



Date: 11-07-2025

Dept. No.

Max. : 100 Marks

Time: 10:00 AM - 01:00 PM

SECTION- A

ANSWER ALL THE QUESTIONS

(30X2=60Marks)

1. Which of the following are the responsibilities of a profit centre manager?

(i) Revenues of the centre (ii) Costs of the centre (iii) Assets used in the centre
A (i) only B (ii) only C (i) and (ii) only D (i), (ii) and (iii)

2. An organization's total costs are as follows at three activity levels:

Activity level (units)	8,000	12,000	15,000
Total cost	\$204,000	\$250,000	\$274,000

Variable cost per unit is constant within this activity range and there is a step up of 10% in the total fixed costs when the activity level exceeds 11,000 units. What is the total cost for an activity level of 10,000 units?

A \$220,000 B \$224,000 C \$227,000 D \$234,000

3. The following data relate to two output levels of a department:

Machine hours	17,000	18,500
Overheads	\$246,500	\$251,750

What is the amount of fixed overheads?

4. The data below shows the overhead expenditure of contract cleaners at two activity levels.

Square metres cleaned	12,750	15,100
Overheads	\$73,950	\$83,585

Using the high-low method, calculate the overhead cost for cleaning 16,200 square meters.

A \$88,095 B \$89,674 C \$93,960 D \$98,095

5. Production and total cost information for a single product organization over the past three months:

Month	Production (units)	Total cost (\$)
1	1,200	66,600
2	900	58,200
3	1,400	68,200

At 2,000 units per month, the variable cost per unit remains constant. However, when production reaches 1,100 units per month, the monthly total fixed cost increases by \$6,000.

What is the total cost for a month when 1,000 units are produced?

A \$54,200 B \$55,000 C \$59,000 D \$60,200

6. A company's weekly costs (\$C) were plotted against production level (P) for the past 50 weeks and a regression line calculated to be $C = 1,000 + 250P$. Which statement regarding the breakdown of weekly costs is correct?

A Weekly fixed costs are \$1,000, variable costs per unit are \$5
B Weekly fixed costs are \$250, variable costs per unit are \$1,000
C Weekly fixed costs are \$1,000, variable costs per unit are \$250
D Weekly fixed costs are \$20, variable costs per unit are \$5

7. The correlation coefficient (r) between two variables (x and y) was calculated as 0.6. What proportion of the variation in the dependent variable (y) can be explained by variation in the independent variable (x)?
- A 36% B 40% C 60% D 64%
8. Which correlation coefficient represents the weakest relationship between two variables?
- A +1.0 B +0.4 C -0.6 D -1.0
9. Regression analysis is being used to determine the line of best fit ($y = a + bx$) from five pairs of data. The calculations yielded the following information:
 $\Sigma x = 129$ $\Sigma y = 890$ $\Sigma xy = 23,091$ $\Sigma x^2 = 3,433$ $\Sigma y^2 = 29,929$
 What is the value of 'a' in the equation for the line of best fit (to the nearest whole number)?
- A 146 B 152 C 210 D 245
10. Which of the following is a feasible correlation coefficient value?
- A +1.2 B 0 C -1.2 D -2.0
11. Two years ago, the price index appropriate for the cost of material X was 120. Its current value is 160. How much would material X cost per kg two years ago if it was \$2,000 today?
- A \$1,500 B \$1,667 C \$2,667 D \$3,200
12. A company analyzed a customer's last 7 orders and found that they purchased 10, 22, 3, 6, 17, 14, and 19 items. Which two of the following statements are true?
- A The arithmetic mean is 13 B The median is 6
 C The arithmetic mean is 15 D The median is 14
 E The arithmetic mean value exceeds the median value
13. A company's sales pattern for one product is normally distributed, with an average of \$110. The probability of a sale for more than \$120 is 0.0119.
 What is the standard deviation of sales (to two decimal places) based on normal distribution?
- A \$4.41 B \$4.42 C \$4.43 D \$4.44
14. A factory has two cost centers: P and Q for production, and X and Y for service. The total allocated and apportioned overhead for each is shown below:
- | | P | Q | X | Y |
|--|----------|----------|----------|----------|
| | \$95,000 | \$82,000 | \$46,000 | \$30,000 |
- Each service cost center contributes to the other cost centers in the proportions shown below:
- | | P | Q | X | Y |
|--|----|----|----|----|
| Percentage of service cost centre X to | 40 | 40 | — | 20 |
| Percentage of service cost centre Y to | 30 | 60 | 10 | — |
- What is the total overhead for production cost center P after reapportioning service cost centers using a method that takes into account reciprocal arrangements in the factory?
- A \$122,400 B \$124,716
 C \$126,000 D \$127,000
15. Last month, a manufacturing company's profit was \$2,000 based on absorption costs. If marginal costing principles were applied, a \$3,000 loss would have occurred. The company has a fixed production cost of \$2 per unit. Last month, sales totaled 10,000 units. What was the last month's production (in units)?
16. A process has a normal loss of 10% and a budgeted output of 4,500 litres per period. The raw material inventory starts at 600 litres and is expected to grow by 20% by the end of the period. What is the material-usage budget?
- A 4,500 litres B 5,000 litres C 5,133 litres D 5,120 litres

17. A company makes three products, L, M and N. The following information is available:

	L	M	N
Budgeted production (units)	200	400	300
Machine hours per unit	5	6	2
Variable overheads	\$2.30 per machine hour		
Fixed overheads	\$0.75 per machine hour		
What is the total overhead budget?			

