Paper 15 - Business strategic & Strategic Cost Management

Section A – Business Strategy

Question 1.

(a) Assume that IBM and Dell Computer have a large inventory of personal computers that they would like to sell before a new generation of faster, cheaper machines is introduced. Assume that the question facing each competitor is whether or not they should widely advertise a close out sale on these discontinued items, or instead let excess inventory work itself off over the next few months. If both aggressively promote their products with a nationwide advertising campaign, each will earn profits of $5 million. If one advertises while the other does not, the firm that advertises will earn $20 million, while the one that does not advertise will earn $2 million. If neither advertises, both will earn $10 million. Assume this is a one-shot game, and both firms seek to maximize profits.

	Dell Computer		
IBM	**Promotion Strategy**	**Advertise**	**Don't advertise**
	Advertise	**$5 million, $5 million**	**$20 million, $2 million**
	Don't Advertise	**$2 million, $20 million**	**$10 million, $10 million**

(i) What is the dominant strategy for each firm? Are these also secure strategies?
(ii) What is the Nash equilibrium?
(iii) Would collusion work in this case?

Answer.

(i) The dominant strategy for both IBM and Dell is to advertise. Neither could earn higher profits with a don't advertise strategy, irrespective of what the other party chooses to do.
For example, if IBM chooses to advertise, Dell will also choose to advertise and earn $5 million rather than $2 million. If IBM chooses not to advertise, Dell will choose to advertise and earn $20 million rather than $10 million. No matter what IBM decides to do, Dell is better off by advertising. Similarly, if Dell chooses to advertise, IBM will also choose to advertise and earn $5 million rather than $2 million. If Dell chooses not to advertise, IBM will choose to advertise and earn $20 million rather than $10 million. No matter what Dell decides to do, IBM is better off by advertising.
These are also secure strategies for each firm because they ensure the elimination of worst outcome payoffs. With an advertising strategy, neither firm is exposed to the possibility of earning only $2 million.

(ii) A set of strategies constitute a Nash equilibrium if, given the strategies of other players, no player can improve its payoff through a unilateral change in strategy. The concept of Nash equilibrium is very important because it represents a situation where every player is doing the best possible in light of what other players are doing.
In this case, the Nash equilibrium is for each firm to advertise. Although some problems have multiple Nash equilibriums, that is not true in this case. An advertising strategy for both firms is the only set of strategies where no player can improve its payoff through a unilateral change in strategy.

(iii) Collusion will not work in this case because this is a one shot game where moves are taken simultaneously, rather than in sequence. Sequential rounds are necessary with enforcement penalties before successful collusion is possible. If IBM and Dell agreed not to advertise in the hope of making $10 million each, both would have an incentive to cheat on the agreement in the hope of making $20 million. Without the possibility for a second round, enforcement is precluded, and collusion isn't possible.

(b) Imagine that Jeff Skill, the Chief Executive Officer (CEO), and Andy Fast, the Chief Financial Officer (CFO) for a leading energy-trading company have been indicted for securities fraud. The amount of jail time each suspect can expect to receive if convicted depends upon the amount of cooperation the authorities are able to secure from each suspect. Jeff Skill can choose either row in the payoff matrix below; Andy Fast can choose either column. Notice that neither suspect can unilaterally choose a given cell in the payoff matrix. The ultimate result depends upon the choices made by both suspects. This is a one-shot, simultaneous-move game. The first number in each cell is the prison term handed down to Jeff Skill; the second number is the prison term handed down to Andy Fast.

	Andy Fast		
Jeff Skill	Confession Strategy	Confess	Deny Guilt
	Confess	Five-year prison term, Five-year prison term	Ten-year prison term, Twenty-year prison term
	Deny Guilt	Twenty-year prison term, Ten-year prison term	No jail time, No jail time

(i) Is there a dominant strategy for each suspect? If so, what is it?
(ii) Is there a secure strategy for each suspect? If so, what is it?

Answer.

(i) No, there is no dominant strategy for either suspect. If Andy Fast decides to confess, Jeff Skill would receives the minimum sentence of 5 years by also confessing. However, if Andy Fast chooses to deny guilt, Jeff Skill would be best off by also choosing to deny guilt and obtaining freedom. Similarly, if Jeff Skill chooses to confess, Andy Fast would receive the lightest sentence by also confessing. However, if Jeff Skill chose to deny guilt, Andy Fast would be best off by also denying guilt.

(ii) Yes, the secure strategy for each suspect is to confess. The worst possible outcome for either suspect would be to receive a harsh 20-year prison sentence. The only way this worst possible outcome can be avoided is for both suspects to confess. By not knowing the confession strategy of the other suspect, the best possible outcome of no prison time is lost through this confession strategy.

Question 2.

Strategic planning is often defined as a process of proactively aligning the organization's resources with threats and opportunities caused by changes in the external environment in order to achieve prescribed goals. While it focuses on the future, it also reflects on what happened in the past.

(i) Explain the four aspects that are embedded in the definition of strategic planning.
(ii) Point out reasons why organizations may embark on the concept of strategic planning.
(iii) State some shortcomings of strategic planning.

Answer.

(i) Strategic planning is an organizational management activity that is used to set priorities, focus energy and resources, strengthen operations, ensure that employees and other stakeholders are working toward common goals, establish agreement around intended outcomes/results, and assess and adjust the organization's direction in response to a changing environment. It is a disciplined effort that produces fundamental decisions and actions that

shape and guide what an organization is, who it serves, what it does, and why it does it, with a focus on the future. Effective strategic planning articulates not only where an organization is going and the actions needed to make progress, but also how it will know if it is successful.
Strategic planning should be defined in four ways which are:-

I. Futurity of Current Decision

It deals with the futurity of current decisions. Strategic planning looks at the chain of cause and effect consequences overtime of an actual or intended decision that a manager is going to make.
Strategic planning looks also at the alternative courses of action that are open in the future and when are made among the alternatives they become the basis for making current decisions systematic identification of opportunities and threats that to lie in the future and deciding how best and the best way to exploit opportunities and avoiding threats.

II. Process

Strategic Planning is a process. It is the process that begins with the setting of organizational aims, defines objectives and policies to achieve them, and develop detailed plans to make sure that the strategies are implemented so as to achieve the ends sought. Strategic Planning for most organisations results in a set of plans produced after a specified period of time set aside for the development of the plans.

III. Philosophy

Strategic planning is an altitude, a way of life. It is more of a thought process, an intellectual exercise, than a prescribed set of processes, procedures, structures, or techniques.
To get best results, managers and staff in the organization must believe that strategic planning is worth doing and must want to do it as well as they can.

IV. Structure

A formal strategic planning system links three major types of plans:-
Strategic plans
Medium-range programmes and
Short-range budgets and operating plans

(ii) Sometimes boards and staff members need to be convinced that strategic planning is worth the investment of money and time. They need to know how the process will benefit them and the organization. Strategic planning can provide enormous benefits. It can:

- **Bring clarity and agreement on mission and vision**: Agreement on mission (the organization's purpose) is paramount. Without this agreement, an organization cannot be effective. The strategic planning process can provide an invaluable opportunity for dialogue and consensus among staff, board, and volunteers. Defining a shared vision (the organization's future direction) and then planning based on that desired outcome is the essence of strategic planning.
- **Help organizations prepare for the future**: As the popular saying goes, "If you don't know where you're going, you'll probably end up someplace else." A strategic plan outlines the steps to achieve a desired future for an organization. It is comforting for board, staff, and volunteers to have a roadmap to follow. The planning process prioritizes the work to be done. Strategic planning facilitates making short-term decisions based on long-term implications. Most important, a strategic plan provides a series of agreements about what needs to happen. It is a dynamic document that lending flexibility to the organization so that when change occurs, the plan can be adapted to accommodate the changes.
- **Help organizations anticipate and manage change**: Planning allows an organization to anticipate change and prepare for it. Planning also helps an organization deal with dramatic changes in its environment. In fact, by anticipating and planning for change, instead of just reacting to it, an organization can determine how to deal with the change.

- **Improve the decision-making processes**: With a strategic plan in place, day-to-day decision making and problem solving will be directly related to long-range and short-term goals. Planning reduces stress by making decisions easier. When choices are made within the context of a strategic framework, the organization's direction is clearly defined. If there is no strategic framework, the future of the organization is in the hands of whomever is making choices. Strategic decision making and problem solving assure that the organization's vision will be achieved.
- **Promote effective stewardship**: Practicing good stewardship means being accountable to others. In the case of charitable organizations, clients and funders of a nonprofit organization assume they will pay for services or donate money, respectively, to the organization, which will re-invest the revenues to address the social need. Similarly, association members and foundation board members and grantees assume that funds will be used for the greatest impact. Because strategic planning helps nonprofit organizations fulfill their missions, it also helps them be stewards of the public's trust.
- **Align the board and staff**: When there is shared purpose and direction ("we're all in the same boat,") there is the basis of a high-performance team. When individuals are focused on the same goal or outcome, they feel a certain amount of synergy and often set aside differences, help each other, and become invested in a common purpose. An organization's mission cannot be achieved without board members and staff who agree on a common direction and are committed to achieving success for the organization.
- **Provide an opportunity to recommit to the cause**: Focus on the future work of the organization can bring the board, staff, and other stakeholders into alignment around the mission — group interaction around a cause often fuels individual commitment.
- **Educate participants about institutional history**: By producing a synopsis of significant events in the history of your organization, you will learn what has worked and what has not worked. Historical synopses might include a description of major milestones and changes that have contributed to how the organization functions today. By understanding your organization's past, you can make choices about what you want it to become in the future. This document can also be valuable in orientation of new staff, volunteers, and board members.
- **Identify existing strengths in the organization**: Constituent feedback conducted in conjunction with the plan indicates how well the organization is meeting expectations. It can also show you where your efforts are paying off and what to celebrate.
- **Provide an opportunity to analyze the organization's systems and processes**: It is valuable to conduct a critical review of the organization's processes and how it operates. A review provides an opportunity to analyze different systems and processes and make changes to improve them. Pay particular attention to communication channels and cross-functional operations.
- Reinforce the need to commit to continuous improvement: Planning allows an organization to anticipate and prepare for change. An organization without an effective strategic plan may react in a hurried, scattered way to unanticipated circumstances.

(iii) Some critical shortcomings are reviewed as follows:

(a) Environment may prove different from that expected

Forecasting is not an exact science and plans that are based upon predictions that prove incorrect may fail. Unexpected events in government action such as a contract cancellation, a change in labour union activities, a decline in economic activity, or a sudden price discount by a major competitor – all are uncertainties that make planning difficult.

(b) Internal resistance

In many organisations the introduction of a formal planning system raises antiplanning biases that can prevent effective planning. In larger organisations, old ways of doing things, old rules, and old methods may be so entrenched that it is difficult to change them. The larger the companies become, the greater the amount of such debris one finds.

(c) Planning is expensive

In a typical corporate planning effort of even a medium-sized company a significant effort is required to do effective planning. The time of many people is occupied and costs are incurred for special studies and information. Planning is expensive and managers throughout the planning process must continuously apply a cost-benefit gauge. It is not possible to apply this equation quantitatively to corporate planning, but the idea should be kept in mind for it is not difficult to incur costs that exceed potential benefits.

Question 3.

Chawama Enterprises was established twenty-five years ago. The organization was formed to provide mining tools to the mines on the Copperbelt and the neighbouring country of Democratic Republic of Congo. The organization has faced mixed fortunes in its business over the period of its existence. This is directly attributable to external forces faced over its life cycle both at macro and competitive environment levels.

There are times when macro environment has been favourable and times when factors relating to political and economical environment had almost threatened the survival of the organization.

During the world credit crunch, fall in copper prices and ever increasing importation prices of tools due to weaker kwacha has once again created acute challenges for the organisation.

In wake of the above background:

(a) Evaluate how environmental analysis can help Chawama Enterprises deal with the business environment?

(b) Explain how Chawama Enterprises can use the Five Forces Model to evaluate how competitive the firm is.

Answer.

An environmental analysis in strategic management plays a crucial role in businesses by pinpointing current and potential opportunities or threats outside the company in its external environment. The external environment includes political, environmental, technological and sociological events or trends that can affect the business directly or indirectly. An environmental analysis is generally conducted as part of an analysis of strengths, weaknesses, opportunities, and threats (SWOT) when a strategic plan is being developed. Managers practicing strategic management must conduct an environmental analysis quarterly, semi-annually, or annually, depending on the nature of the business's industry. Being able to identify events or conditions in the external environments helps businesses achieve a competitive advantage and decrease its risk of not being prepared when faced with oncoming threats.

The purpose of an environmental analysis is to help in strategy development by keeping decision-makers within an organization informed on the external environment. This may include changing of political parties, increasing regulations to reduce pollution, technological developments, and shifting demographics. If a new technology is developed and is being used in a different industry, a strategic manager would see how this technology could also be used to improve processes within his business. An analysis allows businesses to gain an overview of their environment to find opportunities or threats.

Chawama must actively and consistently conduct environmental analysis by analyzing the political, legal, economical, social, environmental and technological environments.

This analysis will be invaluable as follows:

(i) Chawama will be become **knowledgeable** about the macro environmental forces that are affecting the organization.

(ii) Chawama will be able to establish a **trend analysis** of these forces in terms of how the forces have affected the firm over its life cycle. Are we faced with opportunities or threats, is the question to answer?
(iii) Chawama will know at any given point which force has **high, medium or low impact.** Currently most firms must deal with the economic environment. During 1991, the firm had to deal with the political environment.
(iv) Chawama can then construct **scenarios** representing possible future occurrences. This is applicable in times of acute uncertainty.
(v) Chawama will then **develop strategies** of dealing with each scenario should it occur in future.
(vi) The above will result in Chawama overcoming the **negative implications** of not taking the environment seriously.
(vii) Eventually environment analysis ensures long term survival as the organization is able to gain **strategic foresight.**
Strategic management must address the environment in knowing what opportunities and threats are being posed by the environment.

(b) The five forces model helps organizations to analyze and evaluate their competitive position by looking at the impact of these forces.
These forces include:
Threat of rivalry amongst current competitors- Chawama will have to look at the number of competing firms, are these firms supplying a homogenous product, are firms competing on price or quality and what are the exit barriers.
For example, too many competitors increase competition. High exit barriers can also increase competition, while differentiation can reduce competition.
Threat of new entrants-the extent to which new entrants can establish similar business will result in Chawama finding its position undermined. Factors relating to entry barriers will have to be analyzed. Ease with which new entrants can get business from mines, ease of raising capital and ease of having access to sources of these tools can make it easy for new firms to set up the business in which Chawama is.
Threat of substitute products-this relates to whether mines can find alternative tools or methods of extracting minerals. In times where Chawama tools are getting expensive, the mines may be forced to get innovative or look at alternative tools.
Threat of bargaining power of suppliers- Chawama will have to ask themselves the extent to which the firm can force suppliers to reduce prices. This will depend on the quantities bought, the number of customers buying from the same supplier and the extent to which Chawama can easily switch to other sources of tools.
Threat of bargaining power of customers-this relates to mines. Can they drive the prices down? Under current economic problems, mines are finding strength in the crisis by citing economic wows as reducing their ability to pay and in the process forcing suppliers to reduce prices or be threatened with loss of business.
The extent to which Chawama can deal with these forces will affect the level of profits, value and long term survival of the firm.

Question 4.

Consider Porter's three generic strategies. In your opinion, how cost-based advantages can be sustained? Give example to support your argument.

Answer.

Porters Generic Strategies – These three generic strategies are defined along two dimensions; strategic scope and strategic strength, strategic scope is a demand-side dimension and looks at the size and composition of the market you intend to target. Strategic strength is a supply-side dimension and looks at the strength or core competency of the firm. In particular he identified two competencies that he felt were most important: product differentiation and product cost (efficiency).

1. **Cost Leadership Strategy (Air Deccan, Tata Nano)**

   This strategy involves the firm wining market share by appealing to cost-conscious or price-sensitive customers. This is achieved by having the lowest prices in the largest market segment, or at least the lowest price to value ratio. To succeed at offering the lowest price while still achieving profitability and a high return on investment, the firm must be able to operate at a lower cost than its rivals. There are three main ways to achieve this.

   The first approach is achieving a high asset turnover: In service Industries, this may mean for example a restaurant that turns tables around very quickly, or an airline that turns around flights very fast. In manufacturing, it will involve production of high volumes of output. These approaches mean fixed costs are spread over a large number of units of the product or service, resulting in a lower unit cost, i.e., the firm hopes to take advantage of economies of scale and experience curve effects. For industrial firms, mass production becomes both a strategy and an end in itself. Higher levels of output both required and result in high market share, and create an entry barrier to potential competitors, who may be unable to achieve the scale necessary to match the firms low costs and price.

   The second dimension is achieving low direct and indirect operating costs: This is achieved by offering high volumes of standardized products, offering basic no-frills products and limiting customization and personalization of service. Production costs are kept low by using fewer components, suing standard components, and limiting the number of models produced to ensure larger production runs. Overheads are kept low by paying low wages, locating premises in low rent areas, establishing a cost-conscious culture, etc. Maintaining this strategy requires a continuous search for cost reductions in all aspects of the business. This will include outsourcing, controlling production costs, increasing asset capacity utilization, and minimizing other costs including distribution, R & D and advertising. The associated distribution strategy is to obtain the most extensive distribution possible. Promotional strategy often involves trying to make a virtue out of low cost product features.

   The third dimension is control over the supply/procurement chain to ensure low costs: This could be achieved by bulk buying to enjoy quantity discounts, squeezing suppliers on price, instituting competitive bidding for contracts, working with vendors to keep inventories low using methods such as Just-in-Time purchasing. Wal-Mart is famous for squeezing its suppliers to ensure low prices for its goods. Dell Computer initially achieved market share by keeping inventories low and only mkaing computers to order. Other procurement advantages could come from preferential access to raw materials or backward integration.

