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PAPER - 15

MCQs

BIT QUESTIONS

Strategic Cost Management

- Decision Making

DIRECTORATE OF STUDIES
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PAPER -15

Strategic Cost Management – Decision Making Bit Questions

(I) <u>Choose the most appropriate answer to the following questions giving justification.</u>

1. **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

2. **Which of the following is not suitable for a JIT production system?**
   (A) Batch production
   (B) Jobbing production
   (C) Process production
   (D) Service production

3. **Which of the following is NOT a method of transfer pricing?**
   (A) Cost plus transfer price
   (B) Internal price transfer price
   (C) Market-based transfer price
   (D) Two part transfer price

4. **When is market skimming pricing appropriate?**
   (A) If demand is very elastic
   (B) If the product is new and different
   (C) If there is little chance of achieving economies of scale
   (D) If demand is inelastic
   (E) If there is little competition and high barriers to entry

5. **Which of the following is a recognised method of arriving at the selling price for the products of a business?**
   (A) Life cycle pricing (B) Price skimming (C) Penetration pricing (D) Target costing
   (A) (A) and (B) only
   (B) (A), (B) and (C) only
   (C) (B) and (C) only
   (D) (A), (C) and (D) only
   (E) (A), (B), (C) and (D)

6. **A company has estimated the selling prices and variable costs of one of its products as follows:**

Selling Price Per Unit		Variable Cost Per Unit	
₹	Probability	₹	Probability
40	0.30	20	0.55
50	0.45	30	0.25
60	0.25	40	0.20

   The company will be able to supply 1,000 units of its product each week irrespective of the selling price. Selling price and variable cost per unit are independent of each other. The probability that the weekly contribution will exceed ₹20,000 is ____% (round to the nearest whole %)
   (A) 40%
   (B) 42%
   (C) 45%
   (D) 55%

7. **An organisation is considering the costs to be incurred in respect of a special order opportunity.**

The order would require 1,250 kgs of material D. This is a material that is readily available and regularly used by the organisation on its normal products. There are 265 kgs of material D in stock which cost ₹795 last week. The current market price is ₹3.24 per kg.
Material D is normally used to make product X. Each unit of X requires 3 kgs of material D, and if material D is casted at ₹3 per kg, each unit of X yields a contribution of ₹15. The relevant cost of material D to be included in the costing of the special order is nearest to:
(A) ₹3,990
(B) ₹4,050
(C) ₹10,000
(D) ₹10,300

8. Aderholt uses activity based costing to allocate its overheads. The budgeted cost/expected for the Supervisor cost pool was:

Budgeted units	5,000
Number of employees	75
Budgeted Cost	₹7,500
The actual costs incurred were:	
Actual Units	5,500
Actual Employees	77
Actual cost	₹8,085

What was the total variance for the setups?
(A) ₹585 Adverse
(B) ₹165 Favourable
(C) ₹5550 Favourable
(D) ₹385 Adverse

9. P operates an activity based costing (ABC) system to attribute its overhead costs to cost objects.
In its budget for the year ending 31August 2017, the company expected to place a total of 2,895 purchase orders at a total cost of ₹1,10,010. This activity and its related costs were budgeted to occur at a constant rate throughout the budget year, which is divided into 13 four-week periods. During the four-week period ended 30 June 2016, a total of 210 purchase orders were placed at a cost of ₹7,650.
The over-recovery of these costs for the four-week period was:
(A) ₹330
(B) ₹350
(C) ₹370
(D) ₹390

10. A manufacturing company recorded the following costs in October for Product X:

	₹
Direct Materials	20,000
Direct Labour	6,300
Variable Production Overhead	4,700
Fixed Production Overhead	19,750
Variable Selling Costs	4,500
Fixed Distribution Costs	16,800
Total costs incurred for Product X	72,050

During October 4,000 units of Product X were produced but only 3,600 units were sold. At the beginning of October there was no inventory. The value of the inventory of Product X at the end of October using throughput accounting was:
(A) ₹630
(B) ₹1,080
(C) ₹1,100

(D) ₹2,000

11. Company B uses a throughput accounting system. The details of product X per unit are as follows:

	₹
Selling Price	50
Material Cost	16
Conversion Costs	20
Time on bottle neck resource	8 minutes

The return per hour for product X is:
(A) ₹105
(B) ₹225
(C) ₹255
(D) ₹375

12. Stock Control data for Material P are:
Annual usage: 3600 units; Cost per unit: ₹100; Cost of placing an order: ₹40; Stockholding Cost: 20% of the overall stock volume; Lead time: One month
The EOQ based on the above data is:
(A) 210 units
(B) 175 units
(C) 90 units
(D) 120 units

13. Which of the following would take place if a company is able to reduce its variable cost?

Contribution Margin	Break-Even Point
(A) Increase	Increase
(B) Decrease	Decrease
(C) Increase	Decrease
(D) Decrease	Increase

14. The following details relate to Product P-1 of a manufacturing company

Level of Activity (units)	1000	2000
Cost per unit (₹)		
Direct Materials	4000	4000
Direct Labour	3600	7200
Production Overheads	3240	12960
Selling Overheads	2916	23328

The total fixed cost and variable cost per unit are:

	Total Fixed Cost (₹)	Variable Cost per Unit (₹)
(A)	2,000	7.00
(B)	2,000	8.50
(C)	3,000	7.00
(D)	3,000	8.50

15. A company makes a single product which it sells at ₹10 per unit. Fixed costs are ₹48,000 per month and the product has a contribution to sales ratio of 40%. In a period when actual sales were ₹1,40,000, the company's margin of safety in units was:
(A) 2000
(B) 3000
(C) 3500
(D) 4000

16. The following tasks are associated with ABC system:
I. Allocation of costs to products II. Identification of cost pools

III. Identification of cost drivers **IV. Calculation of pool rates**
The proper order of the preceding tasks is:
(A) III, II, IV, I
(B) I, II, III, IV
(C) III, IV, II, I
(D) IV, III, II, I

17. A company has the capacity of production of 80000 units and presently it sells 20000 units at ₹100 each. The demand is sensitive to selling price and it has been observed that every reduction of ₹10 in selling price the demand is doubled. What should be the target cost at full capacity it profit margin on sales is taken at 25%?
(A) ₹58 lakhs
(B) ₹52 lakhs
(C) ₹48 lakhs
(D) ₹50 lakhs

18. The information relating to the direct material cost of a company is as follows:
Standard price per unit ₹7.20
Actual quantity purchased in units 1600
Standard quantity allowed for actual production in units 1450
Material price variance on purchase (Favourable) ₹480
What is the actual purchase price per unit?
(A) ₹7.50
(B) ₹6.40
(C) ₹6.50
(D) ₹6.90

19. Backflush costing is most likely to be used when:
(A) Management desires sequential tracking of costs
(B) A Just-in-Time inventory philosophy has been adopted
(C) The company carries significant amount of inventory
(D) Actual production costs are debited to work-in-progress

20. The preparation and use of standard cost, their comparison with actual costs and the measurement and analysis of variances to originating causes is defined as:
(A) Marginal Costing
(B) Standard Costing
(C) Throughput Costing
(D) Kaizen Costing

21. The following are cost data for two alternative ways of processing the clerical work for legal cases brought before the district court:

