

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) Discuss different types of Bench-marking.

[8]

Answer:

Types of Benchmarking:

The different types of Benchmarking are:

(i) Product Benchmarking

(ii) Competitive Benchmarking

(iii) Process Benchmarking

(iv) Internal Benchmarking

(v) Strategic Benchmarking

(vi) Global Benchmarking

(i) **Product Benchmarking (Reverse Engineering):** is an age old practice product oriented reverse engineering. Every organization buys its rival's products and tears down to find out how the features and performances etc., compare with its products. This could be the starting point for improvement.

(ii) **Competitive Benchmarking:** This has moved beyond product-oriented comparisons to include comparisons of process with those of competitors. In this type, the process studied may include marketing, finance, HR, R & D etc.

(iii) **Process Benchmarking:** is the activity of measuring discrete performance and functionality against organization through performance in excellent analogous business processes eg., for supply chain management-the best practice would be that of Mumbai Dabbawallas.

(iv) **Internal Benchmarking:** is an application of process benchmarking, within an organization by comparing the performance of similar business units or business processes.

(v) **Strategic Benchmarking:** differs from operational benchmarking in its scope. It helps to develop a vision of the changed organizations. It will develop core competencies that will help sustained competitive advantage.

(vi) **Global Benchmarking:** is an extension of Strategic Benchmarking to include benchmarking partners on a global scale. Eg., Ford Co. of USA benchmarked it's A/cs Payable functions with that of Mazda in Japan and found to its astonishment the entire function was managed by 5 persons as against 500 in Ford.

(b) The budgeted fixed overhead for the year 2016 amounted to ₹14,400. It is anticipated that 288 days would be worked during the year. During the month of February, 2016 only 20 days were worked. Find out Calendar Variance. [3]

Answer:

Standard working days per months = $288 \div 12 = 24$ days

Calendar variance = $(\text{Std. No. of working days} - \text{Actual no. of working days}) \times (\text{Total fixed OH in the budgeted period} \div \text{Std. No. of days in the budgeted period})$

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$$= (24 - 20) \times ₹14,400/288$$

$$= ₹200 \text{ (A)}$$

(c) A company manufactures two products using common material handling facility. The total budgeted material handling cost is ₹ 60,000. The other details are:

	Product X	Product Y
Number of units produced	30	30
Material moves per product line	5	15
Direct labour hour per unit	200	200

Under activity based costing system the material handling cost to be allocated to product X (per unit) would be: [3]

- (i) ₹ 1,000
- (ii) ₹ 500
- (iii) ₹ 1,500
- (iv) ₹ 2,500

Answer:

(ii) ₹500

$$\text{Cost per material move} = \frac{60,000}{5 + 15} = ₹3,000$$

$$X = \text{Total Cost} = 3,000 \times 5 = 15,000$$

$$\text{Cost per unit} = \frac{₹15,000}{30 \text{ units}} = 500 \text{ per unit.}$$

(d) A company has forecast sales and cost of sales for the coming year as ₹ 25 lakhs and ₹ 18 lakhs respectively.

The inventory turnover has been taken as 9 times per year. In case the inventory turnover increases to 12 times and the short term interest rate on working capital is taken as 10%, what will be saving in cost? [3]

- (i) ₹ 10,000
- (ii) ₹ 20,000
- (iii) ₹ 15,000
- (iv) ₹ 5,000

Answer

(iv) ₹5,000

$$\text{Saving in Cost} = \frac{18,00,000}{9} \times \frac{10}{100} - \frac{18,00,000}{12} \times \frac{10}{100}$$

$$= ₹20,000 - ₹15,000$$

$$= ₹5,000$$

(e) 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]

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- (i) 1,00,000 units
- (ii) 1,11,000 units
- (iii) 1,27,000 units
- (iv) 75,000 units

Answer:

(ii) 1,11,000 units.

At a production of 75,000 units or less the fixed costs amount to ₹8 lakh Contribution is ₹10 per unit (₹25 - 60% of ₹ 25). Production will however, be more than this level. Total fixed cost is then ₹ 12 lakh.

Contribution for first 75,000 units = ₹7,50,000

Hence, to meet ₹12 lakh fixed cost, further ₹4,50,000 contribution is required. Contribution beyond 75,000 units is ₹ 12.5 (₹ 25 - 50% of ₹25).

