₹62,50,000} = 8\%$	$\dfrac{₹5,00,000}{₹1,70,00,000} = 2.94\%$	$\dfrac{₹1,70,00,000}{₹62,50,000} = 2.72$
Division C:	$\dfrac{₹10,00,000}{₹80,00,000} = 12.5\%$	$\dfrac{₹10,00,000}{₹2,00,00,000} = 5\%$	$\dfrac{₹2,00,00,000}{₹80,00,000} = 2.5$

(i) Using the profit margin percentage, the ranking of the divisions are Division A, Division C, and Division B.

(ii) Using ROI, the ranking of divisions are Division C, Division A, and Division B.

(iii) The ROI is a better measure of overall performance because it relates profits to the investments, or capital, requires more capital to generate sales than did division C. Thus its overall profitability is less. Note that division B has the largest asset turnover ratio. However, it generates the smallest amount of net income per Rupee of sales, resulting in the lowest ROI of the three divisions.

(b) (i)

$$\text{Cost} = 300x - 10x^2 + \frac{1}{3}x^3$$

That is TC = $300x - 10x^2 + \dfrac{1}{3}x^3$

MC = $\dfrac{dTC}{dx} = 300 - 20x + \dfrac{1}{\cancel{3}}\cancel{3}x^2 = 300 - 20x + x^2$

MC is minimum when

$\dfrac{d(MC)}{dx} = 0$

MC = $300 - 20x + x^2$

$\dfrac{d(MC)}{dx} = -20 + 2x = 0$ or,

$2x - 20 = 0$

x = 10 units

That is when x = 10, MC is minimum.

(ii) TC = $300x - 10x^2 + \dfrac{1}{3}x^3$

AC = $\dfrac{TC}{x}$ = $300x - 10x + \dfrac{1}{3}x^2$

$\dfrac{d(AC)}{dx} = -10 + \dfrac{2}{3}x$

AC is minimum

When $\dfrac{d(AC)}{dx} = 0$

Or, $\dfrac{2}{3}x = 10$

2x = 30

x = 15 units

When x = 15 units, AC is minimum

(iii) Output at which MC = MC.

$\cancel{300} - 20x + x^2 = \cancel{300} - 10x + \dfrac{1}{3}x^2 - 20x + 10x$

$= \dfrac{1}{3}x^2 - x^2$

$10x = x^2 - \dfrac{1}{3}x^2$

$10\cancel{x} = \dfrac{2}{3}x^{\cancel{2}}$

x = $\dfrac{30}{2}$ = 15 units

At x = 15 units, MC = AC

(c) Cost per unit = ₹100

No. of units manufactured = 7,500 unit

Investment = 9,00,000

Return on Investment = 20%

Required return = 9,00,000 × 20% = 1,80,000

Required return per unit = $\dfrac{1,80,000}{7,500}$ = 24

Selling price per unit = Cost + Required return = 100 + 24 = ₹124

Margin of profit = $\dfrac{124 - 100}{100} \times 100$ = 24%

(d) **Definition of Risk Management**

Risk management is the process of measuring or assessing risk and developing strategies to manage it. Risk management is a systematic approach in identifying, analyzing and controlling areas or events with a potential for causing unwanted change. It is through risk management that risks to any specific program are assessed and systematically managed to reduce risk to an acceptable level. Risk management is the act or practice of controlling risk. It includes risk planning, assessing risk areas, developing risk handling

options, monitoring risks to determine how risks have changed and documenting overall risk management program.

Risk management is a systematic approach to setting the best course of action under uncertainty by identifying, assessing, understanding, acting on and communicating risk issues. A Key ingredient of the risk measurement process is the accuracy and quality of master data that goes into the computation of different aspects of risk. It is no surprise therefore that Master Data Management is a key area. Risk management is first and foremost a 'science' and then an 'art'. Given the appetite for risk, if one uses accurate and relevant data, reliable financial models and best analytical tools, one can minimize risk and make the odds work in one's favour.