	Semi-Automatic	Fully Automatic
Monthly Fixed Costs (₹)		
Occupancy	15,000	15,000
Maintenance Contract	5,000	10,000
Equipment Lease	25,000	1,00,000
Unit Variable Cost (per Report) (₹)		
Supplies	80	20
Labour	60	20

The cost indifference point will be:
(A) 800 cases
(B) 850 cases
(C) 750 cases
(D) 700 cases

22. 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)

23. A company produces a product which is sold at a price of ₹80. Its Variable cost is ₹32. The company's Fixed cost is ₹11,52,000 p.a. The company operates at a margin of safety of 40%. The total sales of the company is:
(A) 4,000 units
(B) 40,000 units
(C) 30,000 units
(D) 20,000 units

24. The P/V ratio of a firm dealing in Electrical equipment is 50% and the margin of safety is 40%. BEP of the firm at a sales volume of ₹50,00,000 will be
(A) ₹25,00,000
(B) ₹35,00,000
(C) ₹30,00,000
(D) ₹36,00,000

25. ABC Limited has current PBIT of ₹19.20 lakhs on total assets of ₹96 lakhs. The company has decided to increase assets by ₹24 lakhs, which is expected to increase the operating profit before depreciation by ₹8.40 lakhs. There will be a net increase in depreciation by ₹4.80 lakhs. This will result in ROI
(A) to increase by 1%
(B) to decrease by 1%
(C) to decrease by 1.5%
(D) to remain the same

26. For a Learning Curve percentage of 72%, the time to be taken to complete the 4th unit of a 12-unit job involved in the assembly line, if the initial unit requires 80 hours, will be
(A) 43.50 hrs
(B) 41.47 hrs
(C) 46.71 hrs
(D) 40.95 hrs

27. Marketing department of an organisation estimates that 40,000 of new mixers could be sold annually at a price of ₹60 each. To design, develop and produce these new mixers an investment of ₹40,00,000 would be required. The company desires a 15% return on investment (ROI). Given these data, the target cost to manufacture, sell, distribute and service one mixer will be
(A) ₹37.50
(B) ₹40.00
(C) ₹45.00
(D) ₹48.60

28. When you wait until the manufacture of a product has been completed and then record all of the related issuances of inventory from stock that were required to create the product, it is called
(A) Forensic Accounting

(B) Back-flush Accounting
(C) Tax Accounting
(D) Lean Accounting

29. Match the following:

(A)	Dr. Deming believes	(1)	Common Causes
(B)	Ishikawa Development	(2)	To prevent defect
(C)	Type of variation is due to	(3)	Cause & Effect diagram
(D)	Crosby's Objective of quality	(4)	Histogram

The correct order is
(A) A-3, B-2, C-1, D-4
(B) A-2, B-3, C-4, D-1
(C) A-2, B-3, C-1, D-4
(D) A-4, B-3, C-1, D-2

30. 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) ₹200
(C) ₹180
(D) ₹220

31. 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%?
(A) ₹75
(B) ₹90
(C) ₹60
(D) ₹25

32. If the direct labour cost is reduced by 20% with every doubling of output, what will be the cost of labour for the sixteenth unit produced as an approximate percentage of the cost of the first unit produced?
(A) 51.2%
(B) 40.96%
(C) 62%
(C) None of these

33. A company determines its selling price by marking up variable costs 60%. In addition, the company uses frequent selling price mark down to stimulate sales. If the mark down average 10%, what is the company's contribution margin ratio?
(A) 30.6%
(B) 44%
(C) 86.4%
(D) None of these

34. B Ltd. Has earned net profit of ₹1 lakh, and its overall P/V ratio and margin of safety are 25% and 50% respectively. What is the total fixed cost of the company?
(A) ₹2,50,000
(B) ₹2,00,000
(C) ₹3,00,000
(D) ₹1,00,000

35. The total cost of manufacturing a component is as under at a capacity of 50,000 units of production:

	₹
Prime Cost	10.00
Variable Overheads	2.40
Fixed Overheads	4.00
	16.40

The selling price is ₹21 per unit. The variable selling and administrative expenses is 60 paise per component extra. During the next quarter only 10,000 units can be produced and sold. Management plans to shut down the plant estimating that the fixed manufacturing cost can be reduced to ₹74,000 per quarter. When the plant is operating, the fixed overheads are incurred at a uniform rate throughout the year. Additional costs of plant shutdown for the quarter are estimated at ₹14,000. The shut down pint for the quarter in units of product will be:

(A) ₹25,000
(B) ₹14,000
(C) ₹11,000
(D) ₹20,000

36. 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:

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

37. A company operates throughput accounting system. The details of product X per unit are as under.

Selling Price	₹50
Material Cost	₹20
Conversion Cost	₹15
Time on bottleneck resources	10 minutes

The return per hour for product X is:

(A) ₹210
(B) ₹300
(C) ₹180
(D) ₹90

38. The information relating to the direct material cost of a company is as under:

	₹
Standard Price per unit	3.60
Actual quantity purchased in units	1,600
Standard quantity allowed for actual production in units	1,450
Material Price Variance on purchase (favourable)	240

What is the actual purchase price per unit?

(A) ₹3.45
(B) ₹3.75
(C) ₹3.20
(D) ₹3.25

39. If the time taken to produce the first unit of a product is 4000 hrs, what will be the total time taken to produce the 5th to 8th unit of the product, when a 90% learning curve applies?
(A) 10,500 hours
(B) 12,968 hours
(C) 9,560 hours
(D) 10,368 hours

40. 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?
(A) ₹10,000
(B) ₹20,000
(C) ₹15,000
(D) ₹5,000

41. Which of the following would decrease unit contribution margin the most?
(A) 15% decrease in selling price
(B) 15% increase in variable costs
(C) 15% decrease in variable costs
(D) 15% decrease in fixed costs

42. A company produces two joint products, P and V. In a year, further processing costs beyond split-off point spent were ₹8,000 and ₹12,000 for 800 units of P and 400 units of V respectively. P sells at ₹25 and V sells at ₹50 per unit. A sum of ₹9,000 of joint cost were allocated to product P based on the net realization method. What were the total joint cost in the year?
(A) ₹20,000
(B) ₹10,000
(C) ₹15,000
(D) None of these

43. 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 upto 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?
(A) 1,00,000 units
(B) 1,11,000 units
(C) 1,27,000 units
(D) 75,000 units

44. The following details relate to two competing companies, Alps and Himalayas, for identical projects:
I. The net present value (NPV) of Alps is ₹20,000 and its internal rate of return (IRR) is 18%.
II. For the same life period, Himalayas estimated cash flows are:

Year	₹ '000
0	(450)
1	300
2	200

3	100

And its cost of capital is 15%.
Which one of the following combinations is correct concerning the NPV and the IRR of the two projects?

