Paper 15- Business Strategy & Strategic Cost Management

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

Section A

Answer Question No. 1 which is compulsory and Carries 20 Marks.

1. (a) **What is Strategic decision? What are its characteristics?** **[8]**

(b) **ABC Ltd. Initiated a quality improvement program at the beginning of the year. Efforts were made to reduce the number of defective units produced. By the end of the year, reports from the production manager revealed that scrap and rework had both decreased. Though pleased with the success, the President of the company wanted some assessment of the financial impact of the improvements. To make this assessment, the following financial data were collected for the current and preceding year: -**

	Preceding Year (2014-2015)	Current Year (2015-2016)
Sales	1,00,00,000	1,00,00,000
Scrap	4,00,000	3,00,000
Rework	6,00,000	4,00,000
Product inspection	1,00,000	1,25,000
Product warranty	8,00,000	6,00,000
Quality training	40,000	80,000
Materials inspection	60,000	40,000

You are required to classify the costs as prevention, appraisal, internal failure, or external failure **[3]**

(c) **A company has the capacity of production of 80,000 units and presently sells 20,000 units at ₹ 100 each. The demand is sensitive to selling price and it has been observed that with every reduction of ₹ 10 in selling price the demand is doubled. What should be the target cost at full capacity if profit margin on sale is taken as 25%?** **[3]**

(d) **A company is to market a new product. It can produce up to 1,50,000 units of this product. The following are the estimated cost data:**

	Fixed Cost	Variable Cost
For production up to 75,000 units	₹8,00,000	60%
Exceeding 75,000 units	₹12,00,000	50%

Sale price is expected to be ₹ 25 per unit.

How many units must the company sell to break even? **[3]**

(e) **Nulook Ltd. Uses a JIT system and back flush accounting. It does not use a raw material stock control account During May, 8000 units were produced and sold. The standard cost per unit is ₹ 100; this includes materials of ₹ 45. During May, ₹ 4,80,000 of conversion costs were incurred.**

The debit balance on cost of goods sold account for May was

A. ₹ 8,00,000

B. ₹ 8,40,000

C. ₹ 8,80,000

D. ₹ 9,20,000 **[3]**

Answer:

(a) Strategic decisions are the decisions that are concerned with whole environment in which the firm operates the entire resources and the people who form the company and the interface between the two.

The characteristics of strategic decision are as follows:

(i) Strategic decisions are likely to affect the long-term direction of an organisation.
(ii) Strategic decisions are normally about trying to achieve some advantage for the organisation.
(iii) Strategic decisions are likely to be concerned with the scope of an organisation's activities: Does (and should) the organisation concentrate on one area of activity, or does it have many? The issue of scope of activity is fundamental to strategic decisions because it concerns the way in which those responsible for managing the organisation conceive its boundaries. It is to do with what they want the organisation to be like and to be about.
(iv) Strategy is to do with the matching of the activities of an organisation to the environment in which it operates.
(v) Strategy can also be seen as 'stretching' an organisation's resources and competences to create opportunities or capitalise on them. It is not just about countering environmental threats and taking advantage of environmental opportunities; it is also about matching organisational resources to these threats and opportunities. There would be little point in trying to take advantage of some new opportunity if the resources needed were not available or could not be made available, or if the strategy was rooted in an inadequate resource-base.
(vi) Strategic decisions therefore often have major resource implications for an organisation. In the 1980s a number of UK retail firms had attempted to develop overseas with little success and one of the major reasons was that they had underestimated the extent to which their resource commitments would rise and how the need to control them would take on quite different proportions. Strategies, then, need to be considered not only in terms of the extent to which the existing resource-base of the organisation is suited to the environmental opportunities but also in terms of the extent to which resources can be obtained and controlled to develop a strategy for the future.
(vii) Strategic decisions are therefore likely to affect operational decisions, to 'set off waves of lesser decisions'.
(viii) The strategy of an organisation will be affected not only by environmental forces and resource availability, but also by the values and expectations of those who have power in and around the organisation. In some respects, strategy can be thought of as a reflection of the attitudes and beliefs of those who have the most influence on the organisation. Whether a company is expansionist or more concerned with consolidation, and where the boundaries are drawn for a company's activities, may say much about the values and attitudes of those who influence strategy -- the stakeholders of the organisation. The beliefs and values of these stakeholders will have a more or less direct influence on the organisation.

