FINAL EXAMINATION

PRACTICE TEST PAPER **TERM – JUNE 2026**

PAPER – 16 **SYLLABUS 2022**

STRATEGIC COST MANAGEMENT

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

The figures in the margin on the right side indicate full marks.

SECTION – A (Compulsory)

1. Choose the correct option: **[15 x 2=30]**

(i) You are given the following estimates for next year's budgeted sales of a single product produced by SCC Ltd.: Selling Price ₹ 12 per unit, Probability for sales demand are as follows:

Units	Probability
3200	0.50
4000	0.30
5000	0.20

Calculate the value of sales for the Period

A) ₹ 3,800
B) ₹ 45,600
C) ₹ 47,800
D) None of the above

(ii) Surya Ltd., a manufacturing company has a break-even point when sales are ₹ 12,00,000 and fixed costs at that level of sales are ₹ 4,80,000. If the Margin of Safety (MOS) and sales of the company are 40% and 5,00,000 units respectively, what will be the sale price per unit?

A) ₹ 2
B) ₹ 4
C) ₹ 6
D) ₹ 8

(iii) The P/V ratio of a company dealing in Electrical equipment is 50% and the margin of safety is 20%. BEP of the firm at a sales volume of ₹ 50,00,000 will be

A) ₹ 40,00,000
B) ₹ 30,00,000
C) ₹ 35,00,000
D) ₹ 37,00,000

(iv) A company uses traditional standard costing system. The inspection and set-up costs are actually ₹ 1,760 against a budget of ₹ 2,000. ABC system is being implemented and accordingly the number of batches is identified as the cost driver for inspection and set up. The budgeted production is 10,000 units in batches of 1,000 units whereas actually 9,000 units were produced in 11 batches. The cost per batch under ABC system will be

A) ₹ 160

B) ₹ 176
C) ₹ 200
D) ₹ 1760

(v) The following figures are extracted from the books of a company:
Budgeted O/H - ₹ 10,000 (Fixed ₹ 6,000, Variable ₹ 4,000)
Budgeted Hours - 2000
Actual O/H - ₹ 10,400 (Fixed ₹ 6,100, Variable ₹ 4,300)
Actual Hours - 2100
Variable O/H cost variance and Fixed O/H cost variance will be:
A) ₹ 100 (A) and ₹ 200 (A)
B) ₹ 100 (F) and ₹ 200 (F)
C) ₹ 100 (A) and ₹ 200 (F)
D) ₹ 200 (A) and ₹ 100 (F)

(vi) A firm is required to procure three items I, II & III from three vendors V1 , V2 & V3 respectively. The quoted prices in Rupees are given in the table below. The management policy clearly states that each item should be procured from only one vendor and each vendor should supply only one item. The minimum total cost of procurement is –

Items	Vendors		
	V1	V2	V3
I	110	120	130
II	115	140	140
III	125	145	165

A) ₹ 365
B) ₹ 340
C) ₹ 370
D) ₹ 385

(vii) The value of the game of

		Player B	
		B1	**B2**
Player A	**A1**	4	6
	A2	-10	10

is_____ Fill in the above.
A) 4
B) 3
C) 2
D) 1

(viii) RSP Ltd. manufactures a product whose time for the first unit is 1000 hours. It experience a learning curve of 80%, What will be the total time taken in hours for unit 5 to 8?

A) 1564 hours
B) 1634 hours
C) 1460 hours
D) 1536 hours

(ix) Which of the following statement is correct?

A) Functioning of ETL Tool is same as that of ELT Tool.
B) For Data Analytics the purpose of ETL Tool is same as that of ELT Tool.
C) Both (a) and (b)
D) None of the above.

(x) Which of the following is not a secondary activity of Value Chain?

A) Procurement
B) Human Resource Development
C) Service
D) Technology Development

(xi) An increase in the selling price per unit will cause

A) A decrease in the number of units required to breakeven.
B) An increase in the contribution margin ratio.
C) An increase in the margin of safety.
D) All of the Above.

(xii) Kanban Japanese System under JIT approach ensures that:

A) Continuous supply of inventory or product
B) Minimum & maximum level of stock to be maintained
C) Inventory valuation
D) All of the above

(xiii) Standard cost and budgeted cost are

A) Interrelated but not interdependent.
B) Interdependent but not interrelated.
C) Interrelated and interdependent.
D) None of the Above.