A \$12,200 B \$12,000 C \$11,590 D \$10,980

18. The following extract is taken from the overhead budget of TET Ltd:

Budgeted activity	50%	75%
Budgeted overhead	\$100,000	\$112,500

What would the budgeted overhead cost be for an activity level of 80%?

A \$115,000 B \$120,000
C \$160,000 D \$360,000

19. A bookstore has a steady demand for notebooks at 50 per month. Each notebook costs \$6 from the supplier. The ordering cost is \$10 per order, and the stockholding cost is 20% of the inventory value per year. **How many orders will be placed annually?**

A 1.73 B 6 C 8.48 D 100

20. ABC Manufacturing has an annual demand of 1,000,000 units for aluminum sheets. Each sheet costs \$0.15. The procurement cost per order is \$20, and the lead time is estimated at 2 days. With 250 working days per year, the inventory carrying cost is \$0.10 per unit, and the stockout cost is \$0.20 per unit. What is the optimal reorder level?

21. XYZ Foods expects a normal loss of 10% during the production of packaged flour. The actual output was 3,550 kg, with an unexpected additional loss of 50 kg. How many kilograms of raw material were input into the process?

22. A delivery van transported construction materials to two different sites in a week. The following details are available:

Site	Weight of materials delivered (kilograms)	Distance covered (kilometres)
A	400	150
B	250	900
Total	650	1,050

The van incurred an operating cost of \$2,500 for the week. Each site delivery was carried out separately, and no other deliveries were made during the week. What is the cost per kilogram per kilometer of construction materials transported in the week? (Round to the nearest **\$0.001**).

A) \$0.012 per kg/km B) \$0.009 per kg/km
C) \$0.015 per kg/km D) \$0.007 per kg/km

23. The cost of raw materials for Product B is as follows:

- Material P: \$1,800
- Material Q: \$2,400
- Material R: \$4,200
- Material S: \$600

If the material proportions were displayed on a pie chart, how many degrees would Material R represent?

24. When setting cost standards, which of the following would NOT be an appropriate approach?

- A) Using the expected level of production activity to allocate fixed overhead costs.
- B) Setting material cost standards based on typical market prices, including common supplier discounts.
- C) Using the actual wage rate paid to workers as the labour cost standard.
- D) Determining standard material usage based on industry norms and best practices.

25. The Raw Materials Control Account for a company for the month of March is as follows:

RAW MATERIALS CONTROL ACCOUNT

Debit	\$	Credit	\$
Opening Balance	24,000	Work in Progress	80,000
Raw Material Purchases	98,000	Overhead Control	24,000
Transfers to WIP	36,000	Closing Balance	54,000
Total	158,000	Total	158,000

Which of the following statements are correct?

- (i) Issues of direct materials during March were \$36,000
- (ii) Issues of direct materials during March were \$80,000
- (iii) Issues of indirect materials during March were \$24,000
- (iv) Purchases of materials during March were \$98,000

A) (i) and (iv) only

B) (ii) and (iv) only

C) (ii), (iii), and (iv) only

D) All of them

26. Employee B is a welder who typically works 36 hours per week. The standard hourly wage is \$3.60 per hour. For any overtime hours worked, a 50% premium is applied to the basic hourly rate.

During the last week of October, Employee B worked 42 hours in total. The overtime hours were worked for the following reasons:

- Machine downtime: 4 hours
- Completion of a special project for a client: 2 hours

How much of Employee B's earnings for the last week of October would be classified as direct wages?

27. BrightTech Solutions had 4,000 employees at the beginning of 2023, but by the end of the year, the workforce had decreased to 3,800 due to redundancies. Out of the total redundancies, 210 employees opted for voluntary retirement, which was 10 more than expected. These 10 employees were replaced with new hires. What is the annual labor turnover rate for 2023?

28. Bright Wave Manufacturing Ltd. operates a job costing system. Job number 908 requires \$300 worth of direct materials and \$400 of direct labor. Direct labor is paid at a rate of \$8 per hour. Production overheads are absorbed at \$26 per direct labor hour. Non-production overheads are absorbed at 120% of prime cost. What is the total cost of job number 908?