Risk Management process needs to identify measure and manage various risks so that comparison of risks and returns is possible to set corporate strategies. Risk Management is the identification and evaluation of risks to an organization compendium: strategic Performance Management including risks to its existence, profits and reputation (solvency) and the acceptance, elimination, controlling or mitigation of the risks and the effects of the risks.

Risk Management framework need a common metric to rank return and potential losses from different portfolios and risk categories.

Integrated risk management is a continuous, proactive and systematic process to understand, manage and communicate risk from an organization-wide perspective. It is about making strategic decisions that contribute to the achievement of an organization's overall corporate objectives.

Objectives of Risk Management

Risk management basically has the following objectives:

(i)   Anticipating the uncertainty and the degree of uncertainty of the events not happening the way they are planned.

(ii) Channelizing events to happen the way they are planned.

(iii) Setting right, at the earliest opportunity, deviations from plans, whenever they occur.

(iv) Ensuring that the objective of the planned event is achieved by alternative means, when the means chosen proves wrong, and

(v)   In case the expected event is frustrated, making the damage minimal

(e) Supply Chain Management must address the following problems:

❖ **Distribution Network Configuration:** Number, location and network missions of suppliers, production facilities, distribution centers, warehouses, cross-docks and customers.

❖ **Distribution Strategy:** Questions of operating control (centralized, decentralized or shared); delivery scheme, e.g., direct shipment, pool point shipping, cross docking, direct store delivery (DSD), closed loop shipping; mode of transportation, e.g., motor carrier, including truckload, Less than truckload (LTL), parcel; railroad; intermodal transport, including trailer on flatcar (TOFC) and container on flatcar (COFC); ocean freight; airfreight-replenishment strategy (e.g., pull, push or hybrid); and transportation control (e.g., owner-operated, private carrier, common carrier, contract carrier, or third-party logistics (3PL)).

❖ **Trade-Offs in Logistical Activities:** The above activities must be well coordinated in order to achieve the lowest total logistics cost. Trade-offs may increase the total cost if

only one of the activities is optimized. For example, full truckload (FTL) rates are more economical on a cost per pallet basis than LTL shipments. If, however, a full truckload of a product is ordered to reduce transportation costs, there will be an increase in inventory holding costs which may increase total logistics costs. It is therefore imperative to take a systems approach when planning logistical activities. These trades-offs are key to developing the most efficient and effective Logistics and SCM strategy.

❖ **Information:** Integration of processes through the supply chain to share valuable information, including demand signals, forecasts, inventory, transportation, potential collaboration, etc.

❖ **Inventory Management:** Quantity and location of inventory, including raw materials, work-in-process (WIP) and finished goods.

❖ **Cash-Flow:** Arranging the payment terms and methodologies for exchanging funds across entities within the supply chain.

2. (a) Computation of cost drive rates:

1. Material Procurement $= \dfrac{5,80,000}{1,100} = 527$

2. Material Handling $= \dfrac{2,50,000}{680} = 368$

3. Set – up $= \dfrac{4,15,000}{520} = 798$

4. Maintenance $= \dfrac{9,70,000}{8,400} = 115$

5. Quality control $= \dfrac{1,76,000}{900} = 196$

6. Machinery $= \dfrac{7,20,000}{24,000} = 30$

Statement showing computation of batch cost of 2600 units of AX – 15:

Particulars	Amount (₹)	Amount (₹)
Material		1,30,000
Labour		2,45,000
Prime cost		3,75,000
Add: overheads: Material procurement : 26 × 527 : Material handling : 18 × 368 : Set – ups : 25 × 798 : Maintenance : 690 × 115 : Quality Control : 28 × 196 : Machinery : 1,800 × 30 :	13,702 6,624 19,950 79,350 5,488 54,000	1,79,114
Total cost of the Batch		5,54,114

2. (b) **Components of Performance Management**

(i) **Performance Planning:** Performance planning is the first crucial component of any performance management process which forms the basis of performance

appraisals. Performance planning is jointly done by the appraise and also the reviewee in the beginning of a performance session. During this period, the employees decide upon the targets and the key performance areas which can be performed over a year within the performance budget, which is finalized after a mutual agreement between the reporting officer and the employee.