(xiv) Which of the following is not a term normally used in value analysis?

A) Resale value
B) Use value
C) Esteem value
D) Cost value

(xv) SKC Ltd., a manufacturer of components for ABC, has the capacity to produce 4 Lakh units. The market demand is sensitive to the sale price, and the company could sell 1 Lakh units at a price of ₹ 5,000 each. The demand thereafter would double for each 500 per unit fall in the selling price. If the company expects a minimum margin of 25%, what would be the Target Cost per unit for the company to sell at full capacity utilisation?

A) ₹ 1,000
B) ₹ 2,000
C) ₹ 2,500
D) ₹ 3,000

SECTION – B

(Answer any 5 questions out of 7 questions given. Each question carries 14 marks.)

[5 x 14 = 70]

2. Dixon Ltd., a cement manufacturing company, produces '30 grade' cement for which the company has an assured market. The output for 2025 has been budgeted at 1,80,000 units at 90% capacity utilization. The cost sheet based on output (per unit) is as follows:

Particulars	₹
Selling Price	130
Direct Material	30
Component "EX"	9.40
Direct Wages @ ₹7 per hour	28
Factory Overheads (50% fixed)	24
Selling and distribution Overheads (75% variable)	16
Administrative Overheads (Fixed)	5

The factory overheads are applied on the basis of direct labour hours.

To utilize the idle capacity and to improve the profitability of the company, the following proposal was put up before the Board of Directors for consideration:
An order has been received from abroad for 6,000 units of product '30 grade' cement at ₹ 175 per unit. The cost data are:
Direct material ₹ 56 per unit,
Direct labour 10 hours per unit,
Selling and distribution overheads applicable to this product order is ₹ 14 per unit and
Variable factory overheads are chargeable on the basis of direct labour hours.
The company at present manufactures component 'EX' one unit of which is required for each unit of product '30 grade ‘cement. The cost details for 15000 units of component 'EX' are as follows:

Particulars	₹
Direct Material	30,000
Direct Labour	52,500
Variable Overheads	25,500
Fixed Overheads	33,000
Total	1,41,000

The component "EX" however is available for purchase at the market at ₹ 7.90 per unit. Required:

(i) Prepare a statement showing profitability of the company as envisaged in the Budget.

(ii) Evaluate the export order and state whether it is acceptable or not.

(iii) Prepare an appraisal of proposal to manufacture component "EX" and state whether component "EX" should be manufactured in the factory or purchased from the market. Assume that no alternative use of spare capacity is available [14]

3. (a) A Company with two manufacturing divisions is organised on profit centre basis. Division 'A' is the only source for the supply of a component that is used in Division B in the manufacture of a product KLIM. One such part is used in each unit of the product KLIM. As the demand for the product is not steady, Division B can obtain orders for increased quantities only by spending more on sales promotion and by reducing the selling prices. The Manager of Division B has accordingly prepared the following forecast of sales quantities and selling prices

Sales units per day	Average Selling price per unit of KLIM (₹)
1,000	5.25
2,000	3.98
3,000	3.30
4,000	2.78
5,000	2.40
6,000	2.01

The manufacturing cost of KLIM in Division B is ₹3,750 for first 1,000 units and ₹750 per 1,000 units in excess of 1,000 units. Division A incurs a total cost of ₹1,500 per day for an output to 1,000 components and the total costs will increase by ₹900 per day for every additional 1,000 components manufactured. The Manager of Division A states that the operating results of his Division will be optimised if the transfer price of the component is set at ₹1.20 per unit and he has accordingly set the aforesaid transfer price for his supplies of the component to Division A.

You are required to:

(a) Prepare a schedule showing the profit at each level of output for Division A and Division B.

(b) Calculate the profit of the company as a whole at the output level which

(i) Division A's net profit is maximum.