29. XYZ Manufacturing Ltd. has prepared a materials budget for the production of 5,000 units of its product. The budgeted material requirement is 25,000 litres at a standard cost of \$3.30 per litre. During the first month of production, the company purchased 30,000 litres at a total cost of \$105,000, out of which 28,000 litres were used to produce an actual output of 5,900 units. What was the material usage variance?

30. Evergreen Chemicals Ltd. operates a continuous process that produces three chemical compounds and one by-product. The monthly output from the process is as follows:

Product	Selling Price per Unit	Units of Output from Process
Compound A	\$36	20,000
Compound B	\$50	40,000
Compound C	\$40	40,000
By-product D	\$4	7,000

Total joint costs for the month: \$554,000. Using the sales revenue basis for allocating joint costs and assuming that the revenue from the by-product is deducted from total joint costs, what is the unit cost valuation for Compound C?

SECTION -B
ANSWER ALL THE QUESTIONS **(4X10=40 Marks)**

31. Siz Ltd manufactures one product and can produce 5,000 units per period when operating at full capacity, but has recently been operating below capacity. The following is the flexible budget prepared at the start of the previous period for three levels of activity at below capacity:

Level of activity (units)	3,500	4,000	4,500
	\$	\$	\$
Direct materials	7,000	8,000	9,000
Direct labour	28,000	32,000	36,000
Production overheads	34,000	36,000	38,000
Administration, selling and Distribution overheads	15,000	15,000	15,000
Total cost	84,000	91,000	98,000

In the end, production was even lower than expected, at only 2,500 units. The following expenses were incurred:

	\$
Direct materials	4,500
Direct labour	22,000
Production overheads	28,000
Administration, selling and distribution overheads	16,500
Total cost	71,000

Required:

Use the information given above to prepare the following.

- (a) A flexed budget for 2,500 units. **(5 marks)**
(b) A budgetary control statement. **(5 marks)**

32. A company is considering investing in several projects. The following information applies to three projects:

Project 1: Investment of \$119,000 at the start of the project.

Net cash inflow of \$13,500 per annum in perpetuity.

Project 2: Investment of \$241,000 at the start of the project.

Net present value (NPV) at 20% of (\$23,000) i.e. negative, based on net cash inflows of:

1st year	\$60,000
2nd year	\$65,000
3rd year	\$70,000
4th year	\$100,000
5th year	\$85,000

Project 3: Investment of \$186,000 at the start of the project.

For five years, annual net cash inflows have remained constant. IRR of 14%.

Assume that net cash inflows occur at the end of each year.

The company's cost of capital is 10%.

Required:

- Calculate the net present value (NPV) of Project 1 at the company's cost of capital (to the nearest \$). **(2 marks)**
 - Calculate the estimated internal rate of return (IRR) % of Project 2 (to 1 decimal place). **(3 marks)**
 - Calculate the annual net cash inflow of Project 3 (to the nearest \$). **(3 marks)**
 - If the company's cost of capital increased to 15%, which project would be invested in? **(2 marks)**
- (Total: 10 marks)**

33. (A) Greenwood Ltd. manufactures outdoor tables, with a standard direct material cost as follows:
6 kilograms of Material X at \$15 per kilogram = \$90 per table. During March 20X7, the company produced 2,500 tables, using 12,000 kilograms of Material X, which cost \$175,000.

Calculate the following variances:

- The direct material total variance. **(2 marks)**
- The direct material price variance. **(2 marks)**
- The direct material usage variance. **(2 marks)**

(B) A company follows standard marginal costing. Its budgeted contribution for the last month was \$30,000, while the actual contribution was \$20,000. The following variances have been calculated:

- Sales volume contribution variance = \$5,000 adverse
- Sales price variance = \$10,000 favorable
- Fixed overhead expenditure variance = \$3,000 favorable

- What was the total variable cost variance? **(2 marks)**
- Describe the purpose of an operating statement. **(2 marks)**

34. A) The following information relates to two products, X and Y, which are obtained from a joint production process:

Product	Quantity Produced (kg)	Sales Price at Split-Off (\$ per kg)	Further Processing Costs	Sales Price After Further Processing (\$ per kg)
Product X	400	20.00	\$1,120 + \$8.00 per kg	33.60
Product Y	400	8.00	\$640 + \$5.60 per kg	15.00

- Based on the given data, should each product be sold at the split-off point or processed further? Justify your answer with calculations and reasonable explanation **(3 marks)**
- Explain the key difference between joint and by products with an apt example. **(2 marks)**

B) A business is forecasting the value of their sales for the first quarter of the coming year. Current year values to date are as follows:

Month	Sales value
June	851
July	771
August	916
September	935
October	855
November	1,000
December	1,019

Required:

Using moving averages calculate the forecast sales values for January to March.

(5 marks)