2. **Differentiation Strategy**

Can be in Production Differentiation

Differentiation is aimed at the broad market that involves the creation of a product or services that is perceived throughout its industry as unique. The company or business unit may then charge a premium for its product. This specialty can be associated with design, Brand image, technology, features, dealers, network, or customers service. Differentiation is a viable strategy for earning above average returns in a specific business because the resulting brand loyalty lowers customers' sensitivity to price. Increased costs can usually be passed on to the buyers. Buyers loyalty can also serve as an entry barrier-new firms must develop their own distinctive competence to differentiate their products in some way in order to compete successfully. Examples of the successful use of a differentiation strategy are Hero Honda, Asian Paints, HLL, Nike athletic shoes, Perstorp BioProducts, Apple Computer and Mercedes Benz automobiles.

A differentiation strategy is appropriate where the target customer segment is not price-sensitive, the market is competitive or saturated, customers have very specific needs which are possibly underserved, and the firm has unique resources and capabilities which enable it to specify these needs in ways that are difficult to copy. These could include patents or other Intellectual Property (IP), unique technical expertise (e.g. Apple's design skills or Pixar's animation prowess), talented personnel (e.g. a sports team's star players or a brokerage firm's star traders), or innovative processes. Successful brand management also results in perceived uniqueness even when the physical product is the same as competitors. This way, Chiquita was able to brand bananas. Starbucks could brand coffee, and Nike could brand sneakers. Fashion brands rely heavily on this form of image differentiation.

Variants on the Differentiation Strategy

The shareholder value model holds that the timing of the use of specialized knowledge can create a differentiation advantage as long as the knowledge remains unique. This model suggests that customers buy products or services from an organization to have access to its unique knowledge. The advantage is static, rather than dynamic, because the purchase is a one-time event.

The unlimited resources model untilizes a large base of resources that allows an organization to outlast competitors by practicing a differentiation strategy. An organization with greater resources can manage risk and sustain losses more easily than one with fewer resources. This deep-pocket strategy provides a short-term advantage only. If a firm lacks the capacity for continual innovation, it will not sustain its competitive position over time.

3. **Focus or Strategic Scope**

Can target mass market-broad market
Can target niche-narrow-BMW
This dimension is not a separate strategy per se, but describes the scope over which the company should compete based on cost leadership or differentiation. The firm can choose to compete in the mass market (like Wal-Mart) with a broad scope, or in a defined, focused market segment with a narrow scope. In either case, the basis of competition will still be either cost leadership or differentiation.

In adopting a narrow focus, the company ideally focuses on a few target markets (niche strategy). There should be distinct groups with specialized needs. The choice of offering low prices or differentiated products services should depend on the needs of the selected segment and the resources and capabilities of the firm. It is hoped that by focusing your marketing efforts on one or two narrow market segments and tailoring your marketing mix to these specialized markets, you can better meet the needs of that target market. The firm typically looks to gain a competitive advantage through product innovation or brand marketing rather than efficiency. It is most suitable for relatively small firms but can be used by any company. A focused strategy should target market segments that are less vulnerable to substitutes or where a competition is weakest to earn above-average return on investment.

Examples of firm using a focus strategy include Southwest Airlines, which provides short-haul point-to-point flights in contract to the hub-and spoke model of mainstream carriers, and Family Dollar, which targets poor urban American families who cannot drive to Wall-Marts in the suburbs because they do not own a car.

How cost-based advantages can be sustained?

Cost leadership strategies are only viable for large firms with the opportunity to enjoy economies of scale and large production volumes. However, this takes a limited industrial view of strategy. Small businesses can also be cost leaders if they enjoy any advantages conducive to low costs. For example, a local restaurant in a low rent location can attract price-sensitive customers if it offers a limited menu, rapid table turnover and employees staff on minimum wage. Innovation of products or processes may also enable a startup or small company to offer a cheaper product or service where incumbents' costs and prices have become too high. An example is the success of low-cost budget airlines who despite having fewer planes than the major airlines, were able to achieve market share growth by offering cheap, no-frills services at prices much cheaper than those of the larger incumbents.

Question 5.

(a) Logical incrementalism is widely used by organizations to develop its strategy. Explain the term "logical incrementalism" and describe the major steps (or characteristics) involved when it is used it for strategy development. Give an example to illustrate your understanding.

Answer.

Logical Incrementalism is a philosophy of achieving broad organizational goals by making strategic decisions in small steps. The small steps to resolve conflicting views of participants and reduce risk by capitalizing on knowledge that is gained during the process. Logical Incrementalism benefits from flexibility, but is likely to be time-consuming and inefficient.

Characteristics of Logical Incrementalism

- **Environmental uncertainty** : The Managers realize that they cannot do away with the uncertainty of their by relying on analysis of historical data or predicting how it will change. Rather, they try to be sensitive to environmental signals by encouraging constant environmental scanning through the organization. It can be also said that it is a situation where the management of a firm has little information about its external environment that is in a state of flux and, hence, largely unpredictably.

- **Generalised views of strategy :** Managers have a generalized rather than specific view of where they want the organization to be in the future and try to move towards this position incrementally. There is also a reluctance to specify precise objectives too early as this might stifle ideas and prevent innovation and experimentation. Objectives may therefore be general in nature.

- **Experimentation :** Managers may seek to develop strong secure, but flexible core business. They will then build on the experience gained in that business to inform decisions both about its development and experimentation with 'side-bet' bet ventures. Commitment to strategic options may therefore be tentative to the early stages of strategy development. Such experiments are not be sole responsibility of top management.

- **Coordinating emergent strategies :** Top managers may then utilize a mix of formal and informal social and political process to draw together an emerging pattern of strategies from these subsystems. These may then be formed into coherent statements of strategy for stakeholders that need to understand the organisation's strategy.

Pros and Cons of Logical Incrementalism

The advantages of incrementalism over other formal systems is that no time is wasted planning for outcomes which may not occur. Disadvantages are that time may be wasted dealing with the immediate problem and no overall strategy is developed.

IKEA using Logical Incrementalism

IKEA has been using logical incrementalism since its very first store opened for business. IKEA's founder, Ingvar Kamprad, had a strong but very general vision. From that, IKEA's strategy gradually look shape as Kamprad both proactively took action and reactively adapted to the situation as it extended. Even the decision to sell furniture was an adaptation to the market, not a deliberate strategy.

Because of this "short-term seepticism," wherever the company stumbled across an obstacle, it could quickly turn the obstacle into an opportunity. IKEA's approach is incredibly refreshing. Its strategy stated that business could succeed without predicting the future and wasting time writing strategy roadmaps that are obsolete.

HP using Logical Incrementalism

Hewlett Packard is another company which follows Logical Incrementalism. A core technology in test and measurement lead them to improve things for the customer that led them to begin to develop computer capabilities, information processing capabilities, because that was part of building better test and measurement organizations. And then they began to apply those same ideas in other ways into the computer business, the server business and the printing business, which was an offshoot of that whole approach.

(b) Logical incrementalism is widely used by organizations to develop its strategy. Explain the term "logical incrementalism" and describe the major steps (or characteristics) involved when it is used it for strategy development. Give an example to illustrate your understanding.

Answer.
Logical Incrementalism is a philosophy of achieving broad organizational goals by making strategic decisions in small steps. The small steps to resolve conflicting views of participants and

reduce risk by capitalizing on knowledge that is gained during the process. Logical Incrementalism benefits from flexibility, but is likely to be time-consuming and inefficient.

Characteristics of Logical Incrementalism

- **Environmental uncertainty** : The Managers realize that they cannot do away with the uncertainty of their by relying on analysis of historical data or predicting how it will change. Rather, they try to be sensitive to environmental signals by encouraging constant environmental scanning through the organization. It can be also said that it is a situation where the management of a firm has little information about its external environment that is in a state of flux and, hence, largely unpredictably.
- **Generalised views of strategy :** Managers have a generalized rather than specific view of where they want the organization to be in the future and try to move towards this position incrementally. There is also a reluctance to specify precise objectives too early as this might stifle ideas and prevent innovation and experimentation. Objectives may therefore be general in nature.
- **Experimentation :** Managers may seek to develop strong secure, but flexible core business. They will then build on the experience gained in that business to inform decisions both about its development and experimentation with 'side-bet' bet ventures. Commitment to strategic options may therefore be tentative to the early stages of strategy development. Such experiments are not be sole responsibility of top management.
- **Coordinating emergent strategies :** Top managers may then utilize a mix of formal and informal social and political process to draw together an emerging pattern of strategies from these subsystems. These may then be formed into coherent statements of strategy for stakeholders that need to understand the organisation's strategy.

Pros and Cons of Logical Incrementalism

The advantages of incrementalism over other formal systems is that no time is wasted planning for outcomes which may not occur. Disadvantages are that time may be wasted dealing with the immediate problem and no overall strategy is developed.

IKEA using Logical Incrementalism

IKEA has been using logical incrementalism since its very first store opened for business. IKEA's founder, Ingvar Kamprad, had a strong but very general vision. From that, IKEA's strategy gradually look shape as Kamprad both proactively took action and reactively adapted to the situation as it extended. Even the decision to sell furniture was an adaptation to the market, not a deliberate strategy.

Because of this "short-term seepticism," wherever the company stumbled across an obstacle, it could quickly turn the obstacle into an opportunity. IKEA's approach is incredibly refreshing. Its strategy stated that business could succeed without predicting the future and wasting time writing strategy roadmaps that are obsolete.

HP using Logical Incrementalism

Hewlett Packard is another company which follows Logical Incrementalism. A core technology in test and measurement lead them to improve things for the customer that led them to begin to develop computer capabilities, information processing capabilities, because that was part of building better test and measurement organizations. And then they began to apply those same ideas in other ways into the computer business, the server business and the printing business, which was an offshoot of that whole approach.

Question 6.

Consider Porter's three generic strategies. In your opinion, how cost-based advantages can be sustained? Give example to support your argument.

Answer.

Porters Generic Strategies – These three generic strategies are defined along two dimensions; strategic scope and strategic strength, strategic scope is a demand-side dimension and looks at the size and composition of the market you intend to target. Strategic strength is a supply-side dimension and looks at the strength or core competency of the firm. In particular he identified two competencies that he felt were most important: product differentiation and product cost (efficiency)

I. Cost Leadership Strategy (Air Deccan, Tata Nano)

This strategy involves the firm wining market share by appealing to cost-conscious or price-sensitive customers. This is achieved by having the lowest prices in the largest market segment, or at least the lowest price to value ratio. To succeed at offering the lowest price while still achieving profitability and a high return on investment, the firm must be able to operate at a lower cost than its rivals. There are three main ways to achieve this.

The first approach is achieving a high asset turnover: In service Industries, this may mean for example a restaurant that turns tables around very quickly, or an airline that turns around flights very fast. In manufacturing, it will involve production of high volumes of output. These approaches mean fixed costs are spread over a large number of units of the product or service, resulting in a lower unit cost, i.e., the firm hopes to take advantage of economies of scale and experience curve effects. For industrial firms, mass production becomes both a strategy and an end in itself. Higher levels of output both required and result in high market share, and create an entry barrier to potential competitors, who may be unable to achieve the scale necessary to match the firms low costs and price.

The second dimension is achieving low direct and indirect operating costs: This is achieved by offering high volumes of standardized products, offering basic no-frills products and limiting customization and personalization of service. Production costs are kept low by using fewer components, suing standard components, and limiting the number of models produced to ensure larger production runs. Overheads are kept low by paying low wages, locating premises in low rent areas, establishing a cost-conscious culture, etc. Maintaining this strategy requires a continuous search for cost reductions in all aspects of the business. This will include outsourcing, controlling production costs, increasing asset capacity utilization, and minimizing other costs including distribution, R & D and advertising. The associated distribution strategy is to obtain the most extensive distribution possible. Promotional strategy often involves trying to make a virtue out of low cost product features.

The third dimension is control over the supply/procurement chain to ensure low costs: This could be achieved by bulk buying to enjoy quantity discounts, squeezing suppliers on price, instituting competitive bidding for contracts, working with vendors to keep inventories low using methods such as Just-in-Time purchasing. Wal-Mart is famous for squeezing its suppliers to ensure low prices for its goods. Dell Computer initially achieved market share by keeping inventories low and only mkaing computers to order. Other procurement advantages could come from preferential access to raw materials or backward integration.

II. Differentiation Strategy

Can be in Production Differentiation

Differentiation is aimed at the broad market that involves the creation of a product or services that is perceived throughout its industry as unique. The company or business unit may then charge a premium for its product. This specialty can be associated with design, Brand image, technology, features, dealers, network, or customers service. Differentiation is a viable strategy for earning above average returns in a specific business because the resulting brand loyalty lowers customers' sensitivity to price. Increased costs can usually be passed on to the buyers. Buyers loyalty can also serve as an entry barrier-new firms must develop their own distinctive competence to differentiate their products in some way in order to compete successfully. Examples of the successful use of a differentiation strategy are Hero Honda, Asian Paints, HLL, Nike athletic shoes, Perstorp BioProducts, Apple Computer and Mercedes Benz automobiles.

A differentiation strategy is appropriate where the target customer segment is not price-sensitive, the market is competitive or saturated, customers have very specific needs which are possibly underserved, and the firm has unique resources and capabilities which enable it to specify these needs in ways that are difficult to copy. These could include patents or other Intellectual Property (IP), unique technical expertise (e.g. Apple's design skills or Pixar's animation prowess), talented personnel (e.g. a sports team's star players or a brokerage firm's star traders), or innovative processes. Successful brand management also results in perceived uniqueness even when the physical product is the same as competitors. This way, Chiquita was able to brand bananas. Starbucks could brand coffee, and Nike could brand sneakers. Fashion brands rely heavily on this form of image differentiation.

Variants on the Differentiation Strategy

The shareholder value model holds that the timing of the use of specialized knowledge can create a differentiation advantage as long as the knowledge remains unique. This model suggests that customers buy products or services from an organization to have access to its unique knowledge. The advantage is static, rather than dynamic, because the purchase is a one-time event.

The unlimited resources model untilizes a large base of resources that allows an organization to outlast competitors by practicing a differentiation strategy. An organization with greater resources can manage risk and sustain losses more easily than one with fewer resources. This deep-pocket strategy provides a short-term advantage only. If a firm lacks the capacity for continual innovation, it will not sustain its competitive position over time.

Focus or Strategic Scope
Can target mass market-broad market
Can target niche-narrow-BMW
This dimension is not a separate strategy per se, but describes the scope over which the company should compete based on cost leadership or differentiation. The firm can choose to compete in the mass market (like Wal-Mart) with a broad scope, or in a defined, focused market segment with a narrow scope. In either case, the basis of competition will still be either cost leadership or differentiation.

In adopting a narrow focus, the company ideally focuses on a few target markets (niche strategy). There should be distinct groups with specialized needs. The choice of offering low prices or differentiated products services should depend on the needs of the selected segment and the resources and capabilities of the firm. It is hoped that by focusing your marketing efforts on one or two narrow market segments and tailoring your marketing mix to these specialized markets, you can better meet the needs of that target market. The firm typically looks to gain a competitive advantage through product innovation or brand marketing rather than efficiency. It is most suitable for relatively small firms but can be used by any company. A focused strategy should target market segments that are less vulnerable to substitutes or where a competition is weakest to earn above-average return on investment.

Examples of firm using a focus strategy include Southwest Airlines, which provides short-haul point-to-point flights in contract to the hub-and spoke model of mainstream carriers, and Family Dollar, which targets poor urban American families who cannot drive to Wall-Marts in the suburbs because they do not own a car.

How cost-based advantages can be sustained?

Cost leadership strategies are only viable for large firms with the opportunity to enjoy economies of scale and large production volumes. However, this takes a limited industrial view of strategy. Small businesses can also be cost leaders if they enjoy any advantages conducive to low costs. For example, a local restaurant in a low rent location can attract price-sensitive customers if it offers a limited menu, rapid table turnover and employees staff on minimum wage. Innovation of products or processes may also enable a startup or small company to offer a cheaper product or service where incumbents' costs and prices have become too high. An example is the success of low-cost budget airlines who despite having fewer planes than the major airlines, were able to achieve market share growth by offering cheap, no-frills services at prices much cheaper than those of the larger incumbents.

Question 7.