(ii) Performance Appraisal and Reviewing: The appraisals are normally performed twice in a year in an organization in the form of mid reviews and annual reviews which is held in the end of the financial year. In this process, the appraisee first offers the self filled up ratings in the self appraisal form and also describes his/her achievements over a period of time in quantifiable terms. After the self appraisal, the final ratings are provided by the appraiser for the quantifiable and measurable achievements of the employee being appraised. The entire process of review seeks an active participation of both the employee and the appraiser for analyzing the causes of loopholes in the performance and how it can be overcome. This has been discussed in the performance feedback section.

(iii) Feedback on the Performance followed by personal counseling and performance facilitation: Feedback and counseling is given a lot of importance in the performance management process. This is the stage in which the employee acquires awareness from the appraiser about the areas of improvements and also information on whether the employee is contributing the expected levels of performance or not. The employee receives an open and a very transparent feedback and along with this the training and development needs of the employee is also identified. The appraiser adopts all the possible steps to ensure that the employee meets the expected outcomes for an organization through effective personal counseling and guidance, mentoring and representing the employee in training programmers which develop the competencies and improve the overall productivity.

(iv) Rewarding good performance: This is a very vital component as it will determine the work motivation of an employee. During this stage, an employee is publicly recognized for good performance and is rewarded. This stage is very sensitive for an employee as this may have a direct influence on the self esteem and achievement orientation. Any contributions duly recognized by an organization helps an employee in coping up with the failures successfully and satisfies the need for affection.

(v) Performance Improvement Plans: In this stage, fresh set of goals are established for an employee and new deadline is provided for accomplishing those objectives. The employee is clearly communicated about the areas in which the employee is expected to improve and a stipulated deadline is also assigned within which the employee must show this improvement. This plan is jointly developed by the appraisee and the appraiser and is mutually approved.

3. (a) This given problem <u>does not</u> have a <u>saddle point</u>.
Now suppose that A plays strategy a_1 with <u>probability x</u> and plays strategy a_2 with probability <u>1-x.</u>
If B plays strategy b_1 then A's expected pay-off can be determined in reference to the figures given in the first column of the pay-off matrix as follows:

Expected pay-off (given that B plays b_1) = 8x - 6 (1 - x)

Similarly, if B plays strategy b_2, the expected pay-off of A can be determined as follows:
Expected pay-off (given that B plays b_2) = -7x + 4(1 - x).

Now we shall determine a value of x so that the expected pay-off for is the same, irrespective of the strategy adopted by B. This value can be obtained by equating these two equations. Thus, $8x - 6 (1-x) = -7x + 4(1 -x)$

$8x – 6 + 6x = -7x + 4 - 4x$

Or $x = 10/25$

$= 2/5$.

A would do best to adopt the strategies a_1 and a_2 choosing in a random manner, in the proportion of 2:3 (i.e., 2/5 and 3/5). The expected pay-off for A, using this mixed strategy equals $8x [2/5]-6 (3/5) = -2/5$

Thus, he shall net a loss of 2/5 per play in the long run.

We can determine mixed strategy for B in a similar manner as for A. Thus, if he plays strategy b_2 with probability y and strategy b_2 within the ratio of 11:14 in a random manner,

B's expected pay-off (loss) per play shall $8(11/25) -7 (14/25) = -10/25 = -2/5$

It implies that B shall gain 2/5 per play in the long run.

Thus, we conclude that A and B should both use mixed strategies as given here and the value of game equals -2/5.