(b)

Prevention Cost =	Quality Training
Appraisal Cost =	Product inspecting Material inspections
Internal failure =	Scrap & Rework
External failure =	Product Warranty

(c)

Demand	Price
20,000	100
40,000	90

80,000	80

$\therefore$ Target Cost = 80 × 75% = 60

(Since target Cost = Selling Price – Profit)

(d) In order to reach BEP

Fixed Cost = Contributions

Contribution derived from 75,000 units

= 75,000 (25 – 15) = 7,50,000

Fixed Cost further to be recovered

= ₹12,00,000 – ₹7,50,000

= ₹4,50,000

No. of units required to get this contributions = $\frac{4,50,000}{12.5}$ = 36,000 units

$\left(\because 25 \times \frac{50}{100}\right)$

$\therefore$ BEP units = 75,000 units + 36,000 units = 1,11,000 units.

(e) **B. ₹8,40,000**

Cost of Goods Sold = Material cost + Conversions Cost

= [8,000 units × ₹45] + 4,80,000

= ₹8,40,000

Section B

Answer any five questions from the following and each question carries 16 marks.

2. (a) Explain the significance of Strategy Evaluation. [8]

(b) What are the problems of strategy evaluation? [8]

Answer:

(a) Evaluation of strategy of an enterprise is as important as strategy formulation because it provides an insight into the efficacy and effectiveness of the overall plan as well as sub-plans in attaining the desired results. It also enables the management to judge the suitability of the on-going strategy in changing socio-economic, political and technological developments and corporate conditions and points out to the need for modification in strategy in order to seize emerging opportunities and minimise new threats.

On the basis of periodic strategy evaluation, the central management can determine precisely whether programmes are being carried out in such a way that corporate objectives will be attained satisfactorily.

Strategy evaluation also influences the behaviour of events and ensures that they conform to plans. It serves the 'steering function' - to steer the organisation and the various sub-systems within it on the right track and to negotiate their way through a turbulent environment. It aims at promoting integration between short-range and long-range plans and between the enterprise and the environment.

Strategy evaluation serves as a valuable instrument for the purpose of achieving stability and continuity on the one hand and adaptation and adjustment on the other. Organisational stability is sought through appraisal of operational policies and procedures. This ensures the steady state of the organisation to establish itself, to derive and consolidate the gains from resources already committed, to preserve the system's vitality and viability. Periodic appraisal of strategy provides an opportunity to the management to make requisite adjustments in objectives, strategies and policies in tune with the dynamics of the external environment.

Finally, strategy evaluation can help the management in making effective use of scarce and valuable resources of the enterprise. It strives for minimising the variability in the deployment of resources so that the intended goals are achieved with the least cost and few untoward consequences.

(b) Task of strategy evaluation suffers from the problems arising out of misinterpretation of environmental forces and corporate resources. The evaluator may not always be correct when he questions the validity of the on-going strategy. This is because of the fact that determination of opportunities and threats is often of a function the perception and the attitude of the person making such exercise as it is of the factor itself. For instance, a dynamic and enterprising planner may perceive abundant opportunities emerging due to economic and technological developments and formulate expansion strategy. This approach may not be appreciated by an evaluator with a conservative attitude and closed cognitive style that holds the view that the enterprise should continue to maintain its present product-market posture owing to disquieting political developments.

Inaccurate assessment of financial, marketing, managerial and other resources of the enterprise and existence of synergistic benefits poses another obstacle to the appraisal of strategy. Thus, for instance, a corporate planner chooses a diversification strategy because in his view the firm has adequate financial and managerial resources to support this plan. But the evaluator questions the utility of such a strategy because he doubts the skill and competence of the senior executives of the firm.

Another obstacle that is inherent in strategy appraisal is identification, evaluation and choice of strategic alternatives. In the real world, it has been noted that some organisations without making independent appraisal of opportunities choose a course of action because others in the same line of business have done so. This type of approach renders the product-market strategy weak.

Another source of difficulty involved in appraisal of strategy is misinterpretation of current results. Generally, the central chief executive, without digger deep into the problem, regards the current strategy as unsound if the performance has not been satisfactory and directs the corporate planner to re-examine it. In the same vein, he labels the strategy as sound because of the excellent operating results. But such type of hurried judgment may, at times, be erroneous. Poor results may have been due to improper execution of strategy or outstanding profits were due to certain other factors such as war and product rationing. The management swayed by good results may not take serious note of implications of impending environmental changes and accordingly remain indifferent to any modification in the current plan for the future.