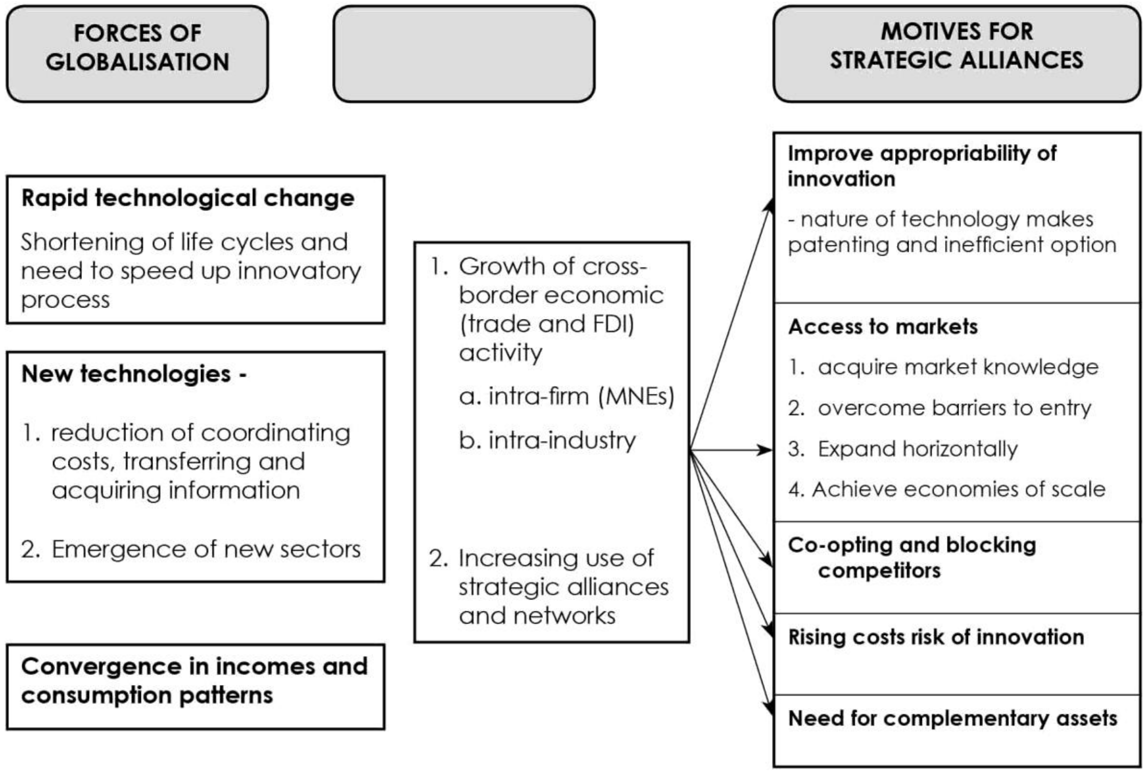
Strategic alliance and acquisitions are two different methods of strategic development. Compare and contrast the motives of these two development methods. Discuss factors that can influence the success of strategic alliances acquisition.

Answer.

Strategic Alliances :

The company goes for strategic alliances in order to reach its goals in more efficient way, where they can share their resources to be more competent in producing a product and engage in business activities for mutual economic gain. This is mainly undertaken to support one another in terms of :

- Material skills
- Innovation
- Finance
- Access to different markets.



Motives :

- Take advantage of partner's local market knowledge and working relationships with key government officials in host country. It is very important to get working relationship with local government officials, (social capitals).
- Capture economies of scale in production and/or marketing, when they operate together, they can use the same machine or equipment to produce products and use the same marketing channel for both products.
- Fill gaps in technical expertise or knowledge of local market; they will learn technical knowledge from each other.
- Share distribution facilities and dealer networks, they can use the same agent or retailer to reduce the logistic cost and penetrate the market more easily; they can use the put-together technical and financial resources to attack the rivals.
- Direct combined competitive energies toward defeating mutual rivals
- Can reduce the cost and more efficient to penetrate the market by doing the following :
    1) Joint research efforts
    2) Technology-sharing
    3) Joint use of production and distribution facilities
    4) Marketing promoting one another's products.

CRITICAL FACTORS OF STRAGETIC ALLIANCES

Partner Congruity

Difficulties may arise because partners are not in complete agreement about the purpose of an alliance and the process by which its goals can be achieved. It is also possible that the short-and long-term objectives of partners are misunderstood, so the direction of the alliance may be rather fuzzy.

Government policies :

Government policies may create structural impediments or facilitate the operation of cooperative arrangements. In countries where economic nationalism in high, alliances often have to be approved at the governmental level. For example, the IBM-Groupe Bull alliance was approved by the French government. Alliances that have the support of governments in such environments may actually perform better because access may be opened to resources that are otherwise highly controlled and centralized.

Organizational Issues

Organizations may not have shared mental maps on business assumptions, criticality of events, and operating procedures. An alliance between IBM and Motorola was almost dissolved because of disagreements on security inspection procedures.

Human Resource Management (HRM) Practices

Staffing and selection of key personnel for the alliance, performance appraisal, maintaining continuity of key personnel, and reward and compensation systems have been recognized as important HRM issues for strategic alliances. The differences in pay for individuals in the same position may lead to a problem. A recent alliance between HP and a computer firm in India almost got derailed due to compensation-related issues.

Mergers and Acquisitions:

An **Acquisition** is where organization takes ownership of another organization and **Merger** Implies Mutually agreed decisions for joint ownership between organizations. Here in case of both manager of one organization exert strategic influence over other.

Acquisition can be

- ✓ Horizontal- Takes place between firms in same line of business.
- ✓ Vertical- A merger between two companies producing different goods or services for one specific finished product. Eg- A car manufacturer purchasing a tire company.
- ✓ Conglomerate- Formed through combination of unrelated business.

Movies

- ❖ **Economies of Scale** — This generally refers to method in which average cost per unit is decreased through increased production since fixed cost is shared over an increased number of goods.
- ❖ **Increased market share/Increase revenue** — This motives assumes that the company will be absorbing the major competitor and thus increase its power (by capturing increased market share) to set prices.
- ❖ **Taxes** — In order to have tax advantage benefit the giant company may acquire small so that tax can be set off against the losses of the acquiring company.
- ❖ **Improved market reach and Industry visibility** — Company buys companies in order to have an access over the new markets and increase its revenue and earnings through reaching more markets. It helps them to expand marketing and distribution channels, giving them new sales opportunities.

- **Plugging a gap in the market** — Business may feel that its product portfolio is not sufficient to cater for different customer needs in its market. Acquiring another firm that is already in that market enables it to plug that gap. It may be the case that a firm has a seasonal sales trend. Buying a business that has its predominant sales in a different season of the year will also be an example of how the firm's product portfolio might be enhanced through a merger and acquisition. The example of Fuller's and Gales in an excellent example of this.
- **Accessing technology or skills** — A firm may be targeted for acquisition because it has specific skills within its staff or has a particular technology that would be useful to another business. Businesses that are relatively new and might have hit upon idea or who have developed specific skills in a certain area might be ripe targets for acquisition.
- Value Maximization

Critical factors drive for mergers and Acquisitions

- Inadequate capital
- Lack of brand Images
- To survive in the market
- To expand market share
- To achieve economies of scale.

Question 8.

(a) 'The intensity of competition depends on several factors.' Identify these factors and discuss briefly on them.

Answer

The intensity of competition depends on several factors. The possible factors are as follows :

(i) Large number of equally balanced competitors. When the competition is intense, firms may try to avoid competing on price.

(ii) The rate of growth in Industry. Where growth is slow or stagnant, rivalry may intensify and the firms may indulge in competing with each other for greater market share.

(iii) Ease of switching will encourage suppliers to compete.

(iv) Competitors may guess each others intentions. This may lead to uncertainty because of competitive strategy.

(v) Capacity and costs. Industries, characterized by economies of scale from substantial capacity increase, may face recurring periods of over capacity and price cutting.

(vi) High fixed costs and relatively low variable costs. This temps the firms to compete on price and sell at prices above marginal costs. As a result, there may be a failure to recover fixed costs.

(vii) High strategic stakes. A firm, putting in high capital funds and extensive efforts to achieve targets and making success(a strategic action), is likely to be more proactive and competitive to attain further high targets.

(viii) Exit barriers- are the circumstances which make it difficult for an existing supplier to leave the country.

(b) Can cost leadership strategy allow a firm to earn above-average returns despite strong competitive forces? Discuss .

Answer.

Cost leadership strategy will allow a firm to earn above average returns despite strong competitive forces. A glaring example is that of Tata's Nano Venture. The following factors facilitates a firm under 'Cost leadership strategy' to earn above average returns despite strong competitive forces :

(i) Rivalry : Having the low cost position serves as a valuable defense against rivals . Because of the cost leader's advantageous position, especially in logistics, rivals cannot reduce their costs lower than the cost leaders and so they cannot claim above average returns.

(ii) Buyers : The cost leadership strategy also protects against the power of customers. Powerful customers can drive prices lower but they are not likely to be driven below that of the next –most – efficient industry competitor. Prices below this would cause the next –most –efficient competitor to leave the market, leaving the cost leader in a stronger position relative to the buyer.

(iii) Suppliers : The cost leadership strategy also allows a firm to better absorb any cost increases forced on it by powerful suppliers because the cost leader has greater margins than its competitors. In fact, a cost leader may be able to force its suppliers to keep prices low for them.

(iv) Entrants : The cost leadership strategy also discourages new entrants because the new entrant must be willing to accept no better than average returns until they gain the experience and core competencies required to approach the efficiency of the cost leader.

(v) Substitutes : For substitutes to be used , they must not only perform a similar function but also be cheaper than the cost leader's product. When faced with substitutes products, the cost leader can reduce its price.

(c) Explain : Cost leadership vs. cost reduction.

Answer.

Cost is the greatest and the most enduring competitive advantage for the long-term success of any product or service. Cost leadership, i.e. enjoying the lowest costs often translates into market leadership, allowing a company to dictate terms in the market place. There are five major variables which influence cost leadership. They are: output level, factor prices, factor productivity, technology and size of the unit.

Obviously, the cost tends to be the lowest for a firm with; the highest output levels; the lowest factor prices; the highest factor productivity; the right and relevant technology; and an economically optimum size. No cost is at a level that it cannot be cut and reduced. Cost cutting and reduction is an important exercise which should be periodically undertaken in every enterprise. The areas of cost reduction can be classified as: raw material and inventory costs; manufacturing costs; labour costs; finance costs; marketing costs; R&D costs; general administrative costs. However, these areas are a brief outline only. Many more operational areas of cost reduction can be identified. Cost reduction is not a one-shot exercise. One should keep at it continually and vigourously, practically, all the time. Otherwise, costs have a natural tendency to rise. On their own, they will never come down. One must continually push them down. Believe that cost can always be cut. They must be cut. Once one acquire cost leadership, one's survival in the market place is better assured. Try competing with Bajaj Auto in scooters, with Raymonds is worsted suiting, then one will know what it means to be a market leader through cost leadership. The task is formidable.

Question 9.

(a) "In the 'maturity stage' of Product life cycle the market becomes saturated, price competition intensifies, and the rate of sales growth slows down. Suggest strategic choices in such a stage of the PLC."

Answer.

In order to face the situations characterised by the maturity stage of PLC, alternative marketing and distribution strategies listed below are suggested.

(i) Intensive promotion by means of—

• brand-stressing advertising;
• more attractive design and functional packaging;
• more after-sales service;
• heavier point of sale effort; and
• increase in sales promotion expenditure to hold customer loyalty.

(ii) Trading down through —

• introduction of low-priced models of an established product;
• price-cutting of the entire product line and keeping prices close to private levels; and
• entering a 'fighting brand' on the market at a lower price to avoid killing of an established premium brand.

(iii) Trading up (strategy opposite to item 2) through

• improvement of quality/appearances, etc.;
• use of prestige packages;
• price increase to cream market levels (in order to increase market penetration/ earn more margin on possibly lower sales/keep greater differentiation over competitive products)

(iv) Proliferation, exclusive or radical, by

• more designs/ varieties;
• more exclusive and innovative features;
• creating radical/ distinct package designs; and
• more options.

(v) Increase of product availability and point-of-sale service through more distribution outlets/ dealers/ service centres, etc.

(b) How would you analyse Competitive Environment?

Answer.

With growing industrialisation, expanding size of business operation and rapid advancement of technology, degree of competition within the industry and across the industry has increased tremendously. There is neck-to-neck competition among the business organisations who are investing massive funds on research and development to innovate new methods of production or new uses of existing products or adopting new marketing devices in their market share. Under these circumstances managers must be fully aware of the competitive environment and formulate strategy to cope with the competition. The competitive environment should be analysed from the viewpoint of all such factors which affect the ferocity of competitive behaviour. These factors are market share of the participants in the industry, growth, rate of the industry, general level of profits, cost of entry into and exit from an industry, degree of differentiation, economies of scale and nature of product.

Analysis of market share of different firms at a point of time and over a period of time provides an insight into the competitive strength of the organisation. Such analysis should be undertaken to discern the factors responsible for differential market share of firms. These factors could be product differentiation, pricing, high corporate competence, wide distribution network, customer service, dispensation of discount facilities, etc. The management must keep these factors in view while formulating strategy. Furthermore, analysis of the competitive environment presents a picture of dominance of the industry by a few firms. An industry dominated by one firm having a significant market share tends to be less fiercely competitive than the one having no firm with dominant market share.

In studying the competitive environment it should also be the prime concern of the management to find out if there is a minimum critical mass for the product. Critical mass is the market share which a firm must obtain so as to become fully competitive on price and cost.

Growth rate of the industry decisively affects the competitive behaviour. Where growth rate of the industry is relatively high and demand of industrial products tends to expand, competitive behaviour will be less aggressive because each firm can increase its sales without necessarily increasing its market share. But in an industry with falling growth rate, competition will tend to be intense. In such a situation the management should diversify the product line. High level of profits in one industry is likely to provide a measure of tolerance for competitors. A change to lower profits may trigger off more aggressive behaviour.

Cost of entry and exit is another vital factor which needs comprehensive appraisal. If market shares in the industry are widely diffused and small investment is needed to enter the business and if the government does not foreclose entry to the industry, there will be great mobility of firms in and out. In such a case, a firm in the industry lacks security of its position because any entrepreneur with a small capital and small operation can enter the market. Such a tendency poses a serious threat of entry particularly to large established organisations which lack the flexibility and quick response possessed by small firms. Small organisations will, however, consider such an environment as an opportunity to them. Where investment is large, highly specialised and fixed costs are a relatively high proportion of total costs; competition will not be aggressive because the scope of new entrants will be very limited.

High degree of product differentiation creates a barrier to entry of new firms since they might have to spend a great deal on advertising and sales promotion in order to overcome the loyalty of consumers to the existing brand. But the competition is likely to be fiercest when all firms are offering products of commodity status.

Competitive behaviour is likely to be more aggressive when there exist marked economies of scale in the industry. This may happen when cost levels depend on large volumes. The competitive behaviour will tend to be more fierce in a growth market with elastic demand and product subject to mass production. However, new firms will have to be very large so as to avoid cost disadvantages. Nature of the product is another factor to be considered while studying the competitive environment-A durable product is likely to be less vulnerable to random price cutting than one which can not be preserved easily and cheaply.

The management must also try to study the possibility of availability of substitutes of the product in the market because the industry's prospects depend on it. With the emergence of a new substitute, a number of new firms with different cost structures may come into existence in the competitive arena. A substitute will often increase the buying power of the buyer and decrease the power of the seller.

Question 10.

"An organisation can choose from a wide variety of grand strategies such as Stability Strategies, Growth Strategies, Retrenchment Strategies and Combination Strategies". Explain these strategies and highlight the conditions under which each one is the most appropriate.

Answer.

Four grand strategies: stability, growth, retrenchment and combination are opinions for the pace or level of efforts in the current business definition or for changing the business definition.

Stability: A stability strategy is a strategy that a firm pursues when -

- It continues to serve the public in the same product or services, market and function sector as defined in its business definition or in very similar sectors
- Its main strategic decisions focus on incremental improvement of functional performance.

Stability strategies are implemented by 'steady as it goes' approaches to decisions. Few major functional changes are made in the product or service line, markets or functions. In an effective stability strategy, a company will concentrate its resources where it presently has or can rapidly develop a meaningful competitive advantage in the narrowest possible product - market-function scope consistent with its resources and market requirement.

Growth: A growth strategy is a strategy that a firm pursues when -

- It serves the public in additional product or service sector or adds markets or functions to its definition.
- It focuses its strategic decisions on major increases on major increases in the pace of activity within its present business definition.

A firm implements this strategy by redefining the business- either adding to the scope of activity or substantially increasing the efforts of the current business. Growth is usually thought of as 'the way' to improve performance. An increase in assets or sizes is thought by many to yield growth in profit or ROI. Several studies support this proposition. But the opinions and research of others suggest that short-run inefficiencies often result.

Retrenchment: A retrenchment strategy is pursued by a firm when -

- It sees the desirability of or necessity for reducing its product or service lines, markets of functions.
- It focuses its strategic decisions on functional improvement through the reduction of activities in units with negative cash flows.

A firm can redefine its business by divesting itself of a major product line or an SBU. It could abandon some market territories. A firm could also reduce its functions. Of course, the ultimate redefinition is total liquidation.

Combination: A combination strategy is a strategy that a firm pursues when -

- Its main strategic decision focus on the conscious use of several grand strategies at the same time (simultaneously) in several SBUs of the company.
- It plans to use several grand strategies at different future times (sequentially).

With combination strategy, the decision makers consciously apply several grand strategies to different parts of the firm or to different future periods. The logical possibilities for a simultaneous approach are stability in some areas, growth in others; stability in some areas, retrenchment in others; retrenchment in some areas, expansion in others; and all three grand strategies in different areas of the company.

Question 11 – Case Study

Early beginnings

To understand any company's strategy, it is helpful to begin by looking back at its roots. Founded in 1976, Apple built its early reputation on innovative personal computers that were par-ticularly easy for customers to use and as a result were priced higher than those of competitors. The inspiration for this strategy came from a visit by the founders of the company – Steven Jobs and Steven Wozniack – to the Palo Alto research laboratories of the Xerox company in 1979. They observed that Xerox had developed an early version of a computer interface screen with the drop-down menus that are widely used today on all personal computers. Most computers in the late 1970s still used complicated technical interfaces for even simple tasks like typing – still called 'word-processing' at the time.

Jobs and Wozniack took the concept back to Apple and developed their own computer – the Apple Macintosh (Mac) – that used this consumer-friendly interface. The Macintosh was launched in 1984. However, Apple did not sell to, or share the software with, rival companies. Over the next few years, this non-co-operation strategy turned out to be a major weakness for Apple.