Additional units to be sold = ₹4,50,000 / ₹12.50 = 36,000) units = 1,11,000 units.

Section B

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

2.(a) Define the term 'Corporate Strategy.'

(b) Mention the steps in 'Strategic Planning' process.

(c) Some people in the organization resort to political maneuvers for their own personal advantage. — Discuss the different individual and organizational factors that contribute to political behavior. [3+4+9]

Answer:

(a) Corporate strategy defines the nature and range of business a firm intends to operate, for example a tobacco company's move from cigarettes to beer and then soft drinks are the example of corporate strategy decisions. To illustrate further, adapting 'synergy' as one of the key sources of competitive advantage is a strategy at the corporate level.

At the most basic level corporate strategy deals with the following question:

What business we are in?

Whereas business strategy addresses the following question:

How should we compete in this business?

(b) A systematic approach to formalizing the strategic plans consists of the following steps:

1. Mission and objectives - the mission statement describes the company's business vision, including the unchanging values and purpose of the firm and forward - looking visionary goals that guide the pursuit of the future opportunities. The firm's leaders can define measurable financial and strategic objectives.
2. Environmental scanning - It includes the following components:
 - (i) Internal analysis of the firm
 - (ii) Analysis of the firm's industry (task environment)
 - (iii) External macro environment (PEST analysis)
3. Strategy formulation - given the information from the environmental scan, the firm should match its strength to the opportunities that it has identified, while addressing its weakness and external threats.
4. Strategy implementation- The selected strategy is implemented by means of programmes budget and procedures. Implementation involves organization of the firm's resources and motivation of the staffs to achieve objectives.
5. Evaluation and control- The implementation of the strategy must be monitored and adjustments made as needed. Evaluation and control consists of the following steps:
 - (i) Define parameters to be measured.

- (ii) Define target values for those parameters.
- (iii) Perform measurements
- (iv) Compare measured results to the pre-defined standard
- (v) Make necessary changes

- (c)** A number of individual and organizational factors contribute to political behavior
- (i) Pyramid- shaped organization structure — It concentrates powers at the top .Each successive layer on the organization chart has less power than the layer above. At the very bottom of the organization, workers have virtually no power.
 - (ii) Subjective standard of performance — People often resort to organizational politics because they do not believe that the organization has an objective and fair way of judging their performance and suitability for promotion. Similarly, when managers have no objective way of differentiating effective people from the less effective, they will resort for favouritism.
 - (iii) Environmental uncertainty and turbulence - When people operate in an unstable and unpredictable environment, they tend to behave politically. They rely on organizational politics to create a favourable impression because uncertainty makes it difficult to determine what they should really be accomplishing. The uncertainty, turbulence and insecurity created by corporate mergers or downsizing is a major contributor to office politics.
 - (iv) Emotional insecurity — Some people resort to political maneuvers to ingratiate themselves with superiors because they lack confidence in their talents and skills.
 - (v) Manipulative tendencies - Some people engage in political behavior because they want to manipulate others, sometimes for their own personal interest. Disagreements that prevent rational decision making - Many executives' attempts, to use rational criterion when making major decisions, but rational decision making is constrained by major disagreements over what the organization should be doing. Unless strategy and goals are shared strongly among key organizational members, political motivation is inevitable in organizational decision making.

3.(a) What are the necessities of 'Environmental Analysis and Diagnosis' in managerial decision?

[6]

(b) What is meant by the term 'Strategic Group Analysis' (SGA)? Give four examples of SGA.

[3+2]

(c) What are the steps to be followed in Porter's Generic Business Level Strategy?

[5]

Answer:

- (a)** The importance of Environmental Analysis and Diagnosis (EAD) lies in its usefulness for evaluating the present strategy setting objectives and formulating future strategies. Firms which systematically analyzed and diagnose the environment are more effective than are those which don't so EAD has following importance:
- (i) The objectives of the business are to be modified with the changes in the social, economic political, business and industrial condition etc. Thus it is very important to understand the nature of the environment and its dynamics and to be aware of those environmental variables to which the firm is most sensitive.
 - (ii) It helps to ascertain the opportunities for and threats to the organization.
 - (iii) By giving information timely, it helps the top level management to save their valuable time.
 - (iv) It helps the strategist to develop a plan for preventing threats and for turning threat to the firm's opportunities.
 - (v) It helps to ascertain the risk involve in trying to take the advantage of opportunities.
 - (vi) By EAD most of the future environment can be anticipated and their by manager can concentrates on those events which have greater impact on organization and hence managerial decisions are likely to be better.