3. (a) Enumerate the advantages of strategic planning. [8]

(b) Describe about the internal and competitive bench marking. [8]

Answer:

(a) Strategic Planning

Strategic planning refers to the formulation of a unified, comprehensive and integrated plan to get the strategic advantages by challenging the environment. It is concerned with appraising the environment in relation to the firm, identifying the strategies for the future with the best possible knowledge of their probable outcome and effect to obtain sanction for one of the alternatives, which is to be ultimately interpreted and communicated in operational terms. Thus strategic planning provides the framework within which future activities of firm are expected to be carried out.

Strategic planning has following advantages or usefulness:-

- According to different research studies, strategic planning contributes positively to the performance of enterprise and predicts better outcomes and isolates key factors of the firm.
- It is concerned with the allocation of resources to product market opportunities and concerned to realize the company's profit potential through selected strategies.
- It measures the strengths and weaknesses of the firm.
- It selects the optimum strategy from the alternatives considering the interest of the firm, personal values of top management and social responsibility of the firm.
- With fast changing product market condition, technology economic condition the strategic planning is the only means by which future opportunities and problems can be anticipated by company executives.
- It enables executives to provide necessary direction for the firm, to take full advantage of new opportunities and to minimize the risk.

(b) **Internal Benchmarking**

It involves looking within the organization to determine other departments, locations and projects which have similar activities and then defining the best practices amongst them. It involves seeking partners from within the same organization. For example, from business units located in different areas. The main advantages of internal benchmarking are that access to sensitive data and information are easier; standardized data is often readily available; and usually less time and resources are needed. There may be fewer barriers to implementation as practices maybe relatively easy to transfer across the same organization. However real innovation may be lacking and best in class performance is more likely to be found through external benchmarking.

Competitive Benchmarking

It involves examining the products, services and processes of competitors and then comparing them with their own. It involves the comparison of competitors' products, process and business results with own. It requires that the company perform a detailed analysis of its competitors' products, services, and processes. Benchmarking partners are drawn from the same sector. However to protect confidentiality it is common for the companies to undertake this type of benchmarking through trade associations or third parties.

4. (a) Discuss different types of value chain activities. [10]

(b) Distinguish between Cost Reduction and Cost Management. [6]

Answer:

(a) Value chain is defined as "the linked set of value-creating activities all the way from basic raw material sources for component suppliers to the ultimate end-use product or service delivered to the customer."

Porter depicts the value chain, comprising the above interrelated primary and secondary activities, shown in the above figure. Porter classified the full value chain into nine interrelated primary and support activities. Primary activities can be related to actions which the organization performs to satisfy external demands while secondary activities are performed to serve the needs of 'Internal Customers'.

Primary activities are the fundamental activities performed by an organization in order to be operative. They are: (a) Inbound logistics, (b) Operations, (c) Outbound logistics, (d) Marketing and sales and (e) Service.

Secondary activities are support activities, i.e. those activities required to ensure the efficient performance of the primary activities. Support activities are: (a) Infrastructure, (b) Human resources management, (c) Technology development, and (d) Procurement.

Primary Activities

- **Inbound Logistics -** Inbound logistics cover all the activities performed to have goods and services available for the operational processes as and when they will be required. This may include buying, transport, receiving, inspection, storage, etc.
- **Operations -** These are the operations the organization performs to convert its raw materials or products into a state for resale. In the case of a manufacturing concern these may be various production-related activities such as production control, machining, finishing, etc. For a retail business these maybe the merchandising and display activities used to offer goods to customers for sale.
- **Outbound Logistics -** These are the activities performed to move merchandise between the seller and the purchaser. They may include selection, scheduling, transport, etc. of deliveries. Some businesses such as cash-and-carry wholesalers may not have such activities as these tasks are performed by the customer.
- **Marketing -** This includes all the activities performed to create demand for the organization's products and services and includes advertising, sales, market research, etc.
- **Service -** It pertains to the services rendered to the customer. These include financing services such as financing the outstanding balance, or after-sales service to products, or services to handle customer queries and complaints, etc.