Battle with Microsoft

Although the Mac had some initial success, its software was threatened by the introduction of Windows 1.0 from the rival company Microsoft, whose chief executive was the well-known Bill Gates. Microsoft's strategy was to make this software widely available to other computer manufacturers for a licence fee – quite unlike Apple. A legal dispute arose between Apple and Microsoft because Windows had many on-screen similarities to the Apple product. Eventually, Microsoft signed an agreement with Apple saying that it would not use Mac technology in Windows 1.0. Microsoft retained the right to develop its own interface software similar to the original Xerox concept.

Coupled with Microsoft's willingness to distribute Windows freely to computer manufacturers, the legal agreement allowed Microsoft to develop alternative technology that had the same on-screen result. The result is history. By 1990, Microsoft had developed and distributed a version of Windows that would run on virtually all IBM-compatible personal computers – see Case 1.2. Apple's strategy of keeping its software exclusive was a major strategic mistake. The company was determined to avoid the same error when it came to the launch of the iPod and, in a more subtle way, with the later introduction of the iPhone.

Apple's innovative products

Unlike Microsoft with its focus on a software-only strategy, Apple remained a full-line computer manufacturer from that time, supplying both the hardware and the software. Apple continued to develop various innovative computers and related products. Early successes included the Mac2 and PowerBooks along with the world's first desktop publishing programme – PageMaker. This latter remains today the leading programme of its kind. It is widely used around the world in publishing and fashion houses. It remains exclusive to Apple and means that the company has a specialist market where it has real competitive advantage and can charge higher prices.

Not all Apple's new products were successful – the Newton personal digital assistant did not sell well. Apple's high price policy for its products and difficulties in manufacturing also meant that innovative products like the iBook had trouble competing in the personal computer market place.

Apple's move into consumer electronics

Around the year 2000, Apple identified a new strategic management opportunity to exploit the growing worldwide market in personal electronic devices – CD players, MP3 music players, digital cameras, etc. It would launch its own Apple versions of these products to add high-value, user-friendly software. Resulting products included iMovie for digital cameras and iDVD for DVD-players. But the product that really took off was the iPod – the personal music player that stored hundreds of CDs. And unlike the launch of its first personal computer, Apple sought industry co-operation rather than keeping the product to itself.

Launched in late 2001, the iPod was followed by the iTunes Music Store in 2003 in the USA and 2004 in Europe – the Music Store being a most important and innovatory development. iTunes was essentially an agreement with the world's five leading record companies to allow legal downloading of music tracks using the internet for 99 cents each. This was a major coup for Apple – it had persuaded the record companies to adopt a different approach to the problem of music piracy. At the time, this revolutionary agreement was unique to Apple and was due to the negotiating skills of Steve Jobs, the Apple chief executive, and his network of contacts in the industry. Figure 1.9 shows that Apple's new strategy was beginning to pay off. The iPod was the biggest single sales contributor in the Apple portfolio of products.

In 2007, Apple followed up the launch of the iPod with the iPhone, a mobile telephone that had the same user-friendly design characteristics as its music machine. To make the iPhone widely available and, at the same time, to keep control, Apple entered into an exclusive contract with only one national mobile telephone carrier in each major country – for example, AT&T in the USA and O_2 in the UK. Its mobile phone was premium priced – for example, US$599 in North America. However, in order to hit its volume targets, Apple later reduced its phone prices, though they still remained at the high end of the market. This was consistent with Apple's long-term, high-price, high-quality strategy. But the company was moving into the massive and still-expanding global mobile telephone market where competition had been fierce for many years. (Note that with regard to Figure 1.9, the new iPhone was too new to have made any impact on sales or profitability in 2007.)

And the leader in mobile telephones – Finland's Nokia – was about to hit back at Apple, though with mixed results. But other companies, notably the Korean company Samsung and the Taiwanese company, HTC, were to have more success later.

So, why was the Apple strategy risky?
By 2007, Apple's music player – the iPod – was the premium-priced, stylish market leader with around 60 per cent of world sales and the largest single contributor to Apple's turnover – see Figure 1.9. Its iTunes download software had been re-developed to allow it to work with all Windows-compatible computers (about 90 per cent of all PCs) and it had around 75 per cent of the world music download market, the market being worth around US$1000 million per annum. Although this was only some 6 per cent of the total recorded music market, it was growing fast. The rest of the market consisted of sales of CDs and DVDs direct from the leading recording companies.

In 2007, Apple's mobile telephone – the iPhone – had only just been launched. The sales objective was to sell 10 million phones in the first year: this needed to be compared with the annual mobile sales of the global market leader, Nokia, of around 350 million handsets. However, Apple had achieved what some commentators regarded as a significant technical breakthrough: the touch screen. This made the iPhone different in that its screen was no longer limited by the fixed buttons and small screens that applied to competitive handsets. As readers will be aware, the iPhone went on to beat these earlier sales estimates and was followed by a new design, the iPhone 4, in 2010.

The world market leader responded by launching its own phones with touch screens. In addition, Nokia also launched a complete download music service. Referring to the new download service, Rob Wells, senior Vice President for digital music at Universal commented: 'This is a giant leap towards where we believe the industry will end up in three or four years' time, where the consumer will have access to the celestial jukebox through any number of devices.' Equally, an industry commentator explained: '[For Nokia] it could be short-term pain for long-term gain. It will steal some of the thunder from the iPhone and tie users into the Nokia service.'

'Nokia is going to be an internet company. It is definitely a mobile company and it is making good progress to becoming an internet company as well,' explained Olli Pekka Kollasvuo, Chief Executive of Nokia. There also were hints from commentators that Nokia was likely to make a loss on its new download music service. But the company was determined to ensure that Apple was given real competition in this new and unpredictable market.

Here lay the strategic risk for Apple. Apart from the classy, iconic styles of the iPod and the iPhone, there is nothing that rivals cannot match over time. By 2007, all the major consumer electronics companies – like Sony, Philips and Panasonic – and the mobile phone manufacturers – like Nokia, Samsung and Motorola – were catching up fast with new launches that were just as stylish, cheaper and with more capacity. In addition, Apple's competitors were reaching agreements with the record companies to provide legal downloads of music from websites – described in more depth in Case 12 at the end of this book.

Apple's competitive reaction

As a short term measure, Apple hit back by negotiating supply contracts for flash memory for its iPod that were cheaper than its rivals. Moreover, it launched a new model, the iPhone 4 that made further technology advances. Apple was still the market leader and was able to demonstrate major increases in sales and profits from the development of the iPod and iTunes. To follow up this development, Apple launched the Apple Tablet in 2010 – again an element of risk because no one really new how well such a product would be received or what its function really was. The second generation Apple tablet was then launched in 2011 after the success of the initial model. But there was no denying that the first Apple tablet carried some initial risks for the company.

All during this period, Apple's strategic difficulty was that other powerful com-panies had also recognised the importance of innovation and flexibility in the response to the new markets that Apple itself had developed. For example, Nokia itself was arguing that the markets for mobile telephones and recorded music would converge over the next five years. Nokia's Chief Executive explained that much greater strategic flexibility was needed as a result: 'Five or ten years ago, you would set your strategy and then start following it. That does not work any more. Now you have to be alert every day, week and month to renew your strategy.'

If the Nokia view was correct, then the problem for Apple was that it could find its market-leading position in recorded music being overtaken by a more flexible rival – perhaps leading to a repeat of the Apple failure 20 years earlier to win against Microsoft. But at the time of updating this case, that looked unlikely. Apple had at last found the best, if risky, strategy.

Case questions

(a) Do a competitive analysis of both Apple and Nokia – who is the stronger?
(b) What are the problems with predicting how the market and the competition will change over the next few years? What are the implications for strategy development?

(c) What lessons can other companies learn from Apple's strategies over the years?

Indicative answer only: there will be other answers to this case.

(a) Apple strengths: Strong brand name, market leader in music delivery, user-friendly products, design skills, quality, exclusive contracts, profitable, strong vision

Apple weaknesses: High(er) price, limited distribution, small share of large phone market, features can be replicated over time.

Nokia strengths: Brand name, dominant position in mobile phone market, good products, profitable, strong processes to delivery new strategies

Nokia weaknesses: Mature phone market, little involvement in music market to the present, its new music service has no clear sustainable advantage.

Given Apple's previous profit record, there is no doubt that it has benefited significantly from its move into recorded music and the iPod. However, the extension into Apple mobile telephones remained to be proven at the time of writing. It suddenly faced some very large companies – like Nokia – with both the resources and the desire to take advantage of the market opportunities.

Is Apple stronger than Nokia? In the short term, arguably the answer is that they both have their strengths. However, Nokia is just moving into the recorded music market and it has already produced its own version of the touch phone [with clear advantages over the iPhone according to one independent magazine review]. Thus it is worth clarifying the question of 'who is stronger' with respect to the time frame.

In the long run, it may be that Nokia will emerge stronger. At the time of writing, Apple's strategy of premium pricing for its phone service had to be revised downwards – it simply was not hitting its sales targets. In addition, Apple managed to upset some loyal customers by introducing a new version of its phone that had more features and was also lower-priced. Apple does not look like a company that is strong in the mobile phone market.

But Apple had one great competitive advantage: its technology and software were superior – i.e. more user-friendly – than Nokia. The Finnish company understood the competitive threat from the new smartphones but failed to recognize that its software was not up to the task. Even in 2013, Apple has not taken a dominant share of the mobile phone market, but it is highly profitable.

By contrast, Nokia is really struggling.

Importantly with regard to assessing who is stronger, it is essential to identify the uncertainties in the market place – new technologies, responses of consumer electronics companies, etc. These should add up to major doubts as to how the market will develop. This then raises the question of what strategy to adopt – an emergent strategy is essential.

(b) The main problems relate to the uncertainties of new technology and the difficulty in predicting how these will be exploited. An additional problem is the degree of economic uncertainty that may impact on customer ability to buy phones. The implications for strategy development relate to the difficulty in using prescriptive processes in this strategic context.

(c) Lessons in at least five areas:

- **(i)** The benefits of being an innovator and the risks attached with that strategic route – the iPod itself and the rivals now entering the market.
- **(ii)** The need to build on the competitive advantages of the company if possible – the Apple brand name, user-friendly software design, etc.
- **(iii)** The importance of understanding your customers and their needs – the desire of its young target group to have a large album list available along with the ability to augment this legally.
- **(iv)** The value of taking market-based opportunities in order to launch new products – the recorded music market/download market was arguably ready for this new product and Apple's timing was good.
- **(v)** The difficulties that can arise as companies move out of their existing product ranges and begin to compete in other markets – the move into the wider area of consumer electronics and mobile phones, as explained in the case.

Question 12 – Case Study
MANAGING HINDUSTAN UNILEVER STRATEGICAILY

Unilever is one of the world's oldest multinational companies. Its origin goes back to the 19th century when a group of companies operating independently, produced soaps and margarine. In 1930, the companies merged to form Unilever that diversified into food products in 1940s. Through the next five decades, it emerged as a major fast-moving consumer goods (FMCG) multinational operating in several businesses. In 2004, the Unilever 2010 strategic plan was put into action with the mission to 'bring vitality to life' and 'to meet everyday needs for nutrition, hygiene and personal care with brands that help people feel good, look good and get more out of life'. The corporate strategy is of focusing on core businesses of food, home care and personal care. Unilever operates in more than 100 countries, has a turnover of €39.6 billion and net profit of €3.685 billion in 2006 and derives 41 per cent of its income from the developing and emerging economies around the world. It has 179,000 employees and is a culturally-diverse organization with its top management coming from 24 nations. Internationalisation is based on the principle of local roots with global scale aimed at becoming a 'multi-local multi-national'.

The genesis of Hindustan Unilever (HUL) in India, goes back to 1888 when Unilever exported Sunlight soap to India. Three Indian subsidiaries came into existence in the period 1931-1935 that merged to form Hindustan Lever in 1956. Mergers and acquisitions of Lipton (1972), Brooke Bond (1984), Ponds (1986), TOMCO (1993), Lakme (1998) and Modern foods (2002) have resulted in an organization that is a conglomerate of several businesses that have been continually restructured over the years.

HUL is one of the largest FMCG company in India with total sales of ₹12, 295 crore and net profit of ₹1855 crore in 2006. There are over 15000 employees, including more than 1300 managers. The present corporate strategy of HUL is to focus on core businesses. These core businesses are in home and personal care and food. There are 20 different consumer categories in these two businesses. For instance, home and personal care is made up of personal wash, laundry, skin care, hair, oral care, deodorants, colour cosmetics and ayurvedic personal and health care, while food businesses have tea, coffee, ice creams and processed food brand. Apart from the two product divisions, there are separate departments for specialty exports and new ventures.

Strategic management at HUL is the responsibility of the board of directors headed by a chairman. There are Five independent and five whole-time directors. The operational management is looked after by a management committee comprising the Vice Chairman, CEO

and managing director and executive directors of the two business divisions and functional areas. The divisions have a lot of autonomy with dedicated assets and resources. A divisional committee having the executive director and heads of functions of sales, commercial and manufacturing looks after the business level decision making. The functional -level management is the responsibility of the functional head. For instance, a marketing manager has a team of brand managers looking after the individual brands. Besides the decentralized divisional structure, HUL has centralized some functions such as finance, human resource management, research, technology, information technology and corporate and legal affairs.

Unilever globally and HUL nationally, operate in the highly competitive FMCG products are finicky: it's difficult to create customers and much more difficult to retain them. Price is often the central concern in a consumer purchase decision requiring producers to be on continual guard against cost increases. Sales and distribution are critical functions organizationally. HUL operates in such a milieu. It has strong competitors such as the multinationals Proctor & Gamble, Nivea or L'Oreal and formidable local companies such as, Amul, Nirma or the Tata FMCG companies to contend with. Rivals have copied HUL's strategies and tactics, especially in the area of marketing and distribution. Its innovations such as new style packaging or distribution through women entrepreneurs are much valued but also copied relentlessly, hurting its competitive advantage.

HUL is identified closely with India. There is a ring of truth to its vision statement: 'to earn the love and respect of India by making a real difference to every Indian'. It has an impeccable record in corporate social responsibility. There is an element of nostalgia associated with brands like Lifebuoy (introduced in 1895) and Dalda (1937) for senior citizens in India. Consequently, Indians have always perceived HUL as an Indian company rather than a multinational. HUL has attempted to align its strategies in the past to the special needs of the Indian Business environment. Be it marketing or human resource management, HUL has experimented with new ideas suited to the local context. For instance, HUL is known for its capabilities in rural marketing, effective distribution systems and human resource development. But this focus on India seems to be changing. This might indicate a change in the strategic posture as well as a recognition that Indian markets have matured to the extent that they can be dealt with by the global strategies of Unilever. At the corporate level, it could also be an attempt to leverage global scale while retaining responsiveness to some extent.

In line, with the shift in corporate strategy, the focus of strategic decision-making seems to have moved from the subsidiary to the headquarters. Unilever has formulated a new global realignment under which it will develop brands and streamline product offerings across the world and the subsidiaries will sell the products. Other subtle indications of the shift of decision-making authority could be the appointment of a British CEO after nearly forty years during which there were Indian CEOs, the changed focus on a limited number of international brands rather than a large range of local brands developed over the years and the name-change from Hindustan Lever to Hindustan Unilever.

The shift in the strategic decision-making power from the subsidiary to the headquarters could however, prove to be double-edged sword. An example could be of HUL adopting Unilever's global strategy of focusing on a limited number of products, called the 30 power brands in 2002. That seemed a perfectly sensible strategic decision aimed at focusing managerial attention to a limited set of high-potential products. But one consequence of that was the HUL's strong position in the niche soap and detergent markets suffering owing to neglect and competitors were quick to take advantage of the opportunity. Then there are the statistics to deal with: HUL has nearly 80 percent of sales and 85 per cent of net profits from the home and personal care businesses. Globally, Unilever derives half its revenues from food business. HUL does not have a strong

position in the food business in India though the food processing industry remains quite attractive both in terms of local consumption as well as export markets. HUL's own strategy of offering low price, competitive products may also suffer at the cost of Unilever's emphasis on premium priced, high end products sold through modern retail outlets.

There are some dark clouds on the horizon. HUL's latest Financials are not satisfactory. Net profit is down, sales are sluggish, input costs have been rising and new food products introduced in the market have yet to pick up. All this while, in one market segment after another, a competitor pushes ahead. In a company of such a big size and over powering presence, these might still be minor events or developments in a long history that needs to be taken in stride. But, pessimistically, they could also be pointers to what may come.

QUESTIONS
(i) State the strategy of Hindustan Unilever In your own words.
(ii) At what different levels is strategy formulated at HUL?
(iii) Comment on the strategic decision-making at HUL.
(iv) Give your opinion on whether the shift in strategic decision-making from India to Unilever's headquarters could prove to be advantageous to HUL or not.

Answer.

(i) The purpose of HUL was to bring importance to life and to satisfy the daily needs of the customers in areas of personal and household care. It also strived to create an awareness among the people related to nutrition and hygiene. To grab opportunities in untapped rural and food processing market, HUL's corporate level strategy was to shift the decision making power from subsidiary to its headquarters. HUL's strategy remained focused in creating power brands and creating margins. One of HUL's strategy is direct selling. For the rural areas, HUL started project streamline in 1997. HUL have followed the strategy of building its distribution channels in transitional manner. They have restructured their core business in two divisions i.e. food, home and personal core-products. It focuses mainly for the Improvement In the products already existing In the market. HUL tries to bring a change In their job management structure by taking the step of reducing managerial Job classes and developing deep level expertise. Apart from that, HUL also have few pioneering strategies. These include building market and building brands, launching brands when innovative pipeline is full. Also they believe in having clarified long term strategies and delivering sustainable performance.