Projects	
Alps	Himalayas
A) Higher NPV	Higher IRR
B) Higher NPV	Lower IRR
C) Lower NPV	Higher IRR
D) Lower NPV	Lower IRR

45. 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

46. A company has estimated the selling prices and the variable costs of one of its products as under:

Probability	Selling Price (Per unit)	Probability	Variable Cost (Per unit)
0.25	60	0.25	30
0.45	75	0.40	45
0.30	90	0.35	60

The company will be able to produce and sell 4,000 units in a month irrespective of the selling price. The selling price and variable cost per unit are independent of each other. The specific fixed cost relating to this product is ₹20,000. The probability that the monthly net profit of the product will be ≥ ₹1,20,000 is
(A) 0.2525
(B) 0.4512
(C) 0.3825
(D) 0.3075

47. In calculating the life cycle costs of a product, which of the following items would be included?
A. Planning and concept design costs B. Preliminary and detailed design costs
C. Testing costs D. Production costs E. Distribution costs
(A) All of the above
(B) D and E
(C) B, D and E
(D) D

48. A Ltd., developing a new product, makes a model for testing and goes for regular production. From past experience of similar models, it is known that a 90% learning curve applies. If the time taken to make the model is 300 hours, what will be the total time taken to produce 3rd to 4th unit of the product?
(A) 540 hours
(B) 486 hours
(C) 432 hours
(D) None of the above

49. A particular job required 800 kgs of material – P. 500 kgs. of the particular material is currently in stock. The original price of the material – P was ₹300 but current resale value

of the same has been determined as ₹200. If the current replacement price of the material – P is ₹0.80 per kg., the relevant cost of the material – P required for the job would be:
(A) ₹640
(B) ₹440
(C) ₹300
(D) None of these

50. A company has 2000 units of an obsolete item which are carried in inventory at the original purchase price of ₹30,000. If these items are reworked for ₹10,000, they can be sold for ₹18,000. Alternatively, they can be sold as scrap for ₹3,000 in the market. In a decision model used to analyze the reworking proposal, the opportunity cost should be taken as:
(A) ₹8,000
(B) ₹12,000
(C) ₹3,000
(D) ₹10,000

51. When allocation service department cost to production departments, the method that does not consider different cost behavior patterns is the
(A) Step method
(B) Reciprocal method
(C) Single rate-method
(D) Dual rate-method

52. ASHLIN LTD., has developed a new product just complete the manufacture of first four units of the product. The fist unit took 2 hours to manufacture and the first four units together took 5.12 hours to produce. The Learning Curve rate is
(A) 83.50%
(B) 80.00%
(C) 75.50%
(D) None of (A), (B) or (C)

53. ANKIT LTD. operates Throughput Accounting System. The details of product A per unit are as under:

	₹
Selling Price	75
Material Cost	30
Conversion Cost	20
Time to Bottleneck Resources	10 minutes

The return per hour for product A is
(A) ₹270
(B) ₹150
(C) ₹120
(D) ₹90

54. A company has a capacity to make 4,00,000 units of a product. It has noted from market conditions that at a price of ₹50 per unit, it can sell 1,00,000 units but the demand would double for each ₹5 fall in the selling price. A minimum margin of 25% is required. The target cost for the company should be:
(A) ₹50
(B) ₹40
(C) ₹30
(D) ₹20

55. Division A of a company manufactures a single product and the following data are provided:

Sales = 25,000 units	Fixed Cost = ₹4,00,000
Depreciation = ₹2,00,000	Residual Income = ₹30,000
Net Assets = ₹10,00,000	

Head Office assesses divisional performance by the method of Residual Income and uses cost of capital of 12%
(A) ₹25
(B) ₹30
(C) ₹35
(D) None of these

56. A company makes components and sells internally to its subsidiary and also to external market. The external market price is ₹24 per component, which gives a contribution of 40% of sales. For external sales, variable costs include ₹1.50 per unit for distribution costs. This is, however not incurred in internal sales. There are no capacity constraints. To maximize company profit, the transfer price to subsidiary should be:
(A) ₹9.60
(B) ₹12.90
(C) ₹14.40
(D) None of these

57. The information relating to the direct material cost of a company is as under:

	₹
Standard Price per unit	3.60
Actual quantity purchased in units	1,600
Standard quantity allowed for actual production in units	1,450
Material Price Variance on purchase (favourable)	240

What is the actual purchase price per unit?
(A) ₹3.45
(B) ₹3.75
(C) ₹3.20
(D) ₹3.25

58. SUVAM Ltd., 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%?
(A) ₹67.50
(B) ₹60.00
(C) ₹45.00
(D) None of the above

59. A company makes and sells a single product. The selling price and marginal revenue equations are:
Selling Price = ₹50 - ₹0.001X
Marginal Revenue = ₹50 - ₹0.002X
Where X is the product the company makes. The variable cost amount to 20 per unit and the fixed costs are ₹1,00,000. In order to maximize the profit, the selling price should be
(A) ₹25
(B) ₹30
(C) ₹35
(D) ₹40

60. A Company requires ₹85,00,000 in sales to meet its target net profit. Its contribution margin is 30% and the fixed costs are ₹15,00,000. What is the target net profit?
(A) ₹10,50,000
(B) ₹19,50,000
(C) ₹25,50,000
(D) ₹35,00,000

61. In a factory where standard costing system is followed, the production department consumed 1100 kgs of a material @ ₹8 per kg for product X resulting in material price variance of ₹2200 (Fav) and material usage variance of ₹1000 (Adv). What is the standard material cost of actual production of product X?
(A) 11,000
(B) 20,000
(C) 14,000
(D) 10,000

62. The following information relate to ABC

Activity level	**60%**	**80%**
Variable costs (₹)	**12,000**	**16,000**
Fixed costs (₹)	**20,000**	**22,000**

The differential cost for 20% capacity is
(A) ₹4,000
(B) ₹2,000
(C) ₹6,000
(D) ₹5,000

63. By making and selling 9,000 units of a product, a company makes a profit of ₹10,000, whereas in the case of 7,000 units, it would lose ₹10,000 instead. The number of units to break-even is
(A) 7,500 units
(B) 8,000 units
(C) 7,750 units
(D) 8,200 units

64. 1200 units of microchips are required to be sold to earn a profit of ₹1,06,000 in a monopoly market. The fixed cost for the period is ₹74,000. The contribution in the monopoly market is as high as 3/4th of its variable cost. Determine the target selling price per unit.
(A) 450
(B) 325
(C) 400
(D) 350

65. An operation has a 90% learning curve and the first unit produced took 28 minutes. The labour cost is ₹20 per hour. How much should the second unit cost?
(A) ₹9.80
(B) ₹7.60
(C) ₹8.40
(D) ₹6.60

66. If project A has a net present value (NPV) of ₹30,00,000 and project B has an NPV of ₹50,00,000, what is the opportunity cost if project B is selected?
(A) ₹23,00,000
(B) ₹30,00,000
(C) ₹20,00,000
(D) ₹50,00,000

67. A company operates an activity based costing (ABC) system to attribute its overhead costs to cost objects. In its budget for the year - ending 31st August, 2018. The company expected to place a total of 2000 purchase orders at a total cost of ₹1,00,000. This activity and its related costs were budgeted to occur at a constant rate throughout the budget year which is divided into 13 four week periods.
During the four week period ended 30th June 2017, a total of 200 purchase orders were placed at a cost of ₹9,000. The over recovery of these costs for the four week period was
(A) ₹2,000
(B) ₹3,000
(C) ₹1,500
(D) ₹1,000

68. Empire Hotel has a capacity of 100 single rooms and 20 double rooms. Average occupancy is 70% for 365 days of the year. The rent for a double room is kept at 130% of a single room. The total room occupancy days in a year in terms of single room is
(A) 32193
(B) 30660
(C) 31660
(D) 30993

69. Which of the following is correct in the context of network analysis?
(A) There can be one or more activities without a predecessor in a network
(B) Where two activities have the same start and end events, the end event of one activity is numbered differently and then connected by a dummy to the original start event
(C) When crashing is carried out, the non-critical paths have to remain non critical
(D) If the critical path is longer than the other paths, the project may be completed by using a path having a shorter duration