Support Activities

- **Infrastructure -** This consists of the management structure which services the whole organization as well as structures such as reception, general postal services, messengers, financial accounting and other general activities. An attempt to trace these costs to any specific cost object will result in an inordinate amount of work. The total amount of such cost should be relatively small in comparison with total cost and this cost is usually considered to be untraceable. The cost of the physical infrastructure (plant, equipment, etc.) is considered part of the cost of activities where the infrastructure is used.
- **Human Resources Management-** This is the basic activity of overseeing the acquisition, maintenance and severance of staff and principally services the primary activities. Personnel departments, in-house medical services and even sports clubs may be part of this major activity.
- **Technology Development -** The development of technology today may require large sums of money take place over a lengthy period of time and ultimately benefit a multitude of users in the organization. This cost must thus be seen as any capital project which cannot be charged to users before the project is operative. Technology development cost could thus be capitalized and expensed to users over the useful life of the project. Cost of operating technology must, however, be traced to users on a usage basis. An example may be a large computer project which may take several years to complete. Users will only benefit from the project once it is operative and there is no point in charging this cost before such time.
- **Procurement -** The procurement activity services the organization as a whole by acquiring all necessary goods and services which the organization may require. If the activity is specifically related to the acquisition of, say, raw materials it could be seen as part of the inbound logistics process, i.e. a primary activity. If, however, the procurement activity cannot be linked to purchases for primary activities, it will be considered a secondary (support) activity.

The above value chain activities can, to a greater or lesser extent, be found in most businesses. The value chain serves as a useful mechanism to analyze an organization in order to determine what activities it performs to convert inputs .to outputs. It also helps to develop a good understanding of the primary and support activities.

(b) **Difference between Cost Reduction and Cost Management**

Particulars	Cost Reduction	Cost Management
Meaning	It is the permanent reduction in the unit cost of goods or services without affecting their quality or suitability for their intended use.	It is a system that establishes linkages between costs and revenues and relates them with the product to maximize Firm's profits.
Objective	Critical examination of each aspect of business and their analysis and review to improve the efficiency and effectiveness so as to reduce costs through techniques of Value Analysis, Work Study, Standardization etc.	Optimal utilization of resources to enhance the operating income of the business entity.
Nature of process	It presumes the existence of concealed potential savings in norms or standards and therefore it is a corrective process.	It does not focus on costs independent of revenue nor considers product attributes as given. It is a wholistic control process.

5. (a) What is Synergy? Explain its significance in strategy making. [8]

(b) An electro-mechanical equipment has a purchase price of ₹7,000. Its running costs per year and resale values are given here:

Year:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Running Costs (₹)	**2,000**	**2,100**	**2,300**	**2,600**	**3,000**	**3,500**	**4,100**	**4,600**
Resale Value (₹)	**4,000**	**3,000**	**2,200**	**1,600**	**1,400**	**700**	**700**	**700**

At which year is the replacement due? [8]

Answer:

(a) 'Synergy' is a measure of the firm's ability to make good on a new product - market entry. Usually it is explained by the term "two plus two equals five". Synergistic advantages emerge because of operating economies which can be achieved through the elimination of duplicate facilities and consolidation of marketing, purchasing and other operations.
Synergy is the powerful ally of international strategic planning and must receive special attention of top management before making any decision regarding new product market entry or acquisition of a new firm in host country. The whole concept of synergy is based on the promise that the compatibility of the existing product - market with the new product market will help an organisation to achieve its objective much more profitably than that achieved by firms independently.

Synergies invariably result in more exports, with the transnational source, finished products and components from its Indian operation. Analysis of synergistic effects of alternatives is very useful because of their far - reaching consequences. The major thrust of the analysis is on the measurement of synergistic effects upon the operations of the organisation. This effect can be measured in terms of cost economies to the organisation from a joint operation or in terms of increase in net revenue for a given level of investment or in terms of decreased investment requirements for a given level of earnings. According to Ans off, synergistic effects should be measured in terms of start-up economies and operating economies. Structure must follow synergy. This calls for willingness and dynamism on the part of the management of the acquiring firm to adjust themselves in consonance with the changing situations. However, in the real world this is not usually found because of apathy of most of the managers particularly those brought up in internally oriented skills and those who are conservative and believe in maintaining the status quo to go for any change from the present product market complexion.