(ii) There are various levels at which strategy is formed at HUL and these include

- Corporate level strategy
  Strategic management at HUL is the responsibility of the board of directors headed by a chairman. There are five independent and five whole-time directors.
- Operational Management strategy
  Operational management is an area of management concerned with overseeing is looked after by management committee which comprises of vice chairman, CEO and managing director and executive directors of two business divisions and functional areas.
- Business Level strategy
  In HUL there is a divisional committee having the executive director and heads of functions of sales, commercial and manufacturing looks after and business level decision-making.
- Functional level strategy
  It has the responsibility of functional head. It has two types of structures.

Decentralized and centralized structures.

Decentralized structures: Unilever formulated a new global realignment under which it will develop brands and stream line product offerings across the world and the subsidiaries will sell the product. Their focus changed to limited number of international brands rather than a large range of local brand. For instance under Functional-level management marketing manager has team of managers looking after individual brand.
Centralized structure: It comprises finance, human resource management, research, technology and corporate and legal affairs.

(iii) Comment on the strategic decision-making at HUL

Unilever formulated a new global realignment under which it will develop brands and streamline product offerings across the world and the subsidiaries will sell the product this will affect HUL, As Unilever major revenues comes (nearly 50%) from Its food business which is not the case with HUL. HUL has nearly 80 percent of sales and 85 percent of net profit from the home and personal care business, adoption of Unilever's global strategy of focusing on 30 power brands will make HUL's strong position in the niche soap and detergent market suffer. HUL revenues comes 4% (during that time) from food business which can be a target industry as an opportunity in terms of domestic and export markets but this opportunity may not capitalize as HULs own strategy of offering low price is been suffered at the cost of Unilever's premium priced. In India rural marketing is very necessary and if Unilever will not concentrate on here then domestic player will take an advantage this is because Unilever sells high end product through modern retail outlet on other hand HUL is known for its capabilities in rural marketing, effective distribution systems and human resource development. The Unilever is going to give authority to British CEO rather than Indian CEO so it will not be beneficial for Unilever because in past HUL aligned its strategies to the special need of the Indian business environment.

(iv) An Indian CEO can easily predict the Indian customer mindset. Human resource development now its corporate strategy has changed in an attempt to leverage global scale while retaining local responsiveness to some extent. As Unilever major revenues comes (nearly 50%) from its food business which is not the case with HUL around (4%) from food business which can be a target industry as an opportunity in terms of domestic and export markets but this opportunity may not capitalize as HUL's own strategy of offering low price is been suffered at the cost of Unilever's premium priced. The Unilever is going to give authority to British CEO rather than Indian CEO so it will not be beneficial for Unilever because in past HUL aligned its strategies to the special need of the Indian business environment.

It will affect the company business in Indian market. Indian subsidiaries can easily perceive Indian consumer mindset. The person who is sitting and observing the market trend in India will be in a better position to take decision which will suit the market environment. By shifting the image of the company will be less in Indian consumer mindset as they take HUL as Indian company and now by shifting they will not take it as Indian company as also there are British CEO and it is regulated by Unilever Headquarter not by subsidiaries which are here in Indian market. So if the decision making is given to subsidiaries rather than headquarters it will be more beneficial because subsidiaries can apply a strategy in Indian market fastly and effectively respective to Unilever headquarter. Shifting of strategic decision making to headquarter will give benefit and better edge to its competitor in Indian market because the headquarter will control and locus on its product globally. There is cultural change in Indian market respective to Britain so British CEO will also face problems regarding this. As domestic players are very near to Indian consumer mindset and those companies which apply decision making from here in India only. Although it does not have a strong position in the food business in India but it is attractive both in terms of consumption as well as export markets. In India there is rural marketing is also at very necessary and if Unilever will not concentrate on here then domestic player take an advantage here.

Question 13.
Benchmarking is the process by which companies look at the "best" in the industry and try to imitate their styles and processes.
Evaluate the rationale for benchmarking exercises and discuss the benefits of benchmarking to the company. Please ensure to include an example to support your answer.

Answer.
There are many definitions of benchmarking. The formal form of benchmarking was first used in production companies, so it has been closely connected with production, development and quality. More narrowly defined, benchmarking is a systematic and continuous process involving the comparison of characteristics of the best products, services and processes in order to improve business performance (Harrington, 1995; Dahlgard et al., 1998). According to Prasnikar et al. (2005), "Benchmarking is a process of creating business knowledge by comparing and analyzing business information about other companies with the goal of improving the quality of decision-making." It seems this definition encompasses all the objectives and activities that are normally performed within the framework of benchmarking. The final objective of benchmarking is the application of new business knowledge to business decision making. In improving the quality of business decisions, the business performance of companies also improves. Consequently, competitive advantages become stronger.

Since decision-making is part of management, benchmarking is a continuous activity that refers to all areas and aspects of management. Since business performance and long-term survival depend on competitors' business and other factors of the business environment, it is reasonable to build benchmarking systematically in the processes of strategic management. This can improve the quality of decision-making and can become one of the company's competitive advantages.

The strategic management function is the aspect of management that takes superior entrepreneurship, competent strategy implementation and execution to produce superior organizational performance over the long run. The strategic management process has the following components (Thompson & Strickland, 2001):
1. defining the organization's mission as a basis for establishing what the organization does and does not do;
2. establishing strategic objectives and performance targets;
3. formulating strategies to achieve strategic objectives and targeted results;
4. implementing and executing strategies; and
5. evaluating strategic performance and making corrective adjustments.

Activities in the framework of the strategic management process can be divided into three parts:
1. Planning – this includes all activities for preparing the plan of future activities and anticipating their effects.
2. Implementation – the execution of planned activities which leads to actual business results.
3. Controlling – monitoring any deviations of the actual results from those planned and taking corrective action in the case of undesirable deviations.

When taking business decisions, the company uses business information derived from the planning and controlling part of the strategic management process and is related to implementing the activities. Additional business information reduces information asymmetry in the business environment and consequently minimizes the possibility of adverse selection and related costs. With additional business information obtained by benchmarking, a company can improve the quality of its decision-making in strategic planning. It can also improve the quality of its decision-making in strategic controlling, leading to the more successful achievement of the set objectives. Therefore, it is reasonable to integrally build benchmarking into the activities of both planning and controlling.

According to the connections with individual activities of strategic management, benchmarking could be divided into four basic types:
1. the goal of benchmarking of competitive advantages is to create knowledge about factors on which the competitive advantages of competitors and other companies are based. The goal is to improve the company's long-run competitive advantages.
2. the goal of benchmarking of strategies is to create knowledge about the specifics of strategies used by competitors and other companies that lead to the successful achievement of objectives. The purpose is to use this knowledge in order to improve the effectiveness of strategies that lead to the realization of strategic objectives in the long run.
3. the goal of process benchmarking is to gain knowledge about the characteristics of planning, designing, executing and controlling various business processes and activities by which competitors and other companies successfully implement set strategies. The goal is to improve the efficiency of implementing their own strategies in the long run.
4. the goal of performance benchmarking is to create knowledge about competitors' and other companies' performance in order to assess comparatively the company's own business performance and to improve the quality of planning strategic objectives.

The benefits of benchmarking in strategic management can be summarized in the following points (Bogan, 1994; Harrington, 1995; Karlof et al., 2001; Coers et al., 2001):
1. it enables more effective strategic planning and controlling;
2. it lowers the costs of incorrect business decisions;
3. it enables a company's efficiency to increase through the successful design and implementation of restructuring business processes and their continuous improvement;
4. it helps in solving business problems;
5. it adds an important element to the continuous education of employees, encourages their innovativeness, creativity and contributes to the creation of new ideas;
6. it enables a relative assessment of the business success and effectiveness of diverse business factors; and
7. it encourages changes and fosters special knowledge, which enables greater flexibility and faster adaptation to the changing business environment.

The benchmarking of competitive advantages enables a company to make better decisions about the competitive advantages it wants to develop and about its strategic objectives. The set objectives are the platform for carrying out the benchmarking of strategies, by which companies improve the quality of decisions about strategies that lead to meeting the set objectives. Strategies are the basis for conducting process benchmarking, by which the company tries to improve the efficiency of its processes for executing the set strategies. The consequence of these executed processes and activities is the company's performance on which performance benchmarking is focused. Thus, individual types of benchmarking are interrelated and their findings are intertwined. That is why benchmarking can only offer real support to strategic management when all four types are integrally connected.

Benchmarking can become a useful tool of strategic management if it is introduced integrally into the company. This means that it should cover all important categories of activities and that the company can take advantage of positive synergies arising between individual types of benchmarking.

Question 14.

Rick Burleson, CEO of Fenway Enterprises, is considering a merger with Empire Inc., which is led by CEO Mickey Rivers. The merger of their two firms will enable the creation of a very large diversified conglomerate, with businesses ranging from office supplies to sporting goods, industrial paints, consumer electronics, video games, and marine engines. Consultants from Boston Consulting Group have advised Burleson and Rivers that the merger could create a great deal of value, because the new combined entity can use several lucrative yet mature "cash cows" within Empire Inc. to fund the growth of several promising, but not yet highly profitable, young businesses within Fenway Enterprises. Burleson and Rivers have decided to seek a second opinion from your consulting firm – Stern Associates. Please respond to the following questions posed to you by these two CEOs:

(i) Could you please explain the "BCG matrix" to us? What is the logic of this model? What are the model's limitations and weaknesses?

(ii) Should we be employing the matrix to evaluate this merger? Could we create value in the manner that BCG has described?

Answer.

The BCG matrix, and strategic portfolio planning, in general grew up during a time (1970's) when conglomerates of unrelated businesses were common among U.S. corporations. Strategists needed some way to understand the sometimes complex (maybe even bizarre??) combinations of businesses within their purview. How should these combinations be evaluated? How does one determine whether one should keep a business in the portfolio or divest it? The Boston Consulting Group (BCG) came up with an easy to understand tool to address this issue. The tool has come to be known as the BCG matrix. The matrix is structured along two dimensions. The first dimension summarizes an industry's attractiveness in terms of its rate of growth. The second dimension indexes the strength of a business unit's position within an industry in terms of the unit's market share. Four cells within the matrix are thus defined: business units having high market share within a high growth industry ("stars"), units having low share within a high growth industry ("question marks"), units having high share in slow growth industries ("cash cows"), and units having low share in slow growth industries ("dogs"). The logic behind this segmentation was that industry attractiveness and competitive dominance within an industry are two crucial metrics that must be evaluated when assessing the viability of a business unit's future. By classifying firms into categories defined by these two dimensions, strategists were given a clear strategic mandate: divest "dogs" with no future, and use "cash cows" to fund the further growth of "stars" and "question marks."

Many experts now view the major contribution of the BCG matrix (and other such portfolio evaluation models) as calling attention to the important considerations of industry attractiveness and market position in strategic planning. However, the BCG matrix has now largely been called into question on a number of grounds. First, it is a static representation of a portfolio of businesses and tends to play down the importance of dynamic changes both in the business unit and the environment. Disruptive innovations can quickly transform an industry from slow to fast growth, changing the rules of the game very quickly. Similarly, innovations and new combinations emanating from the business unit can change the unit's fortunes quickly as well.

Such dynamism is an important part of strategic analysis and planning in the current business environment, yet it is not captured well by static portfolio analyses based on historical data.

A second line of questioning has concerned the metrics used to define each of the two dimensions. Industry growth rate is only one measure of industry attractiveness, and market share only one way of describing competitive position. Depending on the metrics used to define these two dimensions, a business unit may appear strong or weak.

Still a third limitation with the BCG matrix is that it encourages a sort of "analytical detachment" from the business units themselves. Units are viewed and evaluated on principally static market grounds rather than as mechanisms to create new opportunities and new markets through constant productive innovations.

Finally, the BCG matrix has been criticized for encouraging a view of business units as independent entities with the only connection among them being financial (e.g., when cash flows from "cash cows" are invested in "stars."). As the unrelated conglomerate has gone out of favor among publicly owned U.S. corporations and Wall Street, the emphasis on portfolio planning has shifted to the search for ways of creating value across business units via the sharing and/or transference of valuable skills and capabilities.

When viewed with the above considerations in mind, the BCG matrix is of limited help in evaluating the merger between Fenway and Empire. One set of limitations is the misplaced implication that value is being created by transferring cash from cash cows to stars. While stars may benefit from the cash infusion, the future market creating potential of cash cows may be damaged because of underinvestment in new technologies and innovations. Cash flows from cash cows might be better utilized to organically transform the cash cows themselves into new combinations of skills and products rather than siphoning off valued resources and shifting them to other supposedly more attractive business units. In addition, with capital markets so efficient these days, it is unclear whether using so-called cash cows as a mechanism of financing is actually better (and cheaper) than using external sources of debt or equity to grow high potential business units. Arguments can be made, of course, that the cash flows from cash cows are more controllable by managers than external funding, but is this a strength or a weakness of the internal financing model? For these reasons, Burleson and Rivers should look askance at the Boston Consulting Group's analysis and request that Stern Associates provide a more up to date rationale for the merger.

Question 15.

(a) Explain the difference between 'strategy' and 'strategic management'

Answer.

The essence of strategy is about the courses of action necessary, or approach taken, for achieving the organization's core objectives and ultimately the overall purpose.

Strategic management concerns the management of the organization's overall purpose, to ensure all the needs of the present are considered with those of the future. These may relate to all the six specific tasks of purpose, objectives, strategy, implementation, execution, and strategic control.

Hence, strategy is only one component (which operates at three levels – business, corporate and global) of strategic management.

(b) The strategic management process encompasses three phases – strategy formulation, implementation and evaluation and control – discuss.

Answer
Strategic Management

The term 'strategic management' has been defined differently by different scholars of management. Some of them are :

(i) Strategic management is "a set of decisions and actions resulting in formulation and implementation of strategies designed to achieve the objectives of an organization" (**Pearce and Richard Robinson).**
(ii) Strategic management is "the means by which management establishes purpose and pursues the purpose through co-alignment of organizational resources with environment, opportunities and constraints." (**Bourgeois)**
(iii) Strategic management is "the art and science of formulating, implementing and evaluating cross-functional decisions that enables an organization to achieve its objectives." (**Glueck)**

Thus

a. Strategic management is an on-going process of analysis, planning and action. It attempts to keep an organization aligned with its environment while capitalizing on organizational strengths and environmental opportunities and minimizing or avoiding organizational weaknesses and external threats, and
b. Strategic management is also a future –oriented provocative management system.

In short, an effective strategic management translates a sound strategy into action. As otherwise, even a sound strategy would be rendered ineffective if it cannot be converted into action.

Hence, it is the duty of the strategic managers to do environmental scanning, assess internal strengths and weaknesses, set goals, mobilize resources, design action plans, implement actions. Monitor progress and control resources and deviations from goals for the achievement of goals and key results areas.

Strategic management process

The strategic management process is most often described as a rational and analytical one. The process consists of the following activities in different phases :

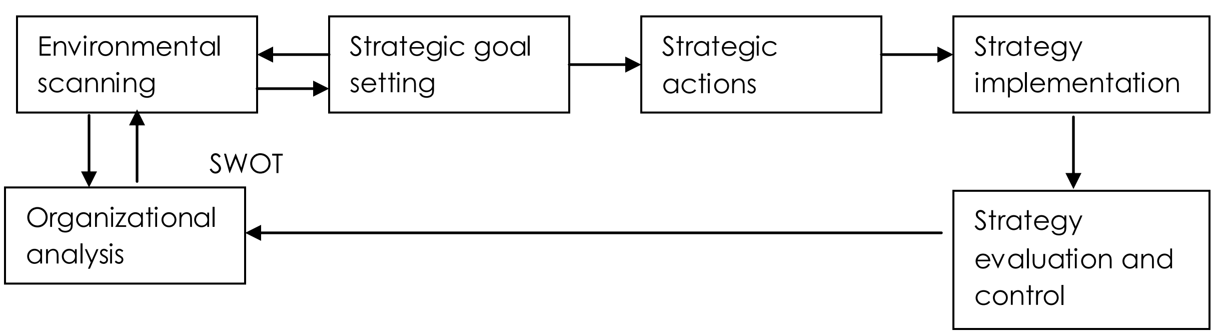


Chart showing strategic management process

1. Environmental Scanning : Threats and opportunities analysis.

This involves analyzing each threat and opportunity according to its time frame (i.e., short term or long term). Significance and likelihood of occurrence can help focus on the most important threats and opportunities. In identifying them in the organisation's environment, three questions need to be kept in mind :

(i) Which threats are critical and must be exploited ?
(ii) Which threats are critical and how can they be avoided in order to derive opportunities ?
(iii) Which threats and opportunities are short-terms and which are long-term?

An Indian example on : Baby food manufacturer

Opportunities	**Threats**
An increasing number of births per year	Liberalization policy of the government
Good trade elations with SAARC countries	State Govt. policies on excise and other taxes, varying across states
Surplus production of wheat/ maize in the country	Price regulation
	Too many competitors
Ready market with growth prospects	Profitability may be affected by increase in input prices

2. Organisational analysis : Mission, strengths and weakness analysis.

An organization analysis begins with an analysis of how the organization is performing and why.

An Indian example on : Baby food manufacturer

Strengths	**Weaknesses**
Well established reputation	No plan for plant modernization or capacity expansion schemes in near future
Leading name in baby food	
Identifiable brand name – BABY GROW	Over confident about market share
45% market share – market leadership in baby food	Little care in management development
Good R & D unit	Absence of clear-cut personnel policy

3. Strategic goals setting : Understandable, measurable, achievable and challenging long term goals.

It is necessary to set annual objectives in line with long –term objectives as well as specifying functional strategies consistent with the company's grand strategy. Such goal should be measured in terms of quality, cost and time frame.