- (b) According to Porter, a strategic group is the group of firms in an industry following the same or similar strategy along the strategic dimension. It is a set of business units or firms that pursue similar strategies with similar resources. Strategic groups are conceptually define clusters of competitors that shares similar strategies and, therefore, compete more directly with one another than with other firms in the same industry. It is concepts used in strategic management that groups companies within an industry that have similar business models or similar combinations of strategies.

Examples of the SGA: (any four)
Extent of product or service diversity
Extent of geographic coverage
Number of market segment served
Distribution channels used
Extent of branding
Marketing effort
Degree of vertical integration
Service quality
Pricing policy

- (c) The following steps are to be followed in Porter's generic business level strategy:
- Step I :** For each generic strategy carry out a SWOT analysis of the firms strength and weakness and the opportunities and threats. Having done this it may be clear that the organization is unlikely to be able to make a success of some of the generic strategies.
- Step II:** Use Five Forces Analysis to understand the nature of the industry
- Step III :** Compare the SWOT analysis of the viable strategic options with the results of Five Forces Analysis. For each strategic option, one should ask himself how he could use the strategy to:
- Reduce or manage the supplier power
 - Reduce or manage buyer / customer power
 - Come out on top of the competitive rivalry
 - Reduce or eliminate the threat of substitution
 - Reduce or eliminate the threat of new entity

4.(a) Describe the objectives of SWOT Analysis and its advantages and criticisms. [8]

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

Answer:

(a) The objectives of SWOT Analysis are:

- To identify the shortcomings in the company's present skills and resources.
- To exploit the strengths of the company to achieve its objectives.
- To focus on profit-making opportunities in the business environment and for identifying threats.
- To highlight areas within the company, which are strong and which might be exploited more fully and weaknesses, where some defensive planning might be required to prevent the company from downfall.

Advantages

- It provides a logical framework to be used for systematic discussion of various issues bearing on the business situation, alternative strategies and finally the choice of strategy.
- Another application of SWOT analysis is the structured approach whereby key external threats and opportunities may be systematically compared with internal strengths and weakness.

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- A business may have several opportunities but also face some serious threats in the environment. It may have likewise several weaknesses along with one or two major strength. In such situations, the SWOT analysis guides the strategist to visualise the overall position of the firm, and helps to identify the major purpose of the grand strategy being considered.

Criticisms

- It is subjective in nature and varying from person to person.
- It places verities problem in terms of S.W.O.T. without stating solutions.
- There is no method to increase the accuracy of measurement.
- There is no method of verifying the information.

(b) 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.

5. (a) What is the purpose of preparation of 'Lean accounting'? [3]

(b) What control process should be considered in 'Target Costing' project? [3]

(c) A manufacturing company has the following production budget for November 2016:

Product A = 20,000 units and Product B = 40,000 units

A standard hour represents 10 units of A and 8 units of B.

Standard wage rate per hour is ₹ 0.50

During the month 7500 hours were paid for @ ₹ 0.60 per hour, which included 350 unproductive hours due to unbudgeted holidays as also loss of production of 250 units of Product-A due to machine breakdown.

Actual production for the month was 24,000 units of A and 38,000 units of B.

Calculate the following:

(i) Direct labour rate variance

(ii) Direct laour idle time variance

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(iii) Direct labour efficiency variance.

(iv) Direct labour total variance.

[2½×=10]

Answer:

(a) There are positive and negative reasons for using Lean Accounting. The positive reasons include the issues addressed in the "Vision for Lean Accounting". Lean Accounting provides:

- (i) Provide accurate, timely and understandable information to motivate the lean transformation throughout the organization, to eliminate waste from accounting processes while maintaining thorough financial control,
- (ii) Fully comply with Generally Accepted Accounting Principles (GAAP),
- (iii) Support the lean culture by motivating investment in people. Lean Accounting is nothing more than tracking inflow to outflow as measure of profitability, which is governed by GAAP.