	Strategy	Probability
For A,	a_1	2/5
	a_2	3/5
For B,	b_1	11/25
	b_2	14/25

3. (b) **Steps of Business Process Re-Engineering**

Assuming that a company has decided its processes are inefficient or ineffective, and therefore in need of redesign, how should it proceed? This is a straight forward activity, but Davenport & Short (1990) prescribe a five-step approach to BPR:
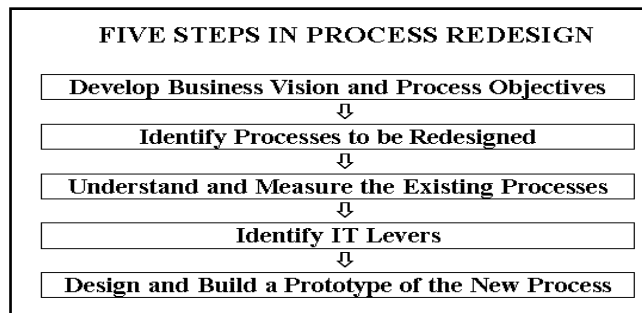
(i) **Develop Business Vision and Process Objectives:**

BPR is driven by a business vision which implies specific business objectives such as Cost Reduction, Time Reduction, Output Quality Improvement, Quality of Work life (QWL)/Learning/Empowerment.

(ii) **Identify Processes to be Redesigned:**

Most firms use the *High-Impact* approach which focuses on the most important processes or those that conflict most with the business vision. Lesser number of firms use the *Exhaustive* approach that attempts to identify all the processes within an organization and then prioritize them in order of redesign urgency.

(iii) **Understand and Measure the Existing Processes:**

Understanding and measuring the existing processes before redesigning them is especially important, because problems must be understood so that they are not repeated. On the other hand, accurate measurement can serve as a baseline for future improvements.

(iv) **Identify IT Levers:**

In the broadest sense, all of IT's capabilities involve improving coordination and information access across organizational units, thereby allowing for more effective management of task interdependence. An awareness of IT capabilities can –and should influence process design. Therefore, the role of IT in a process should be considered in the early stages of its redesign.

(v) **Design and Build a Prototype of the New Process:**

The actual design should not be viewed as the end of the BPR process. Rather, it should be viewed as a prototype, with successive iterations expected and managed. Key factors and tactics to consider in process design and prototype generation include using IT as a design tool, understanding generic design criteria, and creating organizational prototypes.

These prototypes of business process changes and organizational redesign initiatives, after agreement by owners and stakeholders, would be implemented on a pilot basis, examined regularly for problems and objective achievement, and modified as necessary. As the process approached final acceptance, it would be phased into full implementation.

Another view for BPR of pictorial description is given below:
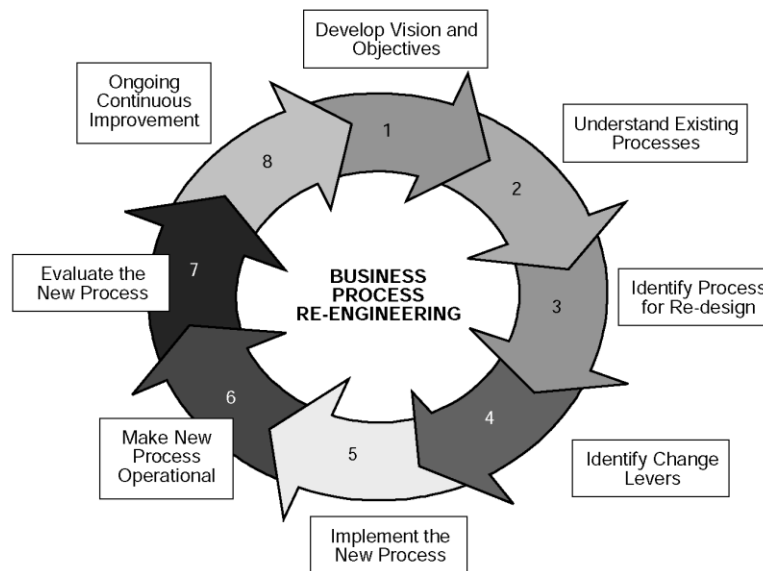
4. (a) **Income Statement**