70. A company has a break even point when sales are `3,20,000 and variable cost at that level of sales are `2,00,000. How much would contribution margin increase or decrease if variable expenses are dropped by ` 30,000?
(A) Increase by 27.5%
(B) Increase by 9.375%
(C) Decrease by 9.375%
(D) Increase by 37.5%

71. Twin Ltd. uses JIT and back flush accounting. It does not use a raw material stock control account. During September 2018, 10000 units were produced and sold. The standard cost per unit is `150 which includes materials of `60. During September 2018, ` 9,90,000 of conversion costs were incurred. The debit balance in cost of goods sold account for September 2018 was
(A) ` 14,00,000
(B) `14,80,000
(C) ` 15,90,000
(D) `16,20,000

72. A company operates a standard absorption costing system. The budgeted fixed production overheads for the company for last year were ` 3,30,000 and budgeted output was 2,20,000 units. At the end of the company's financial year, the total of the fixed production overheads debited to the Fixed Production Overhead Control Account was ` 2,60,000 and the actual output achieved was 2,00,000 units. The under/over absorption of overhead was
(A) ` 40,000 over absorbed

(B) `40,000 under absorbed
(C) `50,000 over absorbed
(D) `50,000 under absorbed

73. A factory can make only one of the three products X, Y or Z in a given production period. The following information are given:

Per unit c	X	Y	Z
Selling Price	1500	1800	2000
Variable Cost	700	950	1000

Assume that there is no constraint on resource utilization or demand and similar resources are consumed by X, Y and Z. The opportunity cost of making one unit of Z is
(A) ` 850
(B) ` 800
(C) ` 1800
(D) ` 1500

74. AB company is a supermarket group that incurs the following costs:
(a) The bought-in price of the goods
(b) Inventory finance costs
(c) Self refilling costs
(d) Costs of repacking or 'pack out' prior to storage before sale
AB company's calculating of direct product profit (DPP) would include
(A) Costs (a) and (c) only
(B) All of the above cost except (b)
(C) All of the above costs except (d)
(D) All of the above costs

75. S 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) 4096 hours
(B) 3200 hours
(C) 1536 hours
(D) 2000 hours

76. H Group has two divisions, Division P and Division Q. Division P manufactures an item that is transferred to Division Q. The item has no external market and 6000 units produced are transferred internally each year. The costs of each division are as follows?

	Division P	Division Q
Variable Cost	`100 per unit	` 120 per unit
Fixed cost each year	` 1,20,000	` 90,000

Head Office management decided that a transfer price should be set that provides a profit of `30,000 to Division P. What should be the transfer price per unit?
(A) `145
(B) ` 125
(C) ` 120
(D) ` 135

77. In the context of Critical Path Analysis, the portion of the float of an activity which cannot be consumed without affecting adversely the float of the subsequent activities is called
(A) Free float
(B) Interfering float
(C) Independent float
(D) Total float

78. In CPA (Critical Path Analysis) which of the following is not a correct step in sequence?
(A) Understanding the logic of the system under consideration
(B) Constructing the net work
(C) Providing estimates for activity duration
(D) Implementing and controlling the net work

79. XYZ Ltd. has the following alternative planned activity levels.

Level	E	F	G
Total cost	₹ 1,00,000,	₹ 1,50,000,	₹ 2,00,000
No. of units produced	5000	10000	15000

If fixed overhead remains constant, then fixed overhead cost per unit at Level E is
(A) ₹ 20
(B) ₹ 15
(C) ₹ 13.33
(D) ₹ 10

80. T Ltd. produces and sells a product. The company expects the following revenues and costs in 2018:

Revenues (400 sets sold @ ₹600 per product)	₹ 2,40,000
Variable costs	₹ 1,60,000
Fixed costs	₹ 50,000

What amount of sales must T Ltd. have to earn a target net income of ₹63,000 if they have a tax rate of 30%?
(A) ₹ 4,20,000
(B) ₹ 4,29,000
(C) ₹ 3,00,000
(D) ₹ 4,89,000

81. Excel Products Ltd. manufactures four products e.g. Product E, Product F, Product G and Product H using same raw materials. The input requirements for Products E, F, G and H are 1kg, 2kgs, 5kgs and 7kgs, respectively. Product-wise Selling Price and Variable Cost data are given hereunder:

Products	E	F	G	H
Selling Price (₹)	100	150	200	300
Variable Cost (₹)	50	70	100	125

Assuming raw material availability is a limiting factor, the correct ranking of the products would be:
(A) E, F, G & H
(B) E, F, H & G
(C) F, E, G & H
(D) F, E, H & G

82. S Ltd. recently sold an order of 50 units having the following costs:

	₹
Direct materials	1,500
Direct labour (1000 hours @ ₹ 8.50)	8,500
Variable overhead (1000 hours @ ₹ 4.00)[1]	4,000
Fixed overhead[2]	1,400
	15,400

[1] Allocated on the basis of direct labour-hours.
[2] Allocated at the rate of 10% of variable cost.
The company has now been requested to prepare a bid for 150 units of the same product.
If an 80% learning curve is applicable, Stone Isle's total cost on this order would be
(A) ₹ 38,500
(B) ₹ 37,950

(C) ₹ 26,400
(D) ₹ 31,790

83. A company manufactures and sells packaging machines. It recently introduced activity-based costing to refine its existing system. Each packaging machine requires direct materials costs of ₹50,000; 50 equipment parts; 12 machine hours; 15 assembly line hours and 4 inspection hours. The details about the cost pools, allocation bases and allocation rates are given below:

Indirect cost pool	*Cost allocation base*	*Budgeted allocation rate*
Material handling	No. of component parts	₹ 8 per part
Machining	Machine hours	₹68 per machine hour
Assembly	Assembly line hours	₹75 per assembly hour
Inspection	Inspection hours	₹104 per inspection hour

The company has received an order for 40 can-packaging machines from a customer. Using activity-based costing, indirect costs allocated to the order of the customer would be:
(A) ₹ 1,30,850
(B) ₹ 1,25,280
(C) ₹ 1,15,050
(D) ₹ 1,10,280

84. AB Ltd. uses standard cost system. The following information pertains to direct labour for Product X for the month of March, 2019:

Standard rate per hour	₹ 8
Actual rate per hour	₹ 8.40
Standard hours allowed for actual production	2000 hours
Labour Efficiency variance	₹ 1,600 (Adverse)

What were the actual hours worked?
(A) 1,800
(B) 1,810
(C) 2,200
(D) 2,190

85. X Ltd. has 1000 units of an obsolete item which are carried in inventory at the original price of ₹50,000. If these items are reworked for ₹20,000, they can be sold for ₹36,000. Alternatively, they can be sold as a scrap for ₹6,000 in the market. In a decision model used to analyse the reworking proposal, the opportunity cost should be taken as
(A) ₹ 16,000
(B) ₹ 6,000
(C) ₹ 30,000
(D) ₹ 20,000

86. Uniform Costing may *not* be successfully applied in the following case:
(A) In a single enterprise having a number of branches, each of which manufactures the same set of products with the same facilities
(B) In a number of entities in the same industry bound by a trade association
(C) In a number of units across different geographical locations manufacturing one or more of a given set of products
(D) In different branches of the same company, each branch making a different product using a unique process