(b) Following three important control points should take care properly in all target costing projects:

- (i) Identification of principal control point over the course of target costing programme.
- (ii) Point of go/no go decision: If target costing is not reached, management retains power to abandon the design project. There comes a point, when actual performance is very close to expected performance in matter of cost recurrence.
- (iii) Milestone can be in terms of timer (say one month) and/or points (say in design process) at which specific activities are completed.

(c)

Product	Production (units)	Per standard hours(units)	Standard hours
A	24000	10	2400
B	38000	8	4750
Total			7150

- (i) Direct labour rate variance: $(SR-AR) \times AT = ₹ (0.50-0.60) \times 7500 = ₹ 750$ (A)
- (ii) Direct labour idle time variance: $Abnormal\ idle\ time \times SR = 375 \times 0.50 = ₹ 187.50$ (A)
- (iii) Direct labour efficiency variance:
 $(ST-AT\ excluding\ abnormal\ Idle\ Time) \times SR = (7150-7125) \times ₹ 0.50 = ₹ 12.50$ (F)
- (iv) Direct labour total variance:

Standard cost-7150 hours @ ₹ 0.50=	₹ 3,575
Actual cost-7500 hours @ ₹ 0.60=	<u>₹ 4,500</u>
Direct labour total variance	<u>₹ 925</u> (A)

Note: Abnormal idle time-Unbudgeted holidays =	350 hours
Machine breakdown-(1/10) x 250 =	<u>25 hours</u>
	<u>375 hours</u>

6. (a) What is BPR? How can BPR be applied to an organisation? [2+6]

(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 or cost data are given below:

Items	₹lakhs
Sales	16.00
Direct Material	5.80
Direct Labour	2.40

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Variable Overheads	0.60
Fixed Overheads	5.20

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.

[6+2]

Answer:

(a) BPR is a business process management strategy, originally pioneered in the early 1990s. Focusing on the analysis and design of workflows and process within an organisation. BPR is also known as business process redesign, business transformation, or the business process change management. BPR aimed to help organisations fundamentally rethink how they do their work in order to dramatically improve customer service, cut operational costs, and become world-class competitors. Competition is continuously increasing with respect to price, quality and selection, service and promptness of delivery. Removal of barriers, international cooperation, technological innovations cause competition to intensify. All these changes impose the need for organizational transformation, whether the entire processes, organisation climate and organization structure is changed.

BPR application ways:

- (i) Empowering people: i.e., ability to do their work: the right information, the right tools, the right training, the right environment, and the authority they do.
- (ii) Providing information in many different ways.
- (iii) Providing right tools - with the right tools, the numerical parts of the plans arrive in a consistent, electronic format permitting consolidation by a computer. This leaves the analyst free to do the more productive work of analysing the quality of the plan.
- (iv) Providing efficient training.
- (v) Eliminating unproductive uses of time.
- (vi) By improving data processing eliminate unnecessary papers.
- (vii) Eliminating unnecessary variations in the procedures and systems.
- (viii) Minimising the burden of record keeping. It means more efficient and effective with the six components of data processing like computing, transmitting, storing, retrieving, manipulating, and displaying data.

(b) Statement showing computation of profit at different alternatives:

Particulars	Alternative I (Present sales 80%)	Alternative II 40% - Foreign 60% - Domestic	Alternative III 40% - Foreign 80% - Domestic
Sales	16.00	19.20 (7.20 +12.00)	23.20 (7.20 + 16.00)
Variable cost:			
Direct material	5.80	7.25	8.70
Direct labour	2.40	3.00	3.60
Variable overheads	0.60	0.75	0.90

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Overtime premium	-	-	0.15
Total	8.80	11.00	13.35
Contribution	7.20	8.20	9.85
Fixed cost	5.20	5.20	5.85 (5.20 + 0.65)
Profit	2.00	3.00	4.00

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

7.(a) S.U.Ltd. produces three products namely A, B, and C. The budgeted production, costs and selling prices for the next year are as under:

Particulars	Product A	Product B	Product C
Direct Materials (₹ per unit)	24	16	12
Direct Wages:			
Department rate/Hour			
Dept. 1: ₹4 Hrs/unit	3	5	25
Dept. 2: ₹2 Hrs/unit	3	8	6
Budgeted production (units)	10,000	12,000	20,000
Max. possible sales(units)	12,000	16,000	24,000
Selling price (₹ per unit)	75	105	60

Variable overheads:

Dept. 1: Recovered at 100% of direct wages.