Given the mission and objectives and having done the SWOT analysis, the strategic manager should proceed to generate possible 'strategy alternatives'. The purpose of considering different 'strategic options' is to adopt the most appropriate strategy as 'goal'. This necessitates the evaluation of the 'strategy alternatives' with reference to the criteria like suitability, feasibility and acceptability.

4. Strategic actions formulations : An action plan to achieve the goals.

Strategic actions flow from the goals of the organisation. A strategy sets forth a general programme of action and an implied development of employees and resources to obtain goals. This strategic action can be taken from three approaches – (i) Functional approach, (ii) Product approach and (iii) Business units grouping approach. For all major actions, the aspects of timing and sequencing should be considered.

5. Strategy implementation : Spelling out effective policies or operating procedures to initiate actions for implementing strategy.

This involves translating the strategies into organizational actions. This requires 'strategic leadership' i.e. identifying policies, rules and key results areas; allocating responsibilities; and making operational plans and day-to-day decisions. Strategy implementation is, thus, the action phase of the strategic management process. This step, therefore, encompasses the operational details to translate the strategy into effective practice.

6. Strategy evaluation and control : Monitoring progress of strategic and controlling the resources.

This includes both monitoring progress and control resources – human/physical/ financial – by analyzing the deviations from standards and goals and providing the feedback for modifications.

Section B – Strategic Cost Management

Question 16.

(a) Boraco Ltd. has been offered supplies of special ingredients S at a transfer price of ₹15 per kg by chhotaco Ltd. which is part of the same group of companies. Chhotaco Ltd processes and sells S to customers external to the group at ₹15 per kg. Chhotaco Ltd. bases its transfer price on cost plus 25% profit mark-up. Total cost has been estimated as 75% variable and 25% fixed.

You are required to:

Discuss the Transfer prices at which Chhotaco Ltd. should offer to transfer special ingredient S to Boraco Ltd. in order that group profit maximizing decisions may be taken on financial ground in each of the fallowing situations:-

- **(i) Chhotaco Ltd. has an external market for all of its production of S at a selling price of ₹15 per kg. Internal transfers to Boraco Ltd. would enable ₹1.50 per kg of variable packing cost to be avoided.**
- **(ii) Conditions are as per (i) but Chhotaco Ltd has production capacity for 3,000 kg of S for which no external market is available.**
- **(iii) Conditions are as per (ii) but Chhotaco Ltd has an alternative use for some of its spare production capacity. This alternative use is equivalent to 2,000 kg of S and would earn a contribution of ₹6,000.**

Answer:

(i) The proposed Transfer price [tp], ₹15, is 125% of cost. So, cost= ₹12, of which variable cost is 75%= ₹9 and fixed cost is 25%= ₹3. Since Chhotaco [C] can sell all its production of S in external market, the market price, which is marginal cost plus opportunity cost, should normally be the internal tp.

MP=₹15, Variable cost is ₹9; so opportunity cost is ₹6. However, for internal transfer, packing of ₹1.50 will not be needed. Hence, while the outside SP will remain at ₹15, internal tp will be=Variable cost of ₹7.50+opportunity cost of ₹6= ₹13.50 – which is the same as MP- Selling expenses avoided.

(ii) For the 3,000 kg where no external market is available, the opportunity cost will not apply and transfers should be at the variable cost of ₹7.50. It will not add to the profit of C Ltd but will enable it to avoid under-capacity working. The remaining output should be transferred at ₹13.50 as described above.

(iii) The lost contribution for the 2,000 kg is ₹3 per kg (₹6,000/2,000 kg) giving a tp of ₹10.50 (₹7.50 variable cost + ₹3 opportunity cost). The remaining 1,000 kg for which there is an external market at ₹13.50.

(b) A company produces two products X and Y, the production cost of which are show below:

	X (₹)	Y (₹)
Direct material cost	**10**	**10**
Direct labour cost	**5**	**9**
Variable overhead	**5**	**9**
Fixed overhead	**5**	**9**
	25	**37**

Fixed overhead is absorbed on the basis of direct labour cost.

The product passes through two processes, Assembly and Finishing. The associated labour cost is ₹10 per direct labour hour in each. The direct labour associated with the two products for these processes are shown below:

Process	**Time taken**	
	Product X	**Product Y**
Assembly	**10 minutes**	**40 minute**
Painting	**20 minutes**	**15 minutes**

The current market price for X is ₹65 and for Y it is ₹52. At these prices, the market will absorb as many units of X and Y as the company can produce. The capacity of the company to produce X and Y is limited by the available capacity of the two processes. The company operates two shifts of 8 hours each. Painting is a single process line and two hours in each shift will be down time. Assembly can process two units simultaneously, although this will double the requirement of direct labour. Painting can operate for full 16 working hours each day.

What production plan should the company follow in order to maximize profit under (i) Traditional Costing System and (ii) Throughput Accounting System?

Answer:

The total maximum processing time per day in 2 shifts:

Assembly	(2x8 hours)x 60 minutes	=960 minutes
Painting	(2x6 hours)x 60 minutes	=720 minutes
Expected output (units) per day	X	Y
Assembly	(960/10)x2*=192	(960/40)x2*=48 [*2 units at a time]
Painting	(720/20)=36	(720/15)=48

The key factor or the constraint is the time for painting.

Under Traditional approach

Contribution of X per minute in painting	=₹(65-20)÷20	=₹2.25
Contribution of Y per minute in painting	₹(52-28)÷15	=₹1.60

So, produce maximum possible number of X for (36 units x ₹45) = ₹1,620 (contribution p.d.

Under throughput approach-

Contribution of X per minute in painting	=₹(65-10)÷20	=₹2.27

Contribution of Y per minute in painting	=(52-10)÷15	=₹2.80

So, produce maximum possible number of Y for (48 units x ₹42)=₹2,016 (contribution) p.d.

Question 17.

A Multinational Company runs a public Medical Health Centre. For this purpose, it has hired a building at a rent of ₹10,000 per month with5% of total taking. The Health Centre has 3 types of wards for its patients namely- General ward, Cottage ward, and Deluxe ward. State the rent to be charged to each bed-day for different type of ward on the basis of the following information.

- **(i) The number of beds of each type is general ward 100, Cottage ward 50, Deluxe ward 30.**
- **(ii) The rent of cottage ward bed is to be fixed at2.5 times of the general ward bed and that of Deluxe ward bed as twice of the Cottage ward bed.**
- **(iii) The Occupancy of each type of ward is as follows-**
  General ward 100%, Cottage ward 80% and Deluxe ward 60%. But, in General ward, there were occasions when beds are full, extra beds were hired at charges of ₹20 per bed. The total hire charges for the extra beds incurred for the whole year amount to ₹12,000.
- **(iv) The Health Centre engaged a Heart Specialist from outside and on an average fees paid to him was ₹15,000 per trip. He makes three trips in the whole year.**
- **(v) The other expenses for the year were as under-**

Salary of Supervisors, Nurses, Ward Boys	**4,25,000**
Repairs and maintenance	**90,000**
Salary of Doctors	**13,50,000**
Food supplied to patients	**40,000**
Laundry charges for their bed linens	**80,000**
Medicines supplied	**74,000**
Cost of Oxygen, X-ray etc. other than directly borne for treatment of patients	**49,500**
General Administration Charges	**63,000**

- **(vi) Provide profit at 20% on total taking.**
- **(vii) The Health Centre imposes 8% Service Tax on rent received.**
- **(viii) 360 days may be taken in a year.**

Answer:

(i) Statement of operating cost per annum

Particulars	**₹**
Rent (Fixed Element) at ₹10,000 for 12 months	1,20,000
Hire Charges of Additional beds	12,000
Fees paid to Heart Specialist (₹15,000 x 3 trips)	45,000
Salary of Supervisors, Nurses, Ward boys	4,25,000
Repair and Maintenance	90,000
Salary of Doctors	13,50,000
Food Supplied to patients	40,000
Laundry charges for their bed linens	80,500
Medicine supplied	74,000
Cost of Oxygen, X-ray etc. other than directly borne for treatment of patients	49,500
General Administration charges	63,000
Total Cost as above	**23,49,000**

(ii) Computation of Desired Rent Collection

Particulars	**%**	**₹**
Gross rent collections (including service tax of 8%)	108%	33,82,560
Less: Service tax of 8% rent collections	8%	2,50,560
Rent Collections (taken as base=100%)	100%	23,49,000÷75%=31,32,000

Less: Desired Profit Margin (on Revenue excluding Service Tax)	20%	6,26,400
Balance being total operating costs	80%	25,05,600
Less: Variable rent share (on Revenue Excluding Service tax)	5%	1,56,600
Net balance Operating Costs (amount as per WN 1)	75%	(as per WN 1)=23,49,000

Note: Other figures in the amount column are derived by pro-rata calculations.

(iii) Computation of rent per Bed-Day

Ward	General	Cottage	Deluxe	Total
a. Number of beds	100	50	30	
b. Occupancy	100%	80%	60%	
c. Number of days in a year	360	360	360	
d. Effective bed-days p.a (ax b x c)	36,600	14,400	6,480	57,480
e. Rent per bed-days ratio	1 time	2.5 times	5 times	
f. Total Bed Days for Rent purposes(d x e)	36,600	36,000	32,400	1,05,000
g. Rent colln apportioned in ratio of (f)	10,91,726	10,73,828	9,66,446	31,32,000
h. Rent per bed-day (g÷ d) (excluding ST 8%)	₹29.83	₹74.57	₹149.14	

Note: In General Ward, Total Bed Days=100x 100%x 360=36,000 days. However, additional bed charges= ₹12,000 at ₹20 per bed (given). Hence extra bed-days=₹12,000÷₹20=600. This has also been included in the column above, in Row d.

Question 18.

An agriculturist has 480 hectares of land on which he grows Onion, tomatoes, Cabbage and carrots. Out of the total area of land, 340 hectares are suitable for all the four vegetables but the remaining 140 hectares of land are suitable only for growing Cabbage and carrots. Labour for all kinds of farm work is available in plenty.

The market requirement is that all the four types of vegetables must be produced with a minimum of 5,000 boxes of any one variety. The farmer has decided that the area devoted to any crop should be in terms of complete hectares and not in fractions of a hectare. The only other limitation is that not more than 1,13,750 boxes of any one vegetable should be produced.

The relevant data concerning production, market prices and costs are as under:

	Onion	Cabbage	Carrots	Tomatoes
Annual yield:				
Boxes per hectare	**350**	**100**	**70**	**180**
	₹	**₹**	**₹**	**₹**
Costs:				
Direct material per hectare	**952**	**432**	**384**	**624**
Direct Labour:				
Growing per hectare	**1792**	**1216**	**744**	**1056**
Harvesting and packing per box	**7.20**	**6.56**	**8.80**	**10.40**
Transport per box	**10.40**	**10.40**	**8.00**	**19.20**
Market price per box	**30.76**	**31.74**	**36.80**	**44.55**

Fixed expenses per annum:	**₹**
Growing	**1,24,000**
Harvesting	**75,000**
Transport	**75,000**
General administration	**1,50,000**

It is possible to make the land presently suitable for Cabbage and carrots, vegetable for growing Onion and tomatoes if certain land development work is undertaken. This work will involve a capital expenditure of ₹6,000 per hectare which a bank is prepared to finance at the rate of interest of 20% p.a. If such improvement is undertaken, the harvesting cost of the entire crop of tomatoes will decrease on an average by ₹2.60 per box.

Required:

(i) Calculate, within the given constraint, the area to be cultivated in respect of each crop to achieve the largest total profit and the amount of such total profit before land development work is undertaken.

(ii) Assuming that the other constraints continue, advice the grower whether the land development schemes should be undertaken and if so the maximum total profit that would be achieved after the said development schemes is undertaken.

Answer:

(i) Calculation showing area to be cultivated in respect of each crop to achieve the largest total profit.

	Hectares
Land available for all four vegetables	340
Land available for Cabbage and carrots	140
Total	480
Minimum requirement of each variety	5,000 boxes
Maximum requirement of each variety	1,13,750 boxes

	Onion	**Cabbage**	**Carrots**	**Tomatoes**
Boxes per hectare	350	100	70	180
Cost per hectare	₹	₹	₹	₹
Direct Materials	952	432	384	624
Direct Labour:				
Growing	1,792	1,216	744	1,056
Harvesting	2,520	656	616	1,872
Transport	3,640	1,040	560	3,456
Total V. Costs	8,904	3,344	2,304	7,008
Selling price per hectare	10,766	3,174	2,576	8,019
Contribution per hectare	1,862	(170)	272	1,011

Cabbage: Minimum 5,000 Boxes=5,000/100=50 hectares

Carrots Balance land of 140-50= 90 hectares

Tomatoes minimum 5,000 boxes= 5,000/180= 28 hectares

Onion Balance land of 340-28=312 hectares

Cultivation plan to achieve largest profit before land development:

	Onion	**Cabbage**	**Carrots**	**Tomatoes**
Hectares	312	50	90	28
	₹	₹	₹	₹
Contribution per hectare	1,862	(170)	272	1,011
Contribution	5,80,944	(8,500)	24,480	28,308
Total Contribution	6,25,232			
Fixed expenses	4,24,000			
Profit	2,01,232			

(ii) Carrots yield a low contribution and this crop is grown in excess of the requirement 5000 boxes. The land that could be released from t5his crop is 90-72=18 hectares (5000 boxes need 72 hectares only). This land could be utilized for growing Onion which yield the largest contribution.

Analysis to show whether and development to be undertaken

After land development the contribution per hectare of tomatoes will be as under:

Present contribution per hectare

Saving in harvesting @ 2.60 per box

Revised contribution

Allocation of 18 hectares of land

Crop	Max sale	Present production	Addl. Reqt.	Yield per hectare	Additional Hectares to
Onion	1,13,750	1,09,200	4,550	350	13
Tomatoes	1,03,750	5,000	900	180	5*

*Balance Land

Revised Cultivation Plan

	Onion	Cabbage	Carrots	Tomatoes	Total
Hectares	325	50	72	33	480
	₹	₹	₹	₹	₹
Contribution/hectare	1,862	(170)	272	1,479	
Total Contribution	6,05,150	(8,500)	19,584	48,807	6,65,041
Fixed Expenses					4,40,200
Profit					2,24,841

Capital Expenditure: 18 hectares x 6,000	=₹1,08,000
Interest 1,08,000 x 20/100	=21,600
Existing fixed expenses	=4,24,000
Total	4,45,600

Conclusion

Since the profit after land development is greater, the company should implement the proposal to develop 18 hectare of land.

Question 19.

(a) What is the theory of constraints?

Answer:.

The theory of constraints (TOC) focuses attention on constraints and bottlenecks within the organization which stands in the way for speedy production. The theory was developed by Goldartt and Cox to help managers to improve overall profitability of the concern. The main concept is to maximize the rate of manufacturing outputs. The theory was turned into an accounting system known as Throughput Accounting.

TOC views that the peace of production is guided by the bottleneck within the organization; hence the same should be either removed or their influence to hinder production be minimized.

In the new approach to production management called OPT (optimized production technology), TOC advocates a throughput orientation whereby throughput must be given first priority, inventories second and operational expenses last. The TOC adopts a short-run time horizon and treats all operating expenses (including direct labour but excluding direct materials) as fixed, thus implying that variable costing should be used for decision-making, profit measurement and inventory valuation. In substance, TOC appears to be merely a restatement of contribution per limiting factor; and in reality, TOC deals with a LP problem of maximizing throughput contribution subject to constraint of bottleneck resources.

(b) Identify the assumptions on which cost-volume profit analysis is based?
Answer.
It is essential that while preparing or interpreting CVP information, one must be aware of the underlying assumptions on which the information has been prepared. The important assumptions are:

- **(i)** All other variables remain constant.
- **(ii)** A single product or constant sales mix.
- **(iii)** Total cost and total revenue are linear functions of output.
- **(iv)** Profits are calculated on a variable costing basis.
- **(v)** The analysis applies only to a the relevant range only.
- **(vi)** Costs can be accurately divided into their fixed and variable elements.
- **(vii)** The analysis applies only to a short term time horizon.
- **(viii)** Complexity related fixed costs do not change.

If these assumptions are not recognized, serious error may result incorrect conclusions may be drawn from the analysis.

(c) How MRP II differs from MRP I?
Answer.
Material requirement planning (MRP) is a "push through" system that manufactures finished goods for inventory on the basis of demand forecasts. MRP uses (1) demand forecasts for the final products; (2) a bill of materials outlining the materials, components, finished products, and product inventories to predetermine the necessary outputs at each stage of production. Taking into account the lead time required to purchase materials and to manufacture components and finished products, a master production schedule specifies the quantity and timing of each item to be produced. The EOQ model can be used within MRP systems provided the major assumption of the EOQ model of constant demand broadly applies.
After the introduction in the 1906s, MRP was later extended to the management of all manufacturing resources. In particular, it focuses on machine capacity planning and labour scheduling as well as materials requirement planning. This extended system is known as manufacturing resource planning or MRP II.

Question 20.
(a) Explain the concept of learning curve and state how relevant is the same in managing costing?
Answer.
The first time when any operation is carried out it takes little bit of extra time and the time taken goes on decreasing during the subsequent operations as the workmen become more and more familiar to the operations. This process of decline in time taken will continue for some time and the labour cost per unit comes down. This is the concept of working out the learning curve.
The learning curve is relevant in managing cost due to the following reasons:-

- **(i)** It is useful in analysis of cost-volume-profit relationship.
- **(ii)** It is useful in preparing budgeting, price fixation and profit planning.
- **(iii)** It is useful in negotiating price with a customer based on volume of offtake .
- **(iv)** It is useful in performance evaluation.