87. Which of the following is a valid constraint for a linear programming problem?
(A) $3x^2 + 4x + 1 = 0$
(B) $5x_t + 2x_2 \leq 10$
(C) $4x_x + 3x_2 > 7$
(D) $(12_{x1} + 4_{x2})/3_{x2} \leq 8_{x1}$

88. The shadow price of skilled labour for SD Ltd. is currently ₹ 10 per hour. What does this mean?
(A) The cost of obtaining additional skilled labour is ₹ 10 per hour
(B) There is a hidden cost of ₹ 10 for each hour of skilled labour actively worked
(C) Contribution will be increased by ₹10 per hour for each extra hour of skilled labour that can be obtained
(D) The total costs will be reduced by ₹10 for each additional hour of skilled labour that can be obtained

89. The break-even point of a manufacturing company is ₹1,60,000. Fixed cost is ₹48,000. Variable cost is ₹ 12 per unit. The PV ratio will be:
(A) 20%
(B) 40%
(C) 30%
(D) 25%

90. A factory has a key resource (bottleneck) of Facility A which is available for 31,300 minutes per week. The time taken by per unit of Product X and Y in Facility A are 5 minutes and 10 minutes respectively. Last week's actual output was 4750 units of product X and 650 units of Product Y. Actual factory cost was ₹ 78,250. The throughput cost for the week would be:
(A) ₹ 75,625
(B) ₹ 76,225
(C) ₹ 77,875
(D) ₹ 79,375

91. In a PERT network, the optimistic time for a particular activity is 9 weeks and the pessimistic time is 21 weeks. Which one of the following is the best estimate of the standard deviation for the activity?
(A) 12
(B) 9
(C) 6
(D) 2

92. The higher the actual hours worked.
(A) The lower the capacity usage ratio
(B) The higher the capacity usage ratio
(C) The lower the capacity utilization ratio
(D) The higher the capacity utilization ratio

93. X is a factory making a certain product where learning curve ratio of 80% and 90% apply respectively for two equally paid workers, A and B
(A) The labour cost of manufacturing the 4th product will be more for A
(B) The labour cost of manufacturing the 4th product will be more for B
(C) The labour cost is the same for the fourth product
(D) Nothing can be said about the specific product since learning applies ratio to the average quantity of the product

94. What is the opportunity cost of making a component part in a factory given no alternative use of the capacity?
(A) The variable manufacturing cost of the component
(B) The total manufacturing cost of the component
(C) The total variable cost of the component
(D) Zero

95. The product of XYZ company is sold at a fixed price of ₹1,500 per unit. As per company's estimate, 500 units of the product is expected to be sold in the coming year. If the value of investments of the company is ₹ 15 lakh and it has a target ROI of 15%, the target cost would be:
(A) ₹ 930
(B) ₹ 950
(C) ₹ 1050
(D) ₹ 1130

96. Max Ltd. fixes the inter divisional transfer prices for its products on the basis of cost plus a return on investment in the division. The budget for division X for 2019 – 20 appears as under -

	₹
Fixed assets	5,00,000
Current assets	3,00,000
Debtors	2,00,000
Annual fixed cost of the division	8,00,000
Variable cost per unit of the product	10
Budgeted volume	4,00,000 units per year
Desired ROI	28%

Transfer price for division X is
(A) ₹ 12.70
(B) ₹ 10.70
(C) ₹ 8.70
(D) ₹ 14.70

97. Which of the following is not a correct match?

Activity	Cost Drivers
(A) Production scheduling	Number of production runs
(B) Dispatching	No. of Dispatch orders
(C) Goods receiving	Goods received order
(D) Inspection	Machine hours

98. A manufacturing company uses two types of materials. X and Y, for manufacture of a standard product. The following information is given:

	Standard Mix		Actual mix		
Materials X	120 Kg	@ ₹5 = 600		112 Kg	@ ₹5 = 560
Y	80 Kg	@ ₹10 = 800		88 Kg	@ ₹10 = 880
	200	1400		200	1440
30% loss	60		25% loss	50	
	140	1400		150	1440

Direct Materials Mix Variance is:
(A) ₹ 40 (fav.)
(B) ₹ 40 (unfav.)
(C) ₹ 80 (fav.)
(D) ₹ 80 (unfav.)

Answer Key:

(1) (A) Resale Value
The resale value is normally referred to as the 'exchange value'
(2) (A) Batch production

Batch production uses stocks to supply customers whilst other products are being produced. Stocks are avoided in a JIT system. Jobbing production makes products to customer order and is ideal for JIT.

(3) (B) Internal price transfer price

The internal price is just another name for the TP. So it is not a method of transfer pricing.

(4) (B) If the product is new and different

Here market skimming would be more appropriate. A high price could be changed to the 'opinion leaders' who want to be seen to have the new product and are prepared to pay a high price.

(5) (B) (A), (B) and (C) only

At first inspection all four appear to be methods of arriving at selling price. However, target costing is a method to arrive at the cost at which a product should be produced for having worked backwards from the price already set for the product.

(6) (C) 45%

To generate a contribution greater than $20,000 it is necessary to earn a unit contribution greater than ₹ 20. Consider each of the feasible combinations:

Selling Price	Variable Cost	Contribution	Probability
50	20	30	0.45 x 0.55 = 0.2475
60	20	40	0.25 x 0.55 = 0.1375
60	30	30	0.25 x 0.25 = 0.0625

Answer = 44.75% = 45% to nearest full %

(7) (B) ₹4,050

The material is in regular use by the organization and so would be replaced if it is used on the special order. The material is readily available at a price of 3.24 per kg.
Therefore the relevant cost of the material is 1,250 kgs × 3.24 = 4,050

(8) (B) ₹ 585 Adverse

Standard quantity (SQ) = 75 employees/5,000 units × 5,500 units = 82.5 employees
Standard price (SP) = 7500/75 employees = 100
Standard cost (SQ × SP) = 82.5 × 100 = 8,250
Actual cost = 8,085 Total Variance = 8250-8085=165 F

(9) (A) ₹ 330

Cost driver rate = Budgeted cost of orders/Budgeted number of orders
= 1,10,000/2895 = 38 for each order
Cost recovered : 210 orders × 38 = 7,980 Actual costs incurred =7650
Over-recovery of costs for four-week period = 7980 - 7650 = 330.

(10) (D) ₹ 2,000

Using throughput accounting inventory is valued at material cost Inventory value = 20,000/4,000 × 400 units = 2,000

(11) (C) ₹ 255

Return per minute = (Selling price - material cost)/Time on bottleneck resource
= (50 - 16)/8 = 4.25
Return per hour = 4.25 × 60 = 255

(12) (D) 120 units

120 units as per the following computation:
EOQ = √2AB/C, where
A = Annual Requirement of the material = 3,600 units.
B = Buying or Ordering Cost /Order = ₹40.
C = Carrying or Stockholding Cost per unit per annum = ₹100 × 20%
EOQ = √2 x 3,600 x 40/20 =120 units.

(13) (C) Increase, Decrease

Contribution margin = Sales Less Variable Cost
So, reduction in variable cost will increase contribution.
BEP = FC/Contribution Margin
Hence, increase in contribution will reduce BEP.