(ii) Division B's net profit is maximum. **[7]**

(b) T Ltd. produces and sells a product. The company expects the following revenues and costs in 2024:

Revenues (400 sets sold @ ₹600 per product) = ₹2,40,000

Variable costs = ₹ 1,60,000

Fixed costs = ₹ 50,000

Calculate the amount of sales T Ltd. must has to earn a target net income of ₹63,000 if they have a tax

rate of 30%? **[7]**

4. (a) A company produces four products, viz. A, B, C and D. The data relating to production activity are as under

Product	Quantity of production	Material cost/ ₹. per unit	Direct labour hours/unit	Machine hours/ unit	Direct Labour cost/₹ per unit
A	4,500	12	2	1.50	8
B	13,640	15	2	0.75	9
C	2,340	25	5	2.50	27
D	18,350	21	4	4.00	25

Production overheads are as under:	₹
(i) Overheads applicable to machine-oriented activity:	1,65,900
(ii) Overheads relating to ordering materials	8,760
(iii) Set up costs	21,400
(iv) Administration overheads for spare parts	44,690
(v) Material handling costs	25,545

The following further information has been compiled:

Product	No. of set up	No. of materials orders	No. of times materials handled	No. of spare parts
A	3	3	6	6
B	18	12	30	15
C	5	3	9	3
D	24	12	36	12
Total	**50**	**30**	**81**	**36**

Select a suitable cost driver for each item of overhead expense and calculate the cost per unit of cost driver. **[7]**

(b) Value Analysis enables people to contribute towards value addition by continuous focus on product design and services". - In this context, discuss the phases of Value Analysis. **[7]**

5. (a) BBK Ltd. manufactures MKY by mixing three raw materials. For every batch of 100Kg. of MKY, 125 Kg. of raw materials are used. In April 2024, 60 batches were prepared to produce an output of 5,600 Kg. of MKY. The standard and actual particulars for April 2025 are as under

Raw Material	Standard		Actual		Quantity Of Raw Material Purchased Per kg
	Mix %	Price Per Kg	Mix %	Price Per Kg	
A	50	20	60	21	5,000

B	30	10	20	8	2,000
C	20	5	20	6	1,200

Calculate relevant material variances. **[7]**

(b)

Item	Budget	Actual
No. of working Days	20	22
Output per Man hour	1.0 Units	0.9 Units
Overhead Cost	₹ 1,60,000	₹ 1,68,000
Man- Hours Per Day	8,000	8,400

Calculate Overhead Variances. **[7]**

6.(a) Sri Lanka, the third largest tea producing country has a production share of 9% of the international market and one of the world's leading exporters with a share of 19% of the global demand. Thus, tea industry is crucial to enhance their economic competitiveness in the world market. The nature of the highly competitive global market has made scientific and reasonable production management increasingly important for tea companies to differentiate themselves from competitors. In order to enhance their competitive position, Sri Lankan tea manufacturers are giving serious thought to use optimization techniques like Linear Programming to find their best product mix to achieve maximization of profit. Dulwan Tea Company, established in 1974 is one of the leading tea exporters of the country. They use their own leaves which grow in their tea plantations. More than 2500 varieties of flavoured and non-flavoured tea products are produced and globally exported by the company. This brand is available in more than 90 countries in the world including UK, Poland, Canada, South Africa, Australia and New Zealand. Therefore, how to optimize the production process yielding maximum profit is a critical and challenging task in front of the decision makers of Dulwan. After lot of deliberations among themselves, the management of Dulwan has decided to hire a Cost and Management consultant.

Accordingly, they hired Mr. Kuppuswamy, a resident of Jafina, Sri Lanka and a well-known consultant of the island. In his first visit to the company the management explained to him the requirements and Mr. Kuppuswamy technically phrased the objective of the work as follows.

- To formulate a mathematical model that would suggest a viable product mix to ensure maximum profit of the company as well as evaluating performance of the proposed product mix.
- To highlight the peculiarities of using linear programming technique at a single operating procedure and prove that despite the obstacles, the application of the technique in determining the product mix enables Dulwan Tea Company to be more profitable than the otherwise.