(b) Computation of Average Cost and replacement Due.

Year	Net Cap. Cost	Running Cost	Cumulative Running Cost	Total Cost	Average Cost
1	7,000 – 4,000 = 3,000	2,000	2,000	5,000	5,000
2	= 4,000	2,100	4,100	8,100	4,050
3	= 4,800	2,300	6,400	11,200	3,733
4	= 5,400	2,600	9,000	14,400	3,600
5	= 5,600	3,000	12,000	17,600	3,520
6	= 6,300	3,500	15,500	21,800	3,633
7	= 6,300	4,100	19,600	25,900	3,700
8	= 6,300	4,600	24,200	30,500	3,812

Optimum replacement period is @ the end of 5^{th} year

6. (a) What do you mean by Kaizen Costing. [8]

(b) A businessman is considering taking over a certain new business. Based on past information and his own knowledge of the business, he works out the probability distribution of the monthly costs and sales revenues, as given here:

Cost (in ₹)	Probability	Sales Revenue (₹)	Probability
17000	0.10	19000	0.10
18000	0.10	20000	0.10
19000	0.40	21000	0.20
20000	0.20	22000	0.40
21000	0.20	23000	0.15
		24000	0.05

Use the following sequences of random numbers to be used for estimating costs and revenues. Obtain the probability distribution of the monthly net revenue.

Sequence 1	82	84	28	82	36	92	73	91	63	29
	27	26	92	63	83	02	10	39	10	10
Sequence 2	39	72	38	29	71	83	19	72	92	59
	49	39	72	94	04	92	72	18	09	00

[8]

Answer:

(a) KAIZEN costing is a cost-reduction system that is applied to a product in production. It comes from the combination of the Japanese characters 'kai' and 'zen' which mean 'change' and 'good,' respectively. The word 'Kaizen' translates to 'continuous improvement' or 'change for the better' and aims to improve productivity by making gradual changes to the entire manufacturing process. Some of the cost-reduction strategies employed involve producing cheaper re-designs, eliminating waste and reducing process costs. Ensuring quality control, using more efficient equipment, utilizing new technological advances and standardizing work are additional elements.

To understand Kaizen costing, one first needs to grasp standard costing methodology. The typical standard costing approach works by designing a product first, and computing costs by taking into account material, labor and overhead. The resulting figure is set as the product cost. The standard cost is set and revised on a yearly basis. Cost deviation analysis involves checking to see whether the projected cost estimates tally with the final figures. Manufacturing procedures are assumed to be static.

In contrast, Kaizen costing is based around improving the manufacturing process on a continual basis, with changes being implemented throughout the year. Cost-reduction targets are set on a monthly basis. The goal here is to reduce the difference between profit estimates and target profits. The cost deviation analysis done in Kaizen costing examines the difference between the target Kaizen costs and the actual cost reduction achieved. The basic idea here is to make tiny incremental cost reductions on a continual basis in a product's life cycle.

(b)

Cost (₹)	**Probability**	**Cumulative Probability**	**Random Range**	**Sales Revenue (₹)**	**Probability**	**Cumulative Probability**	**Random Range**
17,000	0.1	0.1	00-09	19,000	0.1	0.1	00-09
18,000	0.1	0.2	10-19	20,000	0.1	0.2	10-19
19,000	0.4	0.6	20-59	21,000	0.2	0.4	20-39
20,000	0.2	0.8	60-79	22,000	0.4	0.8	40-79
21,000	0.2	1.0	80-99	23,000	0.15	0.95	80-94
				24,000	0.05	1.00	95-99

Month	**Random No. for Cost**	**Sales Revenue (₹)**	**Random No. for Sales**	**Cost (₹)**	**Monthly Net Revenue (₹)**
1	82	21,000	39	21,000	-----
2	84	21,000	72	22,000	1000
3	28	19,000	38	21,000	2000
4	82	21,000	29	21,000	------
5	36	19,000	71	22,000	3000
6	92	21,000	83	23,000	2000
7	73	20,000	19	20,000	------
8	91	21,000	72	22,000	1000
9	63	20,000	92	23,000	3000
10	29	19,000	59	22,000	3000
11	27	19,000	49	22,000	3000
12	26	19,000	39	21,000	2000
13	92	21,000	72	22,000	1000
14	63	20,000	94	23,000	3000
15	83	21,000	04	19,000	(2000)
16	02	17,000	92	23,000	6000
17	10	18,000	72	22,000	4000
18	39	19,000	18	20,000	1000
19	10	18,000	09	19,000	1000
20	10	18,000	00	19,000	1000
					35000

Average = 35,000/20 = ₹1,750

7. (a) Evenkeel Ltd. manufactures and sells as single product X whose price is ₹ 40 per unit and the variable cost is ₹ 16 per unit.