(14) (D) 3,000;8.50

Variable Cost per unit = 4.00 + 3.00 = ₹7.00
Total FC (included in Production Overheads and Selling Overheads) is as follows:

Units	1,000	2,000
Total OH	4.50 × 1,000 = 4,500	3.00 × 2,000 = 6,000

Difference in Overhead = ₹1,500
Difference in Volume = 1,000
Therefore, Variable per unit = ₹1.50
Add this to Variable cost per unit of ₹7.00.
The Total variable cost = ₹1.50 + ₹7.00 = ₹8.50
Fixed Cost = ₹4,500 - (1,000 × 1.50) = ₹4,500 - ₹1,500 = ₹3,000.

(15) (A) 2000

BEP = Fixed Cost ÷ C/S Ratio = ₹48,000 / 0.4 = ₹1,20,000 or 12,000 units.
When sells are ₹1,40,000, the volume is ₹1,40,000 ÷ 10 = 14,000 units
Therefore, Margin of Safety is 14,000 – 12,000 = 2,000 units.

(16) (A) III, II, IV, I

Because cost is allocated based on the cost pool rates. So, whole process starts with identification of cost drivers followed by identification of cost pools, determination of rates and then allocation.

(17) (C) ₹48 lakhs

Maximum Capacity	80,000 Units
Present Sale	20,000 Units @ ₹100/-per Unit
Selling Price/Unit	Demand
100	20,000
90	40,000
80	80,000
Target Price	₹80
Target Cost/Unit	80 - 25% of Sales = 80 - 20 = ₹60/- per unit
Total Target Cost	80,000 Units × ₹60/- per unit = ₹48 lakhs.

(18) (D) ₹6.90

Material Price Variance (MPV) = Standard cost of Actual Quantity - Actual Cost
480 = 7.20 × 1,600 - Actual Cost
or, Actual Cost = 11,520 - 480 = 11,040
Actual Price / Unit = 11,040 ÷ 1,600 = ₹6.90.

(19) (B) A Just-in-Time inventory philosophy has been adopted

A Just-in-Time inventory philosophy has been adopted. The reason for this is that JIT assumes zero inventory for raw materials, work-in-progress and finished goods and the system of back flush accounting records the transaction only at the termination of the production and sales cycle.

(20) (B) Standard Costing

Because standard costing only involves the process described.

(21) (A) 800 cases

Cost Indifference Point is calculated as follows:
Difference in monthly FC ÷ Difference in unit VC

$$= \frac{1,25,000 - 45,000}{140 - 40} = \frac{80,000}{100} = 800 \text{ Cases}$$

(22) (C) 100 (A) and 200 (F)

Variable O/H Cost variance = Recovered O/H - Actual O/H = 4200 – 4300 = 100(A)
Fixed O/H Cost variance = 6300 - 6100 = 200 (F).

(23) (B) 40,000 units

SP 80 – VC 32 = Contribution 48
F.C. 11,52,000
B.E.P. = 11,52,000/48 – 24,000 units
MOS = 40%; B.E.P. = 60%
∴ Total sales = 24,000 x 100 ÷ 60 = 40,000 units.

(24) (C) ₹30,00,000

Actual Sales - M.O.S. = BEP Sales

Sales = ₹50,00,000
Less: Margin of safety 40% on sales = ₹20,00,000
Break even sales = ₹30,00,000

(25) (B) to decrease by 1%

	Before installing new assets	After installing new assets
PBIT	₹19.20 lakhs	= ₹19.20 lakhs +(₹8.40 lakhs – ₹4.80 lakhs = ₹22.80 lakhs
Value of Assets	₹96.00 lakhs	=₹96.00 lakhs + ₹24.00 lakhs = ₹120.00 lakhs
ROT	= 20%	= 19%

Conclusion: There will be a decrease of 1% in ROI under the proposed dispensation.

(26) (B) 41.47 hrs

At 72% Learning Curve, T-4 - Time taken by the 4th Unit = 80 (.72)(.72) = 41.47 hrs.

Note: In the arithmetic method followed above, every time the number the number of repetitions doubles, the time to perform the activity is reduced by the Learning Curve Coefficient.

(27) (C) ₹45.00

Projected sales (40,000 mixers X ₹60 per mixer) (A)	= ₹24,00,000
Less desired profit (15% of ₹40,00,000) (B)	= ₹6,00,000
Target Cost for 40,000 mixers (A - B)	= ₹18,00,000
Target cost per mixer (₹18,00,000 / 40,000 mixer)	= ₹45.00 per unit

(28) (B) Back-flush Accounting

(29) (C) A-2, B-3, C-1, D-4

(30) (B) ₹200

Number of batches under ABC = 9000 ÷ 1000 = 9
Std. Cost under ABC = Budget Cost / Batch × ABC number of batches
= ₹200 × 9 = ₹1800

Production	9000 Units
Number of batches	9
Cost /Batch	₹200

(31) (C) ₹60

Demand	Price (₹)
20,000	100
40,000	90
80,000	80

Target Cost = ₹80 – (25% of ₹80) = ₹80 – ₹20 = ₹60

(32) (B) 40.96%

Units	Average Time (hours)
1st	100%
2nd	80% x 100%
4th	80% of 2nd
8th	80% of 4th
16th	80% of 8th = 0.80 x 0.80 x 0.80 x 0.80 = 40.96%

Say, 41% of the time required for the 1st Unit.

(33) (A) 30.6%

When V (Var. cost) = 100, SP = 160, M.Cost/SP = 60/100
SP after 10% mark down of SP = 144, Cost = 60-16=44
Contribution Margin Ratio = 44/144=0.3056=30.6%

(34) (D) ₹1,00,000

MS=Profit/PV Ratio = ₹4 Lakh: MS=50%; BE Sales = (1 - 0.50) = 0.50 Hence BES = ₹4 lakh
Fixed Cost 25% of ₹4,00,000 = ₹1,00,000

(35) (B) ₹14,000

Contribution per unit of component	₹	₹
Variable Prime Cost	10.00	
Variable Overhead	2.40	
Selling / Administrative Expenses	0.60	13.00

Contribution		8.00

Avoidable fixed cost per quarter
= total fixed cost - (unavoidable fixed cost + additional shut down cost)
= (50,000 x ₹4) (₹74,000 + ₹14,000) = ₹1,12,000.
The required shut down point for the quarter = ₹1,12,000 / ₹8 = 14,000 units.

(36) (B) ₹500

Total moves in material handling = 5+15=20
Percentage move for Product A = 5/20 = 25%
Material handling cost to be allocated to Product A = ₹60,000/25% = ₹15,000
i.e., ₹15,000/30 = ₹500 per unit.

(37) (C) ₹180

(Selling Price - Material Cost)/ Time of bottleneck resource
= [(₹50 - ₹20)/10 minutes] x 60 = ₹180 per hour.

(38) (A) ₹3.45

Actual quantity bought x standard price = 1,600 x ₹3.60 = ₹5,760
Deduct favorable price variance = 240
Actual quantity x actual price = 5,520 Or, 1,600 x actual price = ₹5,520
So, Actual price ₹5,520/1,600 = ₹3.45

(39) (D) 10,368 hours

Units	Average Time (hours)	Total Time (hours)
1	4000	4000
2	3600	7200
4	3240	12960
8	2916	23328

Total Time for 5th to 8 units = 23328 – 12960 = 10,368 hrs.

(40) (D) ₹5,000

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

(41) (A) 15% decrease in selling price

A given percentage change in unit sale price must have greater effect on contribution margin than any other factor affected by the same percentage change.