(b) "Kaizen Costing is an approach that explicitly incorporates continuous improvement during the budget period". Discuss the statement.
Answer.
'Kaizen' is a Japanese term for making improvement to a process through small incremental amounts, rather than through large innovation. Kaizen Costing focuses on the production process and the cost reductions are derived primarily through the efficiency of the production

process. As the products are already in the manufacturing stage of their life cycles, the potential cost reductions are smaller- the aim of Kaizen costing being to reduce the cost of components and products by a pre-specified amount.
For example, each plant in a manufacturing unit may be assigned a target cost reduction ratio and this is applied to the previous year's actual costs to determine the target cost reduction. Kaizen Costing relies heavily on employee empowerment. They are assumed to have superior knowledge about how to improve processes because they are closets to the manufacturing processes and customers, and are likely to have greater insights into how costs can be reduced.

(c) What is Product Life Costing? State its characteristics and benefits.
Answer.
Product Life Cycle Costing (PLCC) is an approach used to provide a long term picture of product line, profitability, feedback on the effectiveness of the life cycle planning and cost data to clarify the economic impact on the alternative, chosen in the design, engineering phase etc.,
Characteristics: PLCC-
- **(i)** Involve tracing of costs and revenues of each product over the several calendar periods throughout their entire life cycle.
- **(ii)** Traces research, design and development costs and total magnitude of these costs for each individual product and compared with product revenue.
- **(iii)** Assists report generation for costs and revenues.

Benefits: PLCC-
- **(i)** Results in earlier actions to generate revenue or to lower costs than otherwise might be considered.
- **(ii)** Ensures better decision from a more accurate and realistic assessment of revenues and costs, atleast within a particular life cycle stage.
- **(iii)** Promotes long-term rewarding.
- **(iv)** Provides an overall framework for considering total incremental costs over the life span of the product.

Question 21.
Big Bazaar (BB) is preparing its activity-based budget for January 2013. Its current concern is with it's our activities (which are also indirect –cost categories in its product profitability reporting system):
- **(i) Ordering- covers purchasing activities. The cost driver is number of purchase orders.**
- **(ii) Delivery-covers the physical delivery and receipt of merchandise. The cost driver is number of deliveries.**
- **(iii) Shelf-stocking-covers the stocking of merchandise on store shelves and the ongoing restocking before sale. The cost driver is hour of stocking time.**
- **(iv) Customer support-covers assistance provided to customers, including checkout and bagging. The cost driver is number of items sold.**

Assume BB has only three product types: soft drinks, fresh produce, and packaged food. The budgeted usage of each cost driver in these three product types and the January 2013 budgeted cost-driver rates are:

	Cost-Driver Rates		Amount of Driver used		
Activity and driver	**2012 Actual rate**	**January 2013 Budgeted Rate**	**Soft Drinks**	**Fresh Drinks**	**Packaged food**
Ordering(per purchase order)	**₹10,000**	**₹9,000**	**14**	**24**	**14**
Delivery(per delivery)	**8,000**	**8,200**	**12**	**62**	**19**
Shelf-stocking(per hour)	**2,000**	**2,100**	**16**	**172**	**94**
Customer support(per	**20**	**18**	**4,600**	**34,200**	**10,750**

item sold)					

Required:

(i) What is the total budgeted cost for each activity in January 2013

(ii) What advantages might BB gain by using an activity-based budgeting approach over, say, an approach that allocates the cost of these activities to products as a percentage of the cost of goods sold?

Answer.

(i) Calculation of total budgeted cost for each activity

Activity	Cost Hierarchy	Soft Drinks	Fresh produce	Packaged Food	Total
Ordering ₹9,000x 14; 24; 14	Batch-level	₹1,26,000	₹2,16,000	₹1,26,000	₹4,68,000
Delivery ₹8,200x 12; 62; 19	Batch-level	98,400	5,08,400	1,55,800	7,62,600
Shelf-stocking ₹2,100x 16; 172; 94	Output-unit level	33,600	3,16,200	1,97,400	5,92,200
Customer support ₹18x 4,600; 34,200; 10,750	Output-unit level	82,800	6,15,600	1,93,500	8,91,900
Total Budgeted costs		3,40,800	17,01,200	6,72,700	27,14,700

(ii) An ABB approach recognizes how different products require different mixes of support activities. The relative percentage of how each product area uses the cost driver at each activity area is:

Activity	Cost Hierarchy	Soft Drink	Fresh produce	Packaged Food	Total
Ordering	Batch-level	26.9	46.2	26.9	100.0%
Delivery	Batch-level	12.9	66.7	20.4	100.0
Shelf-stocking	Output-unit level	5.7	61.0	33.3	100.0
Customer support	Output-unit level	9.3	69.0	21.7	100.0

By recognizing these differences, (BB) managers are better able to budget for different unit sales levels and different mixes of individual product-line item sold. Using a single cost driver (such as COGS) assumes homogeneity in the use of indirect costs (support activities) across product lines which does not occur at (BB). Other benefits cited by managers include: (1) better identification of resource needs, (2) clearer linking of costs with staff responsibilities, and (3) identification of budgetary slack.

Question 22.

Bharat Consumer products employ 10 trucks of 10 tonnes capacity to deliver products to their distributors. The vehicles return empty on the return journey. The following data refer to the month of May 2013:

	Budget	**Actual**
Load Carried (tones)	**4,000**	**3,800**
No. of truck trips	**500**	**450**
Journey hours	**3,000**	**25,000**
Loading Time (hours)	**1,000**	**800**
Km. Travelled	**25,000**	**25,000**
Diesel used (litres)	**12,500**	**13,000**

No. of drivers	**12**	**12**
No. of mechanics	**5**	**5**
Fixed costs	**₹8,000**	**₹8,000**
Cost per litre of Diesel	**1.00**	**0.95**
Wages per driver per month	**1,000**	**1,050**
Wages per Mechanic per month	**800**	**900**
Shares for Repairs	**2,000**	**2,500**

Prepare statement for management detailing budgeted and actual operating cost. Also give your comments on performance.

Answer.

Comparative Statement of Operating Costs

No. of Trucks:10	**Capacity:10 Tonnes**		**Month: May 2013**
	Budget	Actual	Variance
Cost of Diesel	12,500	12,350	150
Spares for Repairs	2,000	2,500	-500
Wages: Drivers	12,000	12,600	-600
Mechanics	4,000	4,500	-500
Total variable costs	30,500	31,950	-1,450
Total Fixed Costs	8,000	8,000	-
Total operating costs	38,500	39,950	-1,450
Load and Distance carried (1,000 tonne-km.)	1,00,000	95,000	-5,000
Operating cost per 1,000 tonne km.	0.385	0.422	0.037
Operating cost per truck trip	77	89	-12
Cost of Diesel per journey hour	4.17	4.94	-0.77
Truck loaded per hour (tone)	4.00	4.75	0.75
Journey hours per trip	6.00	5.55	0.45
Kms travelled per trip	50.00	55.55	5.55

Comments:

(i) The actual operating costs are ₹1,450 more than the budgeted costs. Of course, the cost of diesel has come down by ₹150 due to reduction in its price, but the other costs such as spares and wages all together have gone up by ₹1,600.

(ii) The operation cost per 1,000 tonne km, has gone up from 38.5 paise to 42.2 paise because of two reasons: (a) the actual load carried is less than what was budgeted and (b) total operating cost have gone up as stated in (i) above.

(iii) There is increase in the operating cost per trip also because of fall in number of trips and rise in operating costs.

(iv) In spite of reduction in the cost of petrol and journey hours per trip (both favourable) the cost of fuel per journey hour has gone up. This is due to reduction in number of trips.

(v) Loading of trucks per tone-hour is favourable. This has gone up from 4 to 4.75 per tonne-hour.

(vi) The same distance has been covered by a smaller number of trips. Thus kms. travelled per trip is also favourable. It also explains that longer distance was travelled per trip on account of which reduced load was carried. However, increase in consumption of diesel needs explanation because the distance travelled was the same as budgeted.

(vii) Increase in the cost of spares indicate a large number of break=downs on account of which there has been a fall in journey hours to some extent.

Question 23.

(a) Standard cost specification for a product are as follows:

Times 15 hours per unit		
Cost ₹3 per hour		
Actual performance in a cost period is as follows:		
Production 500 units		
Hours taken	Production	7,800 hours
	Idle time	200 hours
Total time		8,000 hours

Payment made ₹24,800 (average per hour ₹3.10).
Calculate Labour variances.
Answer:

(i) DLRV	=Actual Time paid for X (Standard Rate- Actual Rate)	
	=8,000 hours X (₹3.00-₹3.10)	=₹800 (Adverse)
(ii) DLEV	=Standard Rate X (Standard time for actual output- Actual Time worked)	
	=₹3 X (7,500 hours- 7,800 hrs.)	=₹900 (Adverse)
(iii) ITV	=Idle Hours X Standard Hourly Rate	
	=200 hours X ₹3	=₹600 (Adverse)

The total of (ii) and (iii) may be termed as 'Total Labour Efficiency Variance'. It can be calculated by the following formula:

LEV	=Std. Rate X (std. time for actual output-Actual time paid for)	
	=3 X (7,500 hrs. – 8,000 hrs.)	=₹1,500 (A)
LCV	=₹800(A)+₹900(A)+₹600(A)	=₹2,300(A)

Verification:

DLCV	=Standard Cost-Actual Cost	
	=₹3 X 15 X500-₹24,800	=₹22,500-₹24,800
	=₹2,300 (Adverse)	

(b) A Factory manufactured a Tape Recorder , the estimated costs of which are as follows:

Direct Material	**₹20 each**
Direct wages	**10 hours at Re.1.00 per hour**
Overhead absorption Rate	**₹2.00 per hour.(50% fixed overhead included)**

During this period, 10,000 units will be produced and sold as follows:-

9,000 units of first at	**₹60 each**
500 units of second at	**₹50 each**
500 units of third at	**₹30 each**

Present information to management showing the loss due to the production of inferior units.
By reprocessing the inferior units, taking the full re-processing time of a further 5 hours and adding further materials, costing ₹10 per unit, these 'seconds' and 'thirds' can be converted into 'firsts'
Present information to the management.
Answer:
Present position (Based on 10,000 units production)
Cost per unit:

		(₹)
Direct material		20
Direct wages	(10 hrs. @Re.1.00)	10
Overheads	(10 hrs. @₹2.00)	20
Total		50

	Per unit	Units	Total

Particulars	Sales price (₹)	Profit/Loss (₹)		Profit (₹)	Loss (₹)
First	60	10	9,000	90,000	
Seconds	50	-	500	-	
Thirds	30	(20)	500	-	10,000
				90,000	10,000
			Net profit		80,000

Reprocessing of Inferior units

(a) Additional expenditure for reprocessing per unit

	(₹)
Direct material	10
Direct wages 5 hrs.	5
Variable overhead @ Re. 1.00	5
Total	20

Total expenditure for 100 units=100X ₹20= ₹2,000

(b) Additional revenue

		(₹)
Seconds	(₹60-₹50)X 500units	5,000
Thirds	(₹60-₹30) X 500	15,000
		20,000

Note: No change in the profit position hence this need not be considered.

Question 24.

Sun Ltd. is considering renting additional factory spaces to make two products, P-1 and P-2. You are the company's management accountant and have prepared the following monthly budget:

	P-1(₹)	**P-2(₹)**	**Total(₹)**
Sales (unit)	**4,000**	**2,000**	**6,000**
Sales revenue	**80,000**	**1,00,000**	**1,80,000**
Variable material and labour costs	**(60,000)**	**(62,000)**	**(1,22,000)**
Fixed production overhead (allocated on direct labour hours)	**(9,900)**	**(18,000)**	**(27,900)**
Fixed administrative overheads (allocated on sales value)	**(1,600)**	**(2,000)**	**(3,600)**
Profit	**8,500**	**18,000**	**26,500**

The fixed overhead in the budget can only be avoided if neither product is manufactured.
Facilities are fully interchangeable between products.
As an alternative to the manual production process assumed in the budget, Sun Ltd. has the option of adopting a computer aided process. This process would cut variable costs of production by 15% and increase fixed costs by ₹12,000 per month.
The management is not sure about demand for the new products.
The management believes the company will have to depart from its usual cash sales policy in order to sell P-2. An average of three months credit would be given and bad debts and administration costs would probably amount to 4% of sales revenue for this product.
Both products will be sold at the prices assumed in the budget. Sun Ltd. has a cost of capital of 2% per month. No stock will be held.

(a) Calculate the sales revenues at which operation will break-even for each process (manual and computer aided) and calculated the sales revenue at which Sun Ltd. will be indifferent between the two processes.
  - **(i) If P-1 alone is sold;**
  - **(ii) If P-1 and P-2 units in the ratio 4:1, with P-2 being sold on credit.**

(b) Explain the implications of your results with regard to the financial viability of P-1 and P-2.

Answer:

(a)

	Material Production		**Computer-aided**	
	P_1	**P_2**	**P_1**	**P_2**
	Manual Production		Computer-aided	
	₹	₹	₹	₹
Selling price	20.00	50.00	20.00	50.00
Variable production costs	15.00	31.00	12.75	26.35
Bad debts at 4% of SP	-	2.00	-	2.00
Finance cost (2% X ₹50 X 3 months)	-	3.00	-	3.00
Contribution	5.00	14.00	7.25	18.65
Fixed cost per month	₹31,500		₹43,500	

(i) P1 only is sold:

Manual process break-even point	=6,300 units [₹31,500/₹5]
	=₹1,26,000 sales revenue
Computer aided break-even point	=6,000 units [₹43,500/₹7.25]
	=₹1,20,000 sales revenue
Point of indifference: Let X	=point of indifference
Then under manual process indifference point is where:	
5x-31,500	=7.25x-43,500
	=5,333.33 units
	=₹1,06,667 sales revenue

(ii) P1 and P2 are sold in the ratio of 4:1

Manual process:	Average contribution per unit
=(4X ₹5+1X ₹14)/5	=₹6.80 Break-even point
	=4,632.35 units [₹31,500/₹6.80]
	=₹1,20,441 sales revenue
Computer-aided process:	Average contribution per unit
=(4X ₹7.25+1X ₹18.65)/5	=₹9.53 Break-even point
	=4,564.53 units [₹43,500/₹9.53]
	=₹1,18,678 sales revenue
Indifference point: Let X	=point of indifference
Then under computer aided process indifference point is	
Where 6.80x-₹31,500	=9.53x-43,500
	=4,395.60 units
	=₹1,14,286 sales revenue

(b) Budgeted sales of P1<BE sales. As such, production P1 alone cannot be considered. Also, it is not worth selling on its own even if P1 and P2 are substitutes. That the products are perfect substitutes and ₹1,80,000 sales can be generated is likely to be over-optimistic. In short, the single-product policy is very risky.

With the alternative proposal of selling P1 and P2 in 4:1 proportion, the BE point is 4,565 units-P1 and P2 in 4:1 proportion, the BE point is 4,565 units - P1 3,652 units and P2 913 units. This will mean a margin of safety of 348 units for P1 and 1,087 units for P2 as compared with the budgeted quantities. Launching both products is clearly the most profitable alternative.

We note that the budgeted sales mix is in the ratio of 2:1 to yield an average contribution per unit of ₹8 (manual process) and ₹11.05 (computer aided process); the break-even point based on this is 3,937 units for both the processes, consisting of 2,625 units of P1 and 1,312 unit of P2. This represents a margin of safety of 1,375 units of P1 (34%) and 688 units of P2 (34%). It is obviously better to sell P2 in preference to P1. It is recommended that both products be sold and the computer-aided process be adopted.

Question 25.

(a) A company accepted an order of 15 specialized machines of ₹4,00,000 each. The condition of the order is that all the machines should be manufactured and delivered in four months failing which a penalty of ₹40,000 is stipulated for each machine delivered late. Since the company's capacity is limited only one machine can be completed at a time. The company has completed the manufacture of 4 machines and as there is no previous experience of manufacture of those machines the manufacturing times have been recorded as under:-

Machine	Completion Time (days)
1	100
2	8.1
3	7.4
4	7.1

The company has 23 working days in a month and the first 4 machines are completed during normal working days. The company's estimate of direct cost excluding labour cost is as under:-

Direct material	**₹1,60,000 per machine**
Component	**₹60,000 per machine**
Direct labour cost	**₹5,000 per day for normal day**
Over time is possible up to 7 days per month at	**₹10,000 per day**
Other expenses	**₹10,000 per machine**
Overheads	**₹6,000 per normal day**
No overheads are applied for over time days.	

Required:-

(i) Using the recorded times in respect of the four machines, calculate the learning rate.

(ii) Advice the company whether (a) it is economical to continue normal working and pay penalties or (b) to work overtime to avoided penalties or (c) use a combination of penalty and overtime. Show all Calculations.

Answer.

(i) The learning rate is computed with reference to the cumulative time for the manufacture of the successive units. Hence the cumulative time and average time can be tabulated as under:

Machine	Time (days)	Cumulative days	Average days/machine
1	10.9	10.0	10.00
2	8.1	18.1	9.05
3	7.4	25.5	8.50
4	7.1	32.6	8.15

Learning ratio is measured by average time taken for 2 machines ÷ average time taken for 1 machine or by average time taken for 4 machines ÷ average time taken for 2 machines:

Machines 2 and 1	9.05÷10.00	=90.5%
Machines 4 and 2	8.15÷9.05	=90.05%

Hence, 90% learning curve is in operation. The factor is 0.152.