Dept. 2: recovered at 50% of direct wages.

Fixed overheads: ₹5,00,000 per annum.

A direct labour hour in Dept. 1 is in short supply and the budgeted volume of output envisages full utilisation of the available direct labour hour. In Dept.2, the company has committed to engage the workers to the extent of the direct labour hours required for the budgeted volume of production. Should a change in the production mix be desired, the company can engage additional direct labour hours required in Dept.2 at normal rates but any portion of the direct labour hours of Dept.2 rendered surplus by reasons of a change in the present product mix have to be paid by the company as idle wages in view of the commitment already made.

Required:

(i) Present a statement showing the budgeted profitability.

(ii) Set optimal product mix and work out the optimum profit after taking into consideration the idle time wages, if any, payable in the Dept.2.

(iii) If the company desires to subcontract the surplus direct labour hours, if any, in Dept.2, what minimum changes should be quoted per direct labour hour? [4+5+1]

(b) What is meant by the term "cost pool" and "cost driver" in Activity Based Costing (ABC)? Give example in reference to R&D activity. [2+2+2]

Answer:

(a)

(i) Statement showing computation of budgeted profit and contribution per labour Dep. 1:

Particulars	Product A (₹)	Product B (₹)	Product C (₹)	Total (₹)
Selling Price	75	105	60	

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Variable Cost:				
Direct Materials	24	20	10	
Direct Wages: Dept. I	12	16	12	
Dept.2	6	16	12	
Variable Overheads	15	28	16	
Total	57	80	50	
Contribution	18	25	10	
Contribution lab./ hour	6	5	4	
In dept. I				
	Stage I	Stage II	Stage III	
Budgeted units	10,000	12,000	20,000	
Total contribution	1,80,000	3,00,000	2,00,000	6,80,000
Fixed cost				5,00,000
Profit				1,80,000

(ii) Statement showing optimum mix and profit at that mix:

No. of units	Product A (₹)	Product B (₹)	Product C (₹)	Total (₹)
Production (units)	12,000	16,000	9,600	
Cost per unit	18	25	10	
Total	2,16,000	4,00,000	96,000	7,12,000
Fixed cost				5,00,000
Profit				2,12,000
Less, cost of idle wages in Dept. 2: 24,400 × 2				48,800
Profit after idle wages:				1,63,200

Working Notes:

No. of hours in Dept.1 = (10,000 × 3) + (12,000 × 5) + (20,000 × 2.5) = 1,40,000

No. of hours in Dept.2 = (10,000 × 3) + (12,000 × 6) = 2,46,000

	Dept. 1 (Hours)	Dept.2 (Hours)
Available hours	1,40,000	2,46,000
(-) utilised for Product A	36,000	36,000
	1,04,000	2,10,000
(-) utilised for Product B	80,000	1,28,000
	24,000	82,000
No. of units of C - 24,000/2.5= 9,600 units	24,000	9,600 × 6= 57,600
		24,400

Hire charges Labour cost + Variable Overheads 2+2 × 50% = ₹3

Working Note:

In the column of "Product C" the figure in respect of department Rate /Home of "Dept. 1" will be treated as 2.5. But due to not legible printing or mistake if any candidate assumed is as 25 he should not be penalized. A proportionate works as per suggested answer is should be awarded accordingly.

(b) A cost pool is a term of ABC operation, used to indicate grouping of costs incurred on a particular activity which drives them.

Any element that would cause a change in the cost of activity is cost driver. Actually cost drivers are basis of changing cost of activity to cost object. Cost drivers are used to trace

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cost to product by using a measure of resources consumed by each activity. For example, frequency of order, number of order etc. may be cost drive of customer order processing activity; cost driver may be involved two parts:

- (i) Resource cost driver - it is a measure of a quantity of resources consumed by an activity, and
- (ii) Activity cost driver - it is a measure of the frequency and intensity of demand. placed on activities by cost objects.