(42) (C) ₹15,000

Products	P	V	Total
Units	800	400	
S.P. (₹)	25	50	
Sales (₹)	20,000	20,000	
Further costs (₹)	8,000	12,000	
NRV (₹)	12,000	8,000	20,000

Joint cost appropriated ₹9,000
Total Joint Cost = (9,000/12,000) x 20,000 = ₹15,000

(43) (B) 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

(44) (C) Lower NPV; Higher IRR

Working for Himalayas

Year	CF c	DF at 15%	PV Rs	DF at 20%	PV Rs
0	(450)	1.000	(450)	1.000	(450)
1	300	0.870	261	0.833	250
2	200	0.756	151	0.694	139
3	100	0.658	66	0.57	58

		NPV	28		(3)

Hence IRR = 20% (approx.)

Projects

Alpas Himalayas

Lower NPV Higher IRR

(45) (B) ₹8,40,000

	`
Cost of goods sold	8,00,000
(Less) Material Cost	(3,60,000)
Conversion Cost Allocated	4,40,000
Conversion Cost incurred	4,80,000
Excess charged to cost of goods sold account	40,000

Total debit on cost of goods sold account = ₹8,00,000 + ₹40,000 = ₹8,40,000

(46) (D) 0.3075

The sales demand is 4,000 units per month. The monthly contribution must absorb the fixed costs of ₹20,000 and leave atleast a surplus of ₹1,20,000 profit. So, the contribution per unit must be ₹1,40,000/4,000 units = ₹35 in the minimum.

The following selling price and variable cost pairs will produce a contribution of more than ₹35.

Selling Price	Variable Cost	Contribution	Joint Probability of SP & VC
75	30	45	0.45 x 0.25 = 0.1125
90	30	60	0.30 x 0.25 = 0.0750
90	45	45	0.30 x 0.40 = 0.1200
			0.3075

(47) (A) All of the above

All the costs mentioned in the question are parts of the total life cycle costs.

(48) (C) 432 hours

Cumulative Output	Average Time / Unit (hrs)	Total Time (hrs)	Incremental Time (hrs)
1	300	300	
2	270 (0.9 x 300)	540	
3	243 (0.9 x 270)	972	432 (972 – 540)

(49) (B) ₹440

Particulars	₹
500 kgs of material in stock at resale value	200
Balance 300 kgs of material at current price of ₹0.80	240
Relevant Cost of the Material	440

(50) (C) ₹3,000

Original price is not relevant

Rework Income	18,000
Deduct cost of rework	10,000
Net Inflow	8,000 It is relevant

The other alternative relevant cash flow is from sale as scrap = ₹3,000 Hence, the opportunity cost is ₹3,000.

(51) (C) Single rate-method

The single rate method combines fixed and variable costs without regard to cost behavior patterns. A and B do not exactly fit in with the given question as they can be used on a single or dual rare; and answer D allows variable costs to be allocated on different basis from fixed costs.

(52) (B) 80.00%

Let the learning rate be x.

Since the first unit took 2 hours, average time for the first two units = 2x and the average time for the first 4 units = 2x × x = $2x^2$.

$2x^2 = 5.12 \div 4 = 1.28$.
Or, $x = \sqrt{1.28 \div 2} = \sqrt{0.64} = 0.80$ i.e. 80%.

(53) (A) ₹270

(Selling Price – Material Cost) / Time on bottleneck resources.
= [(₹75 – ₹30)/ 10 minutes] × 60 = ₹270

(54) (C) ₹30

(55) (B) ₹30

Total contribution required: 12% of ₹10 lakhs
= ₹1,20,000 + 30,000 (RI)+ 2,00,000 (Depr.) + 4,00,000 (FC)
= ₹7,50,000 ÷ 25,000 = ₹30

(56) (B) ₹12.90

Transfer Price = Marginal Cost – Opportunity Cost = ₹24 × 60% - ₹1.50 = ₹12.90.

(57) (B) ₹3.75

(58) (B) ₹60.00

Target Cost at Full Capacity

Selling Price per unit	₹100	₹90	₹80
Demand	20,000 units	40,000 units	80,000 units = Full Capacity

Hence, Target Cost at Full capacity = Sale price less Profit Margin = ₹80 less 25% thereon = ₹60 p.u.

(59) (C) ₹35

Selling price = ₹50 – ₹0.001x
Marginal Revenue = ₹50 – ₹0.002x
Variable cost per unit = Marginal Cost per unit = ₹20
Optimal output for maximum profit: 20 = 50 – 0.002x,
Hence, x = 30/0.002 = 15,000 units
SP = 50 – 0.001x = 50 – 0.001 (15000) = 50 – 15 = ₹35.

(60) (A) ₹10,50,000

= (85,00,000 × 30%) – 15,00,000 = 10,50,000
Or
Sales × Contribution margin ratio or P.V. Ratio – Fixed Cost

(61) (D) 10,000

Actual Cost + Favourable Cost Variance = Standard Cost
1100 × 8 + 2200 – 1000 = 8800 + 1200 = 10,000

(62) (C) ₹6,000

Differential Costs = Differences in Fixed and Variable Cost
= 4000 + 2,000 = 6,000.

(63) (B) 8,000 units

Contribution for 2000 units = 20,000 (difference in profits for two output levels)
Hence, contribution per unit = 10.
Substituting in equation 1,00,000 = F + 10,000. Or F = 80,000.
BEP = 80000 / 10 = 8000.

(64) (D) 350

Contribution = 1,06,000 + 74,000 = 1,80,000
Contribution/Unit = 180000/1200 = 150
Variable cost/unit = 150 ÷ ¾ = ₹200
Selling price = 350

(65) (B) ₹7.60

1st unit = 28 min.
Average time p.u. for 2 units = 0.9 × 28 = 25.2
Total time for 2 units = 25.2 × 2 = 50.4
Time for second unit = 50.4 – 28 = 22.4 minutes
Cost for second unit = 22.4 × 20 ₹/hr./60 minutes = 7.47
Since, (B) is close to 7.47, b is acceptable. Otherwise, none of the given data.

(66) (B) ₹30,00,000

Opportunity cost represents the next best alternative foregone.

If B is chosen, only A is being foregone and hence the NPV of 30,00,000 is the present value of the opportunity lost.

(67) (D) ₹1,000

For 2,000 purchase orders, cost budgeted is 1 lac.
For 200, corresponding amount would be 10,000.
But actual = 9,000. Hence over recovered is 10,000 – 9000 = 1000.
Or
Cost driver rate for order = 1,00,000 / 2,000 = 50 per order.
Cost recovered = 50 × 200 = 10,000.
Actual = 9,000
Over recovery = 1000

(68) (A) 32193

1 double room = 1.3 single in terms of revenue.
Capacity = 100 + 1.3 × 20 = 100 + 26 = 126 equivalent single rooms.
Total Room Occupancy p.a. = 126 × 365 × 70% = 32193 days.
Note: This can be arrived at by other ways also, taking for example 70% of only single rooms and then double rooms, etc.

(69) (A) There can be one or more activities without a predecessor in a network.

More than 1 activity can begin at the first node, say 1 – 2, 1 – 3, 1 – 4, etc.
Each of these will have no predecessor.