Particulars	Option I	Option II	Option III
1. Life Cycle Sales Quantity	5,000 units	4,000 units	2,500 units
2. Life Cycle Selling Price p.u.	₹400	₹480	₹600
3. Life Cycle Sales Revenue (1×2)	₹ 20,00,000	₹ 19,20,000	₹ 15,00,000

4. Life Cycle Functional Costs			
(a) Research and Development	₹ 2,40,000	₹ 2,40,000	₹ 2,40,000
(b) Design	₹ 1,60,000	₹ 1,60,000	₹ 1,60,000
(c) Production One Time	₹ 1,00,000	₹ 1,00,000	₹ 1,00,000
Variable	5000 × ₹25 = ₹1,25,000	4000 × ₹25 = ₹1,00,000	2500 × ₹25 = ₹62,500
(d) Marketing One Time	₹ 70,000	₹ 70,000	₹ 70,000
Variable	5000 × ₹24 = ₹1,20,000	4000 × ₹ 24 = ₹96,000	2500 × ₹24 = ₹60,000
(e) Distribution One Time	₹ 50,000	₹ 50,000	₹ 50,000
Variable	5000 × ₹ 16 = ₹ 80,000	4000 × ₹ 16 = ₹ 64,000	2500 × ₹16 = ₹40,000
(f) Customer Service One Time	₹ 80,000	₹ 80,000	₹ 80,000
Variable	5000 × ₹30 = ₹1,50,000	4000 × ₹30 = ₹1,20,000	2500 × ₹30 = ₹75,000
Life Cycle Total Costs	₹ 11,75,000	₹ 10,80,000	₹ 9,37,500
5. Life Cycle Net Income	₹ 8,25,000	₹ 8,40,000	₹ 5,62,500

Conclusion: The Company may select Price of ₹ 480 to maximize Profits. Assumed that R&D Costs and Design Costs represent Total Costs incurred in 2 Years.

4. (b) **The Role of Demand in Pricing Decisions**

How a business firm's buyers respond to a change in price is an important consideration, for the eventual effect on sales volume and revenue is determined by the degree of buyer's demand sensitivity to price changes. However, price –setters the following four points:

(i) Market Vs Firm Elasticity:

Price elasticity of demand is a measure of the degree to which buyers are sensitive to price changes. In any market characterized by several functionally substitutable products, there are actually two demand schedules: 1) demand for the general product (primary demand) and 2) demand for the firm's specific offering (secondary demand). In general, secondary demand is found to be more price elastic. But a seller may sometimes mistake relatively inelastic market or primary demand as elastic secondary demand.

(ii) Demand for buyer's Output:

The Market for buyer's products may actually be price-elastic. So a reduction in price by a firm would raise demand for its product. Hence, manufacturers selling to such buyers, and whose product represents a significant portion of these buyers product costs may curtail sales opportunities by eliminating discounts or low margin products.

(iii) Likelihood of Competitive Entry:

K.B. Monroe has pointed out that "an emphasis on high-price strategies may encourage the entry of competitors when entry barriers are minor and when demand is actually price-elastic. Moreover, high prices or rapidly increasing prices may force buyers to reconsider their need and, perhaps, actively seek out competitive substitutes.

(iv) Demand Consequences of a Product Line:

Most firms sell a wide variety of products requiring a variety of different marketing strategies. Within a product line there are usually some products that are functional substitutes for each other and some products that are functionally complementary. For example, a photographic product line includes such items like cameras, films,

flash bulbs, projectors, screens and other accessories. Because of the demand interrelationships and because there are usually several price-market targets, the product line pricing problem throws a major challenge before the marketing executives.