(i) If the fixed costs for this year are ₹ 4,80,000 and the annual sales are at 60% margin of safety, calculate the rate of net return on sales, assuming an income tax level of 40%.

(ii) For the next year, it is proposed to add another product line Y whose selling price would be ₹ 50 per unit and the variable cost ₹ 10 per unit. The total fixed costs are estimated at ₹ 6,66,600. The sales mix of X : Y would be 7:3. At what level of sales next year, would Evenkeel Ltd. break even? Give separately for both X and Y the break even sales in rupees and quantities. [8]

(b) A manufacturing company currently operating at 80% capacity has received an export order from Middle East, which will utilise 40% of the capacity of the factory. The order has to be either taken in full and executed at 10% below the current domestic prices or rejected totally.

The current sales and cost data are given below.

Sales	**₹16.00 lakhs.**
Direct Material	**₹ 5.80 lakhs.**
Direct Labour	**₹ 2.40 lakhs.**
Variable Overheads	**₹ 0.60 lakhs.**
Fixed Overheads	**₹ 5.20 lakhs.**

The following alternatives are available to the management:

(i) Continue with domestic sales and reject the export order.

(ii) Accept the export order and allow the domestic market to starve to the extent of excess of demand.

(iii) Increase capacity so as to accept the export order and maintain the domestic demand by

- **Purchasing additional plant and increasing 10% capacity and thereby increasing fixed overheads by ₹ 65,000 and**
- **Working overtime at one and half time the normal rate to meet balance of the required capacity.**

You are required to evaluate each of the above alternatives and suggest the best one. [8]

Answer:

(a) BEP (Sales) = $\frac{\text{Fixed Cost}}{\text{Pv Ratio}} = \frac{₹4,80,000}{60\%}$ ₹80,000

According to the problem this is equal to 40%

Total sales = 8,00,000 × $\frac{100}{40}$ = ₹20,00,000

Statement showing calculation of return on sales.

I	Sales	₹20,00,000
II	Variable Cost	₹8,00,000
III	Contribution (I – II)	₹12,00,000
IV	Fixed Cost	₹4,80,000
V	Profit before tax	₹7,20,000
VI	profit after tax (60% of PBT)	₹4,32,000

Return on sales $= \frac{\text{PAT}}{\text{Sales}} \times 100 = \frac{₹4,32,000}{₹20,00,000} \times 100 = 21.6\%$

Let BEP units of product X and Y be 7a and 3a respectively. In order to find Break every total. Contribution must equal to Fixed Cost.

7a × 24 + 3a × 40 = 6,66,600

a = 2314.583.

Break even units of

X = 7 × 2314.583 = 16,202 units.

Y = 3 × 2314.583 = 6,944 units.

BE sales = 16,202 × 40 + 6,944 × 50 = 9,95,280

(b) Statement showing computation of profit at different alternatives

Particulars	I	II		III	
	Present Sales	Domestic 60%	Foreign 40%	Domestic 80%	Foreign 40%
I. Sales	16	19.2 (12 + 7.2)		23.2 (16 + 7.2)	
II. Variable Cost Direct Material Direct Labour Variable Overhead Overtime Premium (1 ½) (100% - 3) (10% - 0.3)	 5.8 2.4 0.6 -	 7.25 3.00 0.75 -		 8.7 3.6 0.90 0.15	
	8.80	11.00		13.35	
III. Contribution (I – II)	7.2	8.2		9.85	
IV. Fixed overheads	5.2	5.2		5.85	
V. Profit (XII – IV)	2	3		4	

From the above computation it was found that the profit is more at third alternative i. e. accepting foreign order fully and maintaining present domestic sales. it is the best alternative to be suggested.

8. (a) M/s. N. C. Ltd. has received an enquiry from a reputed cigarette factory for the supply of 20 million shells per month. Capacity exists for the same but balancing equipment costing ₹ 50,000 has to be installed.