Thereafter a team is formed from the existing employees of the company and under the guidance of Mr. Kuppuswamy they started working to formulate the problem as a Linear Programming model. Since the company is dealing with huge varieties of tea product, everybody could realize that solving such LPP manually is impossible. So it is decided to purchase a suitable software for the purpose and Mr. Kuppuswamy is requested to get at least three quotes from renowned global software companies. When the process is on, all of a sudden new opportunities open and the company decided to bid for supplying few of its very premium quality tea to the European market. But the management was not very sure as to which quality of tea they should try to sell so that the objective of profit maximization is fulfilled. Once again Mr. Kuppuswamy was approached and this

time he decided to find the best product mix by solving the problem manually (as variety of very premium quality tea was not much and the decision regarding which software to purchase not finalized).
During solution of the problem manually, at one stage the following Simplex Table is obtained

C_B	Product Mix	Quantity	X_1	X_2	X_3	S_1	S_2	S_3	A_1
2	X_1	4	1	2	1/2	0	0	1/4	0
0	S_2	12	0	0	-1	0	1	-1/2	0
0	S_1	12	0	6	0	0	0	1	-1
	C_j		2	4	1	1	0	0	-M
	Z_j	8	2	4	1	0	0	1/2	0
	$C_j - Z_j$		0	0	0	0	0	-1/2	-M

Answer the following questions, with proper explanation, related to the Simplex Table above.

i) How many varieties of very Premium quality tea are considered in the problem?
ii) Is the solution given in the table above Optimal?
iii) What is the Objective Function?
iv) Is there any alternate solution to the problem?
v) Is the solution feasible?
vi) What is the optimum product mix and the maximum profit.
vii) If any alternate solution is possible then find it. **[7]**

(b) A salesman has to visit five cities A, B, C, D and E. The inter-city distances in kilometre are tabulated below. Note the distance between two cities need not be same both ways.

From/To	A	B	C	D	E
A	-	12	24	25	15
B	6	-	16	18	7
C	10	11	-	18	12
D	14	17	22	-	16
E	12	13	23	25	-

If the salesman starts from city A and has to come back to city A, by applying the principles of Assignment which route would you advise him to take so that total distance travelled by him is minimised? **[7]**

7. (a) Joy Givers and Milan Toys are the two toy manufacturers who always compete with each other to increase their respective market shares. For both the companies the Marketing team, work with close coordination with the Design team and always come out with attractive toys which are normally in great demand. To meet the demand, they have various strategic options like working for 8 hours a day, 12 hours a day, 16 hours a day, 24 hours a day, subcontracting etc. which will ultimately increase the market share. Joy Givers have decided not to go for all the above-mentioned options and set

up the following payoff matrix in which the percentage increase in market share is given against different strategies of Milan Toys

Strategies of	**Milan Toys**			
Joy Givers	Working 8 hrs/day	Working 12 hrs/day	Working 16 hrs/day	Subcontracting
Working 12 hrs/day	8	10	9	14
Working 16 hrs/day	10	11	8	12
Subcontracting	13	12	14	13

Use Principle of Dominance to find the Optimal Strategies of the two manufacturers and calculate the value of the Game. **[7]**

(b) An engineering firm is tendering for a contract to supply a steel fabrication with target duration of 46 days. The tasks have been analysed as follows:

Activity	Duration (Days)
1-2	10
1-3	12
1-4	10
2-4	9
2-5	13
3-6	17
4-6	12
5-6	14

The firm is awarded the contract and starts work with all activities on their earliest start times but after work on the 15th day there is a fire which destroys all the work -inprogress on task 2-4, 2-5 and 3-6. Fortunately, no other completed tasks are affected but it is estimated that task 5-6 will now need 20 days. The project manager feels that due to fire there will be variability in the task times and has made some uncertainty estimates which are shown as task standard deviation in days:

Activity	Standard Deviation (Days)
2-4	0.82
2-5	1.33
5-6	0.47
4-6	2.17
3-6	1.33

i. Prepare a PERT network as originally envisaged.
ii. Assess the new expected project duration and identify the critical path through the remaining activities after the fire.
iii. Evaluate the probability of the project being completed on time after the fire. [Given area between Z = 0 and Z = -1.42 is 0.4222] **[7]**

8.(a) The demand (rides per day) of Roller Coaster Ride in an Entertainment Park in one of the metro cities is given by the equation q = - 450p + 41500, where p = Price per ride in ₹. Calculate the price that maximizes total revenue. **[7]**

(b) Calculate the Seasonal Indices for the following quarterly data in certain units. Appropriate method for finding the Indices has to be decided by you with due explanation.

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
2020	39	21	52	81
2021	45	23	63	76
2022	44	26	69	75
2023	53	23	64	84

[7]