(ii)[Working for part b]

Direct costs other than labour costs per machine₹	
Direct materials	1,60,000
Components	60,000
Other direct expenses	10,000
Total	2,30,000

For total order of 15 machines, time required per machine (using the formula $y=ax^{-b}$)	$=10 \times 15^{-0.152}$	=6.626 days
Total time for 15 machines:	15 X 6.626	=99.4 days
Total time for 14 machines:	14 X $(10\text{X } 14^{-0.152})$	=93.7 days
Total time for 13 machines:	13X $(10\text{X}13^{-0.152})$	=88.0 days
Total time available in 4 months of the contract period:	4X23=92 normal days plus 4X7	=28 overtime days(if needed)

So, the company can manufacture and supply at best 13 machines without overtime and penalty.

(a) To manufacture 15 machines in normal time and pay penalty for pieces delivered late:

Time Required:	99.4 days	₹
Normal labour cost	99.4X₹5,000	=4,97,000
Overheads	99.4X ₹6,000	5,96,400
Other direct costs	15X ₹2,30,000	34,50,000
Penalty for 2 machine	2X ₹40,000	80,000
Total cost		₹46,26,400

(b) To manufacture 15 machines with overtime working:

Time required:	99.4 days[normal days 92+ overtime days 7.4]	₹
Normal labour cost	92 X ₹5,000	=4,60,000
Overtime	7.4X ₹10,000	=74,000
Overheads	92X ₹6,000	=5,52,000
Other direct costs	15X ₹2,30,000	34,50,000
Total cost		45,36,000

(c) To supply using, overtime and penalty: [obviously, it means 13 produced in normal time+ 1 in overtime + 1 bearing penalty]

Time required:	For 14 machines:93.7 days(92 normal days+ 1.7 overtime days) and for the 15th machine: 99.4-93.7	=5.7 normal days
		₹
Normal labour cost	(92+5.7)X₹5,000	4,88,500
Overtime	1.7X₹10,000	17,000
Overheads	97.7X₹6,000	5,86,200
Other direct costs	15X₹2,30,000	34,50,000
Penalty	1X₹40,000	40,000
Total cost		45,81,700

Alternative (ii) is the best.

(b) Write short note on Opportunity Cost.

Answer:

As per CIMA terminology opportunity cost is defined as 'the value of the benefit sacrificed when one course of action is chosen, in preference to an alternative. The opportunity cost is represented by the forgone potential benefit from the best rejected course of action'. In opportunity cost we are to identify the value of benefit forgone as the result of choosing a particular course of action in preference to another.

Notional rent foregone by a company by using its own building instead of renting it out and foregoing rent that it could have earned is an example of opportunity cost.

Another example of opportunity cost is considered for even an obsolete material lying in store for long. When it is found to be useful for a new job, the sale value of material even as scrap is taken as the opportunity cost of using that material for the new job.

Question 26.

Home Build construction company is interested in taking loans from banks for its projects – P, Q, R, S, T. The rates of interest and the lending capacity differ from bank. All these projects are to be completed. The relevant details are provided below. Assuming the role of a consultant, advice the Company as to how it should take the loans so that the total interest payable is least. Find out alternate optimum solutions, if any.

Source Bank	Interest rate in % for projects					MAX Credit (in 000s)
	P	Q	R	S	T	
Private bank	20	18	18	17	17	Any amount
Nationalized Bank	16	16	16	15	16	400
Co- operative Bank	15	15	15	13	14	250
Amount required (in 000s)	200	150	200	125	75	

Answer.

Total amount required as loan = ₹750 (000s). The private Bank can give any amount. The date is made balanced by putting 100 against the Private bank.

Initial Basic feasible solution is determined as under:

Part.	P	Q	R	S	T	Amount	Cost Differences I II III IV V VI
Private	20	100 18	18	17	17	100/0	0 1 0 0 0 18
National	150 16	50 16	200 16	15	16	400/250/50/0	1 0 0 0 0 16
Co- op	50 15	15	15	125 13	75 14	250/125/50/0	1 1 0 - - -
Required	200/150/0	150/0	200/0	125/0	75/0	750	

Cost Diff:

I	**1**	**1**	**1**	**$\boxed{2}$**	**2**
II	**1**	**1**	**1**	**-**	**$\boxed{2}$**
III	**1**	**1**	**1**	**-**	**-**
IV	**$\boxed{4}$**	**2**	**2**	**-**	**-**
V	**-**	**2**	**$\boxed{2}$**	**-**	**-**
VI	**-**	**2**	**-**	**-**	**-**

In the above IBFS.

- Number of allocated cell is 7
- M + n – 1 (i.e. Rows + Columns – 1)
  = 3+5-1 = 7

Hence, there is no degeneracy. This can be tested for optimality.

Optimality Test:

Table 1 = Ui + Vj for allocated cells computed as below:

Ui & Vj	15-0= 15	16-1= 15	16-1 = 15	13-0= 13	14 – 0= 14

18 – 15 = 3	20	$\boxed{100}$ 18	18	17	17
16 – 15= 1	$\boxed{150}$ 16	$\boxed{50}$ 16	$\boxed{200}$ 16	15	16
(base) 0	$\boxed{50}$ 15	15	15	$\boxed{125}$ 13	$\boxed{75}$ 14

Table 2 = Ui + Vj for unallocated cells computed as below:

3 + 15 = 18		3 + 15 = 18	3 + 13 = 16	3 + 14 = 17
			1 + 13 = 14	1 + 14 = 15
	0 + 15 = 15	0 + 15 = 15		

Table 3 = Net Evaluation Table (NET) = Table 1 – Table 2 for unallocated cells is computed below:

20 - 18 = 2		18 - 18 = 0	17 - 16 = 1	17 - 17 = 0
			15 - 14 = 1	16 - 15 = 1
	15 - 15 = 0	15 - 15 = 0		

The above solution is optimal since all elements in NET are non- negative. However there are four zeroes and so the solution is not unique. **There are four alternate solutions.**

Computation of Minimum Cost: (amount in '000s and interest rate in %)

Particulars	P	Q	R	S	T
Private		100 x 18 = 18			
National	150 x 16 = 24.00	50 x 16 = 8	200 x 16 = 32		
Co- op	50 x 15 = 7.50			125 x 13 = 16.25	75 x 14 = 10.50

Minimum Cost = Total of above = ₹**1,16,250**

Question 27.

(a) A company has developed a special purpose Electronic Security Device and once introduced in the market, the same expected to have a life cycle of 3 years from the time of its introduction in the market before the device becomes obsolete due to technological advancement of other competitive products.

You have been asked by the company to prepare a product life cycle budget.

The following information is available:

	Year 1	Year 2	Year 3
No. of units to be manufactured and sold	**50,000**	**2,00,000**	**1,50,000**
Price per device (₹)	**500**	**400**	**350**
R & D and Design cost (₹)	**9,00,000**	**1,00,000**	**Nil**
Production cost:			
Variable cost per device(₹)	**200**	**150**	**150**
Fixed cost(₹)	**70,00,000**	**70,00,000**	**70,00,000**
Marketing cost:			
Variable cost per device(₹)	**100**	**70**	**60**
Fixed cost(₹)	**30,00,000**	**25,00,000**	**25,00,000**
Distribution cost:			
Variable cost per device(₹)	**50**	**50**	**50**
Fixed cost(₹)	**10,00,000**	**10,00,000**	**10,00,000**

Prepare the budgeted life cycle operating profit.
It has been further indicated that if a discount of 10% is given to customer, the unit to be sold per year will increased by 5%. Would you recommend introduction of such discount?
Answer.

A company
PREPARATION OF BUDGETED LIFE CYCLE OPERATING PROFIT
(₹ In Lakh)

	Year I	Year II	Year III	Life Cycle
Sales Revenue	250.00	800.00	525.00	1,575.00
R & D, Design cost	9.00	1.00		10.00
Production cost:				
Variable cost	100.00	300.00	225.00	625.00
Fixed cost	70.00	70.00	70.00	210.00
Marketing Cost:				
Variable cost	50.00	140.00	90.00	280.00
Fixed cost	30.00	25.00	25.00	80.00
Distribution cost:				
Variable cost	25.00	100.00	75.00	200.00
Fixed cost	10.00	10.00	10.00	30.00
	294.00	646.00	495.00	1,435.00
Operating profit	(44.00)	154.00	30.00	140.00

Operating results if discount given:

WN: Revised sales revenue	Total Units X SP (₹)	=Total (₹ Lakh)
Year I	50,000+ 5%=52,500 X 450	=236.25
Year II	2,00,000+5%=2,10,000X 360	=756.00
Year III	1,50,000+5%= 1,57,500X 315	=496.12
		1,488.37

BUDGETED LIFE CYCLE PROFIT (With discount of 10% to customers and sales increase by 5%)
(In ₹ Lakh)

	Year I	Year II	Year III	Total Life Cycle
Sales Revenue	236.25	756.00	496.12	1,488.37
R & D, Design	9.00	1.00		10.00
Production cost:				
Variable	105.00	315.00	236.25	656.25
Fixed	70.00	70.00	70.00	70.00
Marketing Cost:				
Variable	52.50	147.00	94.50	294.00
Fixed	30.00	25.00	25.00	80.00
Distribution Cost:				
Variable	26.25	105.00	78.75	210.00
Fixed	10.00	10.00	10.00	30.00
	302.75	673.00	514.50	1,490.25
Operating profit	(66.50)	83.00	(18.38)	(1.88)

The second alternative is not acceptable, as that would result in overall loss during the life cycle.

(b) Enumerate the steps involved in target costing?
Answer.
The following are the steps involved in target costing.

(i) Ascertain from market studies the demand and the price at which the product can be sold.

(ii) Deduct the required profit percentage from the selling price.
(iii) The balance represents the target cost.
(iv) Compare the actual/estimated cost with the target cost.
(v) If the actual/estimated target cost is greater than the target cost, introduced cost reduction measures to bring down the cost to the level of target cost. If the required reduction in cost is not possible, reject the proposal to produce the product.

Question 28.

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

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

Assume:
(i) The clock starts at 8.00 hours
(ii) Only one pump is set-up
(iii) The following 12 Random Nos. are to be used to depict the customer arrival pattern

78	**26**	**94**	**08**	**46**	**63**	**18**	**35**	**59**	**12**	**97**	**82**

(iv) The following 12 Random Nos. are to be used to depict the service pattern

44	**21**	**73**	**96**	**63**	**35**	**57**	**31**	**84**	**24**	**05**	**37**

You are required to find out the
(i) Probability of the pump being idle
(ii) Average time spent by a customer waiting in queue.

Answer:

Inter-arrival time				**Service time**			
Inter-arrival time (minutes)	**Probability**	**Cumulative probability**	**Range**	**Inter-arrival time (minutes)**	**Probability**	**Cumulative probability**	**Range**
2	0.22	0.22	00-21	4	0.28	0.28	00-27
4	0.30	0.52	22-51	6	0.40	0.68	28-67
6	0.24	0.76	52-75	8	0.22	0.90	68-89
8	0.14	0.90	76-89	10	0.10	1.00	90-99
10	0.10	1.00	90-99				

Sl.no	**Random No. for inter-arrival**	**Inter-arrival time**	**Entry time in queue**	**Service start time**	**Random no. for service**	**Service time**	**Service end time**	**Waiting time of customer**	**Idle time**
1	78	8	8.08	8.08	44	6	8.14	-	8
2	26	4	8.12	8.14	21	4	8.18	2	-
3	94	10	8.22	8.22	73	8	8.30	-	4
4	08	2	8.24	8.30	96	10	8.40	6	

5	46	4	8.28	8.40	63	6	8.46	12	
6	63	6	8.34	8.46	35	6	8.52	12	
7	18	2	8.36	8.52	57	6	8.58	16	
8	35	4	8.40	8.58	31	6	9.04	18	
9	59	6	8.46	9.04	84	8	9.12	18	
10	12	2	8.48	9.12	24	4	9.16	24	
11	97	10	8.58	9.16	05	4	9.20	18	
12	82	8	9.06	9.20	37	6	9.26	14	
Total Validity Time								140	12

Average waiting time spent by the customer= 140/12= 11.67 minutes.
Probability of idle time of the petrol station= 12/86= 0.1395 or 13.95% idle, say 14%.

Question 29.

(a) Fit straight line by the least square method to the following figures of production of Sugar Factory. Estimate the production for the year 2013.

Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Production(in Lakh tons)	**76**	**87**	**95**	**81**	**91**	**96**	**90**

Answer.

Analysis of Trend by Least square Method

Year	**x**	**Y (production)**	**xy**	**x^2**
2007	-3	76	-228	9
2008	-2	87	-174	4
2009	-1	95	-95	1
2010	0	81	0	0
2011	1	91	91	1
2012	2	96	192	4
2013	3	90	270	9
Total	0	$\sum y = 616$	$\sum xy = 56$	

The two normal equations are as under:

Equation 1	**Equation** 2
$\sum y = na + b\sum x$	$\sum xy = a\sum x + b\sum x^2$
So, 616=7a+ b (0)	56=90 (0)+b (28)
So, 7a= 616	56=28b
a=616÷ 7=88	b=56÷28=2

The first degree polynomial trend equation (straight line trend) is Y=a+ bx
So, Y=88+2x(where original year is 2010, x=1 year unit)
Estimated production for the year 2014: Here, x=4 (i.e. from 2010 to 2014)
So, Y=88+2(4); 88+8=96.
Hence, production for the year 2014= 96 lakh tons.

(b) Apollo Company prepares its budgeted output and sales at its maximum capacity of 20,000 units for 2013. However, due to efficiency improvements, Apollo was able to sell 22,000 units for the year. Other data for 2013 follows as:

Budgeted fixed overhead costs	**₹5,00,000**
Budgeted selling price	**100**
Budgeted variable cost per unit	**40**

(i) Calculate the budgeted profit per unit, the operating income based on the budgeted profit per unit, and the flexible-budget operating income.

(ii) Compute sales-volume variance and production-volume variance. What do each of these variance measures?

Answer.

Sales-Volume variance, production-volume variance.

(i) Budgeted selling price		₹100
Budgeted variable cost per unit	₹40	
Budgeted fixed cost per unit (₹5,00,000 ÷ 20,000)	25	
Budgeted cost per unit		65
Budgeted profit per unit		₹35
Operating income based on budgeted profit per unit ₹35 per unit x 22,000 units		₹7,70,000
Flexible-budget operating income is revenue ₹100 x 22,000		₹22,00,000
Variable cost ₹40 x 22,000		8,80,000
Fixed costs		5,00,000
Operating income		8,20,000
Static-budget operating income is:		
Revenue ₹100 x 20,000		20,00,000
Variable costs ₹40 x 20,000		8,00,000
Fixed costs		5,00,000
Operating income		₹7,00,000

(ii) The sales volume variance recognizes that when Apollo sells 22,000 units instead of the budgeted 20,000, only the revenue and the variable costs are affected. Fixed cost remains unchanged.

Sales volume variance	[Budgeted selling price-Budgeted variable costs per unit X Difference in quantity of units sold relative to the static budget		
	=(₹100-₹40)X 2,000	=60 X 2,000	=₹1,20,000F
Production-volume variance	Budgeted fixed overhead cost per unit X Difference in quantity of units sold relative to the static budget		
	=₹5,00,000/20,000 ×2,000	=₹25×2,000	=₹50,000F

Compare the sales-volume variance and the production-volume variance. The ₹1,20,000F sales-volume variance explains the difference between the static-budget operating income and the flexible-budget operating income:

Static-budget operating income	₹7,00,000
Sales-volume variance	1,20,000F
Flexible-budget operating income	8,20,000

The ₹50,000F production-volume variance explains the difference between operating income based on the budgeted profit per unit and the flexible-budget operating income:

Operating income based on budgeted profit per unit	₹7,70,000
Production-volume variance	50,000
Flexible-budget operating income	8,20,000

Question 30.

A company has 4 Zones and 4 Marketing Managers available for Assignment. The zones are not equal in sales potentials. It is estimated that a typical marketing Manager operating in each zone would bring in the following Annual sales –

Zones	**East**	**West**	**North**	**South**
₹	2,40,000	1,92,000	1,44,000	1,20,000

The four Marketing managers are also different in ability. It is estimated that working under the same conditions, their yearly sales would be proportionately as under:

Manager	**M**	**N**	**O**	**P**
Proportion	8	7	5	4

If the criterion is Maximum Expected Total sales, find the optimum Assignment and the Maximum sales.

Answer.

Given Matrix –

Zone		**East**	**West**	**North**	**south**
Sales value		2,40,000	1,92,000	1,44,000	1,20,000
Manager	**Proportion**				
M	8/24	80	64	48	40
N	7/24	70	56	42	35
O	5/24	50	40	30	25
P	4/24	40	32	24	20

I. Opportunity Loss Matrix

0	16	32	40
10	24	38	45
30	40	50	55
40	48	56	60

II. Row Operation

0	16	32	40
0	14	28	35
0	10	20	25
0	8	16	20

III. Colum Operation

0	8	16	20
0	6	12	15
0	2	4	5
0	0	0	0

IV. Line Drawing

0	8	16	20
0	6	12	15
0	2	4	5
0	0	0	0

No. of Lines (2) ≠ Order of Matrix (4) LOE= 2

V. Revised Matrix 1 with LOE = 2

0	6	14	18
0	4	10	13
0	0	2	3
2	0	0	0

No. of Lines (3) $\neq$ order of Matrix (4) LOE = 2

VI. Revised Matrix 2 with LOE = 2

0	6	12	16
0	4	8	11
0	0	0	1
4	2	0	0

Lines (3) $\neq$ Order (4), LOE = 4

VII. Revised Matrix 3 with LOE=4

$\boxed{0}$	2	8	12
0	$\boxed{0}$	4	7
4	0	$\boxed{0}$	1
8	2	0	$\boxed{0}$

Lines (4) = Order of Matrix (4)

VIII. Maximum sales

M – East – ₹80,000
N – West – ₹56,000
O – North – ₹30,000
P- South – ₹20,000

Total – ₹1,86,000