The cost details are as follows:

Duplex board	**- 50 tonnes @ ₹ 5.50 per kg.**
Printing ink and gum	**- ₹ 2 per 1000 shells**
Packing cost	**- ₹ 7.50 per one lakh shells**
Labour hours	**- 1,600 hours of which 500 hours will be overtime.**
Labour rate	**- ₹4 per hour with double the rate for overtime.**
Overheads	**- ₹ 16,300 per month.**
Selling and distribution expenses	**- ₹ 16,300 per month**

Since duplex board is in short supply, procurement is made on cash basis. Working capital to the extent of 50% of the sales value will be required.

The company expects a net return of 20% on the additional capital required for undertaking this order.

Prepare a cost estimate and indicate the price to be quoted to the customer. [6]

(b) S.V. Ltd. Manufacturers by mixing three raw materials. For every batch of 100Kg. of BXE, 125 Kg. of raw Materials are used. In April, 2016, 60 batches were prepared to produce an output of 5,600 Kg. of BXE. The standard and actual particulars for April, 2016 are as under:-

Raw Material	Mix %	Price Per Kg	Mix %	Price Per Kg	Quantity of Raw Materials purchased (kg)
A	50	20	60	21	5,000
B	30	10	20	8	2,000

C	**20**	**5**	**20**	**6**	**1,200**

Calculate all variances. **[10]**

Answer:

(a) Statement showing Computation of Cost and Price to be quoted to the Customers –

Duplex board =	50 × 1,000 × 5.5	= 2,75,000
Printing ink and gum =	$\frac{2,00,00,000}{1,000} \times 2$	= 40,000
Packing Cost =	$\frac{200 \text{ Lakhs}}{1 \text{ Lakhs}} \times 7.5$	= 1,500
Labour =	1,100 × 4 + 500 × 8	= 8,400
Fixed Overhead		= 16,300
Sellng % distributions		= 16,300
	Total Cost Profit (b/d)	3,57,500 45,750
	Sales	4,03,250

Let 'S' be the sales

Capital employed = 50,000 + (0.5) S

Required Profit = 20% of [50,000 + 0.5 s]

= 10,000 + 0.10 s

Sales = 3,57,500 + 10,000 + 0.10 s

Sales = 3,67,500 + 0.10 x 357,500

Sales = 4,03,250

(b)

	Standard data			**Actual data**		
	Quantity	Price	Value	Quantity	Price	Value
A	3,750 (7,500 × 50%	20	75,000	4,500 (7,500 × 60%)	21	94,500
B	2,250 (7,500 × 30%	10	22,500	1,500 (7,500 × 20%)	8	12,000
C	1,500 (7,500 × 20%)	5	7,500	1,500 (7,500 × 20%)	6	9,000
	7,500 (60 × 125		1,05,000	7,500		1,15,500
(-) Loss 60 × 25	(1,500)	-	-	(1,900)		-
	6,000		1,05,000	5,600		1,15,500

	SQSP	**RSQSP**	**AQSP**	**AQAP**
A $\left(3,750 \times \frac{5,600}{6,000}\right)$	3,500 × 20	3,750 × 20	4,500 × 20	4,500 × 21
B $\left(2,250 \times \frac{5,600}{6,000}\right)$	2,100 × 10	2,250 × 10	1,500 × 10	1,500 × 8
C $\left(1,500 \times \frac{5,600}{6,000}\right)$	1,400 × 5	1,500 × 5	1,500 × 5	1,500 × 6
A	70,000	75,000	90,000	94,500

B	21,000	22,500	15,000	12,000
C	7,000	7,500	7,500	9,000
	98,000	1,05,000	1,12,500	1,15,500

SQSP = Standard cost of standard material - 98,000
RSQSP = Revised Standard cost of Material - 1,05,000
AQSP = Standard Cost of Actual Material - 1,12,500
AQAP = Actual Cost of Material - 1,15,500

a) Material yield Variance	1 – 2	= 7,000 (A)
b) Material mix Variance	2 – 3	= 7,500 (A)
c) Material usage Variance	1 – 3	= 14,500 (A)
d) Material price Variance	3 – 4	= 3,000 (A)
e) Material Cost Variance	1 – 4	= 17,500 (A)