In R&D activity: Resources - staff, equipment, material.

Cost Pool - salaries, Maintenance cost, material cost.

Cost driver - Number of research projects, time spent on project, technical complexities of project.

8.(a) A captain of a cricket team has to allot five middle batting positions to five batsmen. The average runs scored by each batsman at these positions are as follows:

Batting Position		III	IV	V	VI	VII
Batsmen	A	40	40	35	25	50
	B	42	30	16	25	27
	C	50	48	40	60	50
	D	20	19	20	18	25
	E	58	60	59	55	53

Make the assignment so that the expected total average runs scored by these batsmen are maximum. **[8]**

(b) Discuss various types of merger. **[8]**

Answer:

(a)

	III	IV	V	VI	VII
A	40	40	35	25	50
B	42	30	16	25	27
C	50	48	40	60	50
D	20	19	20	18	25
E	58	60	59	55	53

Loss Matrix

20	20	25	35	10
18	30	44	35	33
10	12	20	0	10
40	41	40	42	35
2	0	1	5	7

Row Operation

10	10	15	25	0
0	12	26	17	15
10	12	20	0	10
5	6	5	7	0
2	0	1	5	7

Column Operation

10	10	14	25	0
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0	12	25	17	15
10	12	19	0	10
5	6	4	7	0
2	0	0	5	7

Minimum No. of lines

BATSMAN	BATTING POSITIONS				
	III	IV	V	VI	VII
A	10	10	14	25	0
B	0	12	25	17	15
C	10	12	19	0	10
D	5	6	4	7	0
E	2	0	0	5	7

As the minimum number of lines are not equal to order of matrix, let's take steps to increase the number of zeros.

BATSMAN	BATTING POSITIONS				
	III	IV	V	VI	VII
A	6	6	10	25	0
B	0	12	25	21	19
C	6	8	15	0	10
D	1	2	0	7	0
E	2	0	0	9	11

Minimum No. of lines

BATSMAN	BATTING POSITIONS				
	III	IV	V	VI	VII
A	6	6	10	25	0
B	0	12	25	21	19
C	6	8	15	0	10
D	1	2	0	7	0
E	2	0	0	9	11

As the minimum number of lines are equal to order of matrix, optimal assignment should be made.

Optimal Assignment

BATSMAN	BATTING POSITIONS				
	III	IV	V	VI	VII
A	6	6	10	25	0
B	0	12	25	21	19
C	6	8	15	0	10
D	1	2	0	7	0
E	2	0	0	9	11

Maximum Runs

Batsman	Position	Runs
A	VII	50
B	III	42
C	VI	60
D	V	20
E	IV	60

TOTAL		232
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(b) Types of Mergers

There are three types of Merger: -

1. Horizontal Merger,
2. Vertical Merger and
3. Conglomerate Merger

Horizontal Merger: Horizontal mergers are combinations of firms engaged in the same industry. It is a merger with a direct competitor. The principal objective behind this type of mergers is to achieve economies of scale in the production process by shedding duplication of installations and functions, widening the line of products, decrease in working capital and fixed assets investment, getting rid of competition and so on. For example, formation of Brook Bond Lipton India Ltd. through the merger of Lipton India and Brook Bond.

Vertical Merger: It is a merger of two organizations that are operating in the same industry but at different stages of production or distribution system. This often leads to increased synergies with the merging firms. If an organization takes over its supplier/producers of raw material, then it leads to backward integration. On the other hand, forward integration happens when an organization decides to take over its buyer organizations or distribution channels. Vertical merger results in operating and financial economies. Vertical mergers help to create an advantageous position by restricting the supply of inputs or by providing them at a higher cost to other players.

Conglomerate Merger: Conglomerate mergers are the combination of organizations that are unrelated to each other. There are no linkages with respect to customer groups, customer functions and technologies being used. There are no important common factors between the organizations in production, marketing, research and development and technology. In practice, however, there is some degree of overlap in one or more of these factors.

Conglomerate mergers have been sub-divided into:

- Financial Conglomerates
- Managerial Conglomerates
- Concentric Companies