5. (a) It is a fact that some companies perform well and that some underperform and some fails. In many, if not most cases, these companies are led by executives that 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. 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 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 research and development**

Organizations can generate new knowledge by investing and focusing more on research and development. Thus, there will be more ideas how to make the products much better than that of their competitors.

It can be deducted that a director has a big responsibility that he has to assume there commendations mentioned above can help directors to reduce corporate failure, provided that the directors abide. Proper planning also is critical to the success of a business.

5. (b) Performance - Related measures in the context of Corporate Risk Management are those which concentrate on the mid-region of the probability distribution, i.e., the region near the 'mean' and are relevant for determination of the volatility around expected results.
The following are some of the Performance - related measures in the context of Corporate Risk Management.

(i) **Return on Equity -** Net Income divided by Net Worth.

(ii) **Operating Earnings -** Net Income from continuing operations, excluding realized investment gains.

(iii) **Earnings before Interest -** Dividends, Taxes, Depreciation and Amortization (EBITDA).A form of cash flow measure for evaluating the operating performance of companies with high levels of debt.

(iv) **Cash Flow Return on Investment (CFROI) -** EBITDA divided by tangible assets.

(v) **Weighted Average Cost of Capital (WACC) -** The sum of the required market returns of each component of corporate capitalization, weighted by that component's share of the total capitalization.

(vi) **Economic Value Added (EVA) -** A corporate performance measure that stresses the ability to achieve above the firm's cost of capital.

6. (a) **Types**

OLAP systems have been traditionally categorized using the following taxonomy.

Multidimensional

MOLAP is a "multi-dimensional online analytical processing".'MOLAP' is the 'classic' form of OLAP and is sometimes referred to as just OLAP. MOLAP stores this data in optimized multidimensional array storage, rather than in a relational database. Therefore it requires the pre-computation and storage of information in the cube - the operation known as processing. MOLAP tools generally utilize a pre-calculated data set referred to as a data cube. The data cube contains all the possible answers to a given range of questions. MOLAP tools have a very fast response time and the ability to quickly write back data into the data set.

Relational

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. Depends on a specialized schema design. This methodology relies on manipulating the data stored in the relational database to give the appearance of traditional OLAP's slicing and dicing functionality. In essence, each action of slicing and dicing is equivalent to adding a "WHERE" clause in the SQL statement. 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. ROLAP tools feature the ability to ask any question because the methodology does not limit to the contents of a cube. ROLAP also has the ability to drill down to the lowest level of detail in the database.

Hybrid

There is no clear agreement across the industry as to what constitutes "Hybrid OLAP", 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 approaches. HOLAP tools can utilize both pre-calculated cubes and relational data sources.

Other types

The following acronyms are also sometimes used, although they are not as widespread as the ones above:

- **WOLAP** - Web-based OLAP
- **DOLAP** - Desktop OLAP
- **RTOLAP** - Real-Time OLAP

6. (b) Management Information System is a systematic process of providing relevant information in right time in right format to all levels of users in the organization for effective decision making. MIS is also defined to be system of collection, processing, retrieving and transmission of data to meet the information requirement of different levels of managers in an organization.

According to CIMA-

MIS is a set of procedures designed to provide managers at different levels in the organization with information for decision making, and for control of those parts of the business for which they are responsible.

MIS comprises of three elements viz., management, information and system.

Objectives of MIS

- To provide the managers at all levels with timely and accurate information for control of business activities

- To highlight the critical factors in the operation of the business for appropriate decision making

- To develop a systematic and regular process of communication within the organization on performance in different functional areas

- To use the tools and techniques available under the system for programmed decision making

- To provide best services to customers

- To gain competitive advantage

- To provide information support for business planning for future

7. (a) Evaluation of Strategy:

	Year $_1$	Y_2	Y_3	Y_4
Sale	24,000	28,800	34,560	34,560
PBT @ 10%	2,400	2,880	3,456	3,456
PAT @ 70%	1,680	2,016	2,419	2,419
(+) Dep. (10% on op. bal)	800	960	1,152	1,382
Operating cash inflow	2,480	2,976	3,571	3,801
(+) Investment in FA	2,400	28,800	3,456	1,382
CA	800	960	1,152	-
Free cash flow's	(720)	(864)	(1,037)	(2,419
Working notes: Projected				
FA (40% of sales	9,600	11,520	13,824	13,824
CA (20% of sales)	4,800	5,760	6,912	6,912
	14,400	17,280	20,736	20,736

Computation of value of strategy

Year	CF	DCF	PV
1	(720)	0.867	(624.24)

2	(864)	0.756	(653.18)
3	(1037)	0.657	(681.30)
4	$\dfrac{2419}{15\%} = 16,127$	0.657	10,595.44
			8,636

Value of the business beyond yearly to infinity (as) value of the free cash flow with adoption of strategy cash flows available each year will be 1,400

Value of the business = $\dfrac{1400}{15\%}$ = 4.333

It is better not to adopt the strategy value of strategy = 8636 – 9333 = Nil

7. (b) **The benefits of adopting a Balanced Scorecard approach to performance management may include:**

    (i) Wholistic approach: It brings strategy and vision as the centre of Management focus. It helps firms to assess overall performance, improve operational processes and enable Management to develop better plans for improvements. It provides Management with a comprehensive picture of business operations.

    (ii) Overall Agenda: It brings together in a single Management Report, various aspects like customer orientation, shortening the response time, improving quality, etc. of a competitive agenda.

    (iii) Objectivity: It emphasizes the need to provide the user with a set of information, which addresses all relevant areas of performance in an objective and unbiased manner.

    (iv) Management by Objectives: The methodology of BSC facilitates communication and understanding of business goals and strategies at all levels of the Firm. Thus it enables Management by Objective.

    (v) Feedback and Learning: It provides strategic feedback and learning. BSC guards against sub-ordination. It emphasizes an integrated combination of traditional and non-traditional performance measures.

    (vi) System Approach: It helps Senior Managers to consider all the important performance measures together, and allows them to see whether an improvement in one area has been achieved at the expense of another.

8. **Write a short note on any four of the following**

(a) **Objectives of a Pricing Policy**

Each pricing decision of a firm has generally one of the following objectives:

- To achieve a given rate of return for the entire product line;
- To maintain or increase the existing market share of the firm;
- To maintain at least a particular level of price stability;
- To choose and adopt a price policy which fits into the market conditions faced by the different products in the product line;

(b) **Six Sigma:**

Six Sigma at many organizations simply means a measure of quality that strives for near perfection. Six Sigma is a disciplined, data-driven approach and methodology for eliminating defects (driving toward six standard deviations between the mean and the nearest specification limit) in any process – from manufacturing to transactional and from product to service.

The fundamental objective of the Six Sigma methodology is the implementation of a measurement-based strategy that focuses on process improvement and variation reduction through the application of Six Sigma improvement projects. This is accomplished through the use of two Six Sigma sub-methodologies: DMAIC and DMADV. The Six Sigma DMAIC process (defines, measure, analyze, improve, control) is an improvement system for existing processes falling below specification and looking for incremental improvement. The Six Sigma DMADV process (define, measure, analyze, design, verify) is an improvement system used to develop new processes or products at Six Sigma quality levels. It can also be employed if a current process requires more than just incremental improvement. Both Six Sigma processes are executed by Six Sigma Green Belts and Six Sigma Black Belts, and are overseen by Six Sigma Master Black Belts.

Six Sigma doctrine demands the following conditions:

- Continuous efforts to achieve stable and predictable process results (i.e., reduce process variation) are of vital importance to business success.

- Manufacturing and business processes have characteristics that can be measured, analyzed, controlled and improved.

- Achieving sustained quality improvement requires commitment from the entire organization, particularly from top-level management.