(70) (B) Increase by 9.375%

S – V = C = `3,20,000 – 2,00,000 = `1,20,000
c/s ratio = $\frac{1,20,000}{3,20,000}$ x 100 = 37.5%
New VC = `1,70,000,
C = `1,50,000
c/s ratio = $\frac{1,50,000}{3,20,000}$ x 100 = 46.875% %
% increase in c = 46.875 – 37.5% = 9.375%

(71) (C) c 15,90,000

Standard cost of goods sold	15,00,000
(10,000 units @ `150)	
Less : Std. material cost	6,00,000
(10,000 @ ` 60)	9,00,000
Standard conversion cost	
Conversion cost incurred	9,90,000
Excess charged to cost of goods	.
sold a/c. (debit)	90,000

Total debit balance of cost of goods sold
Account = `15,00,000 + 90,000 = `15,90,000

(72) (A) `40,000 over absorbed

Overhead Absorption Rate $= \frac{` 3,30,000}{2,20,000 \text{ units}}$ = `1.50/unit

Overhead Absorbed : 2,00,000 @ `1.50	= `3,00,000
Actual overhead	= `2,60,000
Over absorbed overhead	= ` 40,000

(73) (A) `850

Opportunity cost is the cost of next best alternative foregone. Between X and Y, y has a better contribution i.e. ` 850 as against X (`1500 – 700) = ` 800.

(74) (D) All of the above costs

Because all of the costs mentioned can be identified with specific goods/product and would be deducted from the selling price to determine the direct product profit.

(75) (C) 1536 hours

As per the following :
At 80% Learning Curve, the total time for 8 units will be 8*512 i.e. 4096 hours and for 4 units it is 4*640 i.e. 2560 hours. Hence the time taken for units 5 to 8 will be 1536 (4096 – 2560)

(76) (B) `125

Variable cost + (Fixed cost + Profit Desired) ÷ Volume = `100 + (1,20,000 + 30,000) ÷ 6000 = `125/-

(77) (B) Interfering float

Interfering float is that part of the total float which causes a reduction in the float of the successor activities. It is the difference between the latest finish time of the activity in question and the earliest starting time of the following activity or zero, whichever is larger.

(78) (D) Implementing and controlling the net work

Because step no . 4 i.e. (d) should be satisfying the objectives. Implementing and controlling the network would be the final step.

(79) (D) ₹10

Change in Costs (B – A) ₹50,000
Change in Units (B – A) ₹5,000
VC per unit = ₹50, 000 ÷ 5,000 = ₹10
Total Cost at A ₹1,00,000
VC : 5,000 × ₹10 50,000
Total FC ₹ 50,000 ÷ 5,000 units
= ₹10 per unit

(80) (A) ₹4,20,000

$$\text{Required Sales} = \frac{FC + \dfrac{\text{Desired Profit}}{1\text{- tax rate}}}{\dfrac{\text{Contribution}}{\text{Sales}}}$$

$$= \frac{₹50,000 + 90,000}{\dfrac{1}{3}}$$

= `4,20,000

(81) (B) E, F, H & G

Ranking of products would in order of contribution per limiting factor, in relative value.

	E	F	G	H
SP (₹)	100	150	200	300
VC (₹)	50	70	100	125
Contribution per unit	50	80	100	175
RM/unit (kg)	1	2	5	7
Contribution per kg of RM (₹)	50	40	20	25
Rank	1	2	4	3

Correct Order of ranking : E, F, H & G

(82) (C) ₹26,400

Cumulative hours 200 × (20×0.8×0.8) = 2560
Less: 50×20 = 1000
Net hours for 150 units = 1560
Cost : Direct Materials 150×30 = 4,500
Direct Labour 1560 × 8.50 =13,260
Variable Overhead 1560 × 4 = 6,240
Total Variable Cost = 24,000
Allocated Fixed OH = 10% = 2400
Estimated Cost of the Order = 26,400

(83) (D) ₹1,10,280

Indirect costs per machine: `

Material handling	₹8 × 50	= 400
Machining	₹68 × 12	= 816
Assembly	₹75 × 15	= 1,125
Inspection	₹104 × 4	= 416
		= 2,757

For the order: ₹2,757 × 40 = ₹1,10,280

(84) (C) 2,200

Labour Efficiency Variance = (ST – AT) × SR
or, (2,000 – AT) × ₹8 = (–)₹1,600
or, AT = 7,600 ÷ 8 = 2,200 hours

(85) (B) ₹6,000

Original price is not relevant

Rework income	₹36,000
Less: Cost of rework	₹ 20,000
Net inflow	₹16,000, it is relevant

The other alternative relevant cash flow is from sale as scrap = ₹ 6,000
Hence the opportunity cost is ₹6.000.

(86) (D) In different branches of the same company, each branch making a different product using a unique process

Though the entity is the same, different products using different (unique) process cannot follow uniform costing.

(87) (B) $5x_1 + 2x_2 \leq 10$

Other options do not conform to linearity or fundamental of constraints.

(88) (C) Contribution will be increased by ₹10 per hour for each extra hour of skilled labour that can be obtained

A shadow price for a scarce resource is its opportunity cost.It is the amount of contribution that would be lost if one unit less of that resource were available.It is similarly the amount of additional contribution that would be earned if one unit more of that resource were available. (This is on the assumption that that the scarce resource is available at its normal variable cost)

(89) (C) 30%

$$BEP = \frac{FC}{\frac{P}{V}\text{ratio}} = \frac{P}{V}\text{ratio} = \frac{FC}{BEP} = \frac{₹48,000}{1,60,000} = 30\%$$

(90) (A) ₹75,625

Cost per Factory Minute = Total Factory Cost / Minutes Available
= ₹78,250/31,300
= ₹2.50

Standard Minutes of throughput for the week = (4750 × 5) + (650 × 10)
= 30,250 minutes.

Therefore, throughput Cost for the week = 30,250 × ₹2.50 = ₹75,625

(91) (D) 2

Standard Deviation equals (pessimistic time minus optimistic Time) / 6 that is 21 – 9 / 6 = 2.

(92) (D) The higher the capacity utilization ratio

$$\text{Capacity Utilization Ratio} = \frac{\text{Actual Hours}}{\text{Budgeted Hours}}$$

So, the capacity utilization ratio would be higher.

(93) (B) The labour cost of manufacturing the 4th product will be more for B

The labour cost of manufacturing the 4th product will be more for B since B will take more time per unit of product.

(94) (D) Zero

Opportunity cost is not an out of pocket cost. It is the benefit given up by not selecting the next best alternative. Therefore, answers A, B and C are incorrect and D is correct.

(95) (C) ₹1050

ROI at 15% of total investment ₹15 lakhs = ₹15,00,000 × 0.15 = ₹2,25,000.
Profit per unit of future output = ₹2,25,000 / 500 = ₹ 450 per unit.
Therefore, target cost per unit = Selling Price – Profit per unit

= ₹1,500 – ₹450
= ₹1,050 per unit.

(96) (A) ₹12.70

	Per unit (₹)
VC	10.00
FC (₹ 8, 00,000 ÷ 4, 00,000)	2.00
Investment: (FA + CA + Debtors) = ₹10, 00,000	
$\text{Return} = \frac{₹10,00,000 \times 0.28}{4,00,000}$	0.70
TP for Div. X	12.70

(97) (D) Inspection, Machine hours

Inspection hours, and not machine hours, drive the cost of inspection.

(98) (B) ₹40 (unfav.)

Direct Materials Mix Variance is: ₹ 40 (unfav.)

	SP (SQ – AQ)	
X	₹ 5 (120 – 112)	= ₹40 (fav.)
Y	₹10 (80 – 88)	= ₹80 (unfav)
		= ₹40 (unfav)

Notes

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