(c) Risk Pooling:

One of the forms of risk management mostly practiced by insurance companies is Risk Pool. Under this system, insurance companies come together to form a pool, which can provide protection to insurance companies against catastrophic risks such as floods, earthquakes etc. The term is also used to describe the pooling of similar risks that underlies the concept of insurance. While risk pooling is necessary for insurance to work, not all risks can be effectively pooled. In particular, it is difficult to pool dissimilar risks in a voluntary insurance market, unless there is a subsidy available to encourage participation.

Risk pooling is an important concept in supply chain management. Risk pooling suggests that demand variability is reduced if one aggregates demand across locations because as demand is aggregated across different locations, it becomes more likely that high demand from one customer will be offset by low demand from another. This reduction in variability allows a decrease in safety stock and therefore reduces average inventory.

The three critical points to risk pooling are:

(i) Centralized inventory saves safety stock and average inventory in the system.

(ii) When demands from markets are negatively correlated, the higher the coefficient of variation, the greater the benefit obtained from centralized systems i.e., the greater the benefit from risk pooling.

(iii) The benefits from risk pooling depend directly on the relative market behavior. If we compare two markets and when demand from both markets is more or less than the average demand, we say that the demands from the market are positively correlated. Thus the benefits derived from risk pooling decreases as the correlation between demands from the two markets becomes more positive.

The basis for the concept of risk pooling is to share or reduce risks that no single member could absorb on their own. Hence, risk pooling reduces a person or fim's exposure to financial loss by spreading the risk among many members or companies. Actuarial concepts used in risk pooling include:

(i)   Statistical variation.

(ii) The law of averages.

(iii) The law of large numbers.

The laws of probability.

(d) Total Productivity Management:
Total Productive Management (TPM) provides a system for coordinating all the various improvement activities for the company so that they contribute to the achievement of corporate objective. Starting with a corporate vision and broad goals, these activities are developed into supporting objectives, or targets, throughout the organization. The targets are specifically and quantitatively defined. This seminar therefore emphases how to improve the competitiveness of products and services in quality, price, cost and customer responsiveness, thereby increasing the profitability, market share, and return on investment in human, material, capital, and technology resources.

Steps to start TPM are Identifying the key people

- Management should learn the philosophy.
- Management must promote the philosophy.
- Training for all the employees.
- Identify the areas where improvements are needed.
- Make an implementation plan.
- Form an autonomous group.

(e) Business Applications of ABM:

(i) **Cost Reduction:** ABM helps the Firm to identify opportunities in order to streamline or reduce the costs or eliminate the entire activity, especially NVA activities. It is useful in identifying and quantifying process waste, leading to continuous process improvement through continuous cost reduction.

(ii) **Activity Based Budgeting:** Activity Based Budgeting analyses the resource input or cost for each activity. It provides a framework for estimating the amount of resources required in accordance with the budgeted level of activity. Actual results can be compared with budgeted results to highlight (both in financial and non-financial terms) those activities with major discrepancies for potential reduction in supply of resources. It is a planning and control system, which supports continuous improvement.

(iii) **Business Process Re-Engineering (BPR):** BPR is the analysis and redesign of workflows and processes in a Firm, to achieve dramatic improvement in performance, and operational excellence. A business process consists of linked set of activities, e.g. purchase of materials is a business process consisting of activities like Purchase Requisition, Identifying Suppliers, preparing Purchase Orders, mailing Purchase Orders and follow up. The process can be reengineered by sending the production schedule direct to the suppliers and entering into contractual agreement to deliver materials according to the production schedule.

(iv) **Benchmarking:** It involves comparing the Firm's products, services or activities with other best performing organizations, either internal or external to the Firm. The objective is to find out how the product, service or activity can be improved and ensure that the improvements are implemented.

(v) **Performance Measurement:** Activity performance measures consist of measures relating to costs, time quality and innovation. For achieving product quality, some illustrative performance measures are -

Area	Measures
Quality of purchased component	Zero Defects
Quality of output	Percentage yield
Customer Awareness	No. of orders, no. of complaints