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PART - I

Case Scenerio - I :

Spice Guard Ltd. manufactures 'Pepper Spray' that is used by women for their self-defence. As per the estimates, there will be an average quarterly total market demand of 3,125 units of 'Pepper Spray'. Spice Guard Ltd. is expected to have 8% market share of the total market demand of the 'Pepper Spray'.

The company produces the 'Pepper Spray' using two raw materials - 'OC' and 'OE'. Each unit of pepper spray requires 4 kgs. of 'OC' and 1.6 kgs. of 'OE'.

	'OC'	'OE'
Ordering Cost per order	₹ 3,125	₹ 500 = 0
Storage rate	5% per annum	₹ 2.5 per kg. per month
Interest rate	13% per annum	1.25% per quarter
Obsolescence rate	2% per annum	-
Raw material price	₹ 2,000 per kg.	₹ 200 per kg.

A = 1000

C = 40

On the basis of above case scenario, you are required to answer the following (MCQs 1 to 5) :

1. What is the total annual cost of raw material 'OC' at Economic Order Quantity (EOQ) level? 2
 (A) ₹ 80,00,000 (B) ₹ 81,20,000
 (C) ₹ 81,00,000 (D) ₹ 80,40,000
2. What is the total annual cost of 'OC,' if the company proposes to keep order size to 200 kgs. of 'OC' per order? 2
 (A) ₹ 80,80,000 (B) ₹ 81,00,000
 (C) ₹ 81,25,000 (D) ₹ 81,02,500
3. What is the annual demand for raw material 'OC' and 'OE'? 2
 (A) 4,000 kgs & 1,600 kgs respectively
 (B) 1,000 kgs & 400 kgs respectively.
 (C) 12,500 kgs & 5,000 kgs respectively.
 (D) 50,000 kgs & 20,000 kgs respectively

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4. What is the Economic Order Quantity (EOQ) in kgs. for raw material 'OE' required by Spice Guard Ltd. ? 2

- (A) 500 kgs. (B) 200 kgs.
(C) 400 kgs. (D) 231 kgs.

5. What is the Economic Order Quantity (EOQ) in kgs. for raw material 'OC' required by Spice Guard Ltd. and number of orders to be placed in a year ? 2

- (A) 250 kgs. and 16 orders (B) 210 kgs. and 19 orders
(C) 200 kgs. and 20 orders (D) 400 kgs and 10 orders

6. In a factory, during the month of October 2025, the following transactions have occurred in respect of purchase and issue of "Material A."

Material A

Stock on 01.10.2025, 100 units at ₹ 50 per unit

Purchases :

05-10-2025, 2,500 units at ₹ 55 per unit

08-10-2025, 600 units at ₹ 56 per unit

Issues :

15-10-2025, 1,500 units

What is the value of material A consumed during the period, using LIFO method of pricing issues ? 2

- (A) ₹ 82,000 (B) ₹ 83,100
(C) ₹ 82,500 (D) ₹ 84,000

7. The following information has been given regarding the two machines of a manufacturing department of X Ltd. for the month of September 2025.

Particulars	Total cost	Machine A	Machine B
Spare parts cost (in ₹)	1,00,000	40,000	60,000

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Further estimates for the month of October 2025 :

- (i) There is an increase of 15% in the prices of spare parts of both machines.
- (ii) There is an increase of 25% in the consumption of spare parts of machine B only.

What is the total spare parts cost for the month of October 2025 ?

- (A) ₹ 1,43,750
- (B) ₹ 1,25,000
- (C) ₹ 1,26,500
- ~~(D) ₹ 1,32,250~~

8. A company's wage budget for the last month was based on a standard production time of 30 minutes per unit and a standard wage rate of ₹ 50 per hour.

During the last month, it produced 30,000 units. The labour rate variance was ₹ 7,500 adverse and the labour efficiency variance was nil.

What is the actual wage rate per unit during the last month ?

- (A) ₹ 25.50
- (B) ₹ 50.00
- (C) ₹ 50.50
- (D) ₹ 25.25

9. T Ltd., a textile manufacturing company, recovers factory overheads on a fixed percentage basis on direct wages and administrative overheads at 25% on factory cost.

The company has furnished the following data for Job 201 :

Direct materials are ₹ 56,350, Direct wages are ₹ 45,000, Sales are ₹ 1,90,000 and profit is 25% on total cost.

What is the percentage recovery rate for factory overheads for Job 201 ?

- (A) 40%
- (B) 35%
- (C) 45%
- (D) 50%

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10. A garment factory stitches each shirt through a single hand sewing machine operator. The sewing time required to stitch each shirt is 15 minutes. Operator is paid at ₹ 65 per hour. The factory works for 40 hours per week and the production target is 480 dozens of shirts per week.

What is the number of hours and the number of operators required to meet the shirts target ?

- (A) 1,440 Hours & 36 Operators
- (B) 1,800 Hours & 45 Operators
- (C) 1,800 Hours & 36 Operators
- (D) 1,440 Hours & 40 Operators

Case Scenario – II :

Zed Manufacturing Ltd. produces three different types of specialized products namely X, Y and Z. The following information has been collected from their books of accounts for the year ended March 2025 :

Particulars	Products		
	X	Y	Z
Sales (in ₹)	40,00,000	23,80,000	16,20,000
Selling Price per unit (in ₹)	500	700	400
Variable Cost per unit (in ₹)	250	420	240

- Total fixed costs : ₹ 18,00,000

Zed Manufacturing Ltd. is currently discussing proposals to maintain a sales mix ratio, to discontinue the manufacturing of Product Z and replace it with a new product – Product W in anticipation of following results :

Particulars	Products		
	X	Y	W
Sales Mix Ratio	55%	30%	15%
Selling Price per unit (in ₹)	500	700	500
Variable Cost per unit (in ₹)	250	420	250

- Total fixed costs : ₹ 18,80,000
- Total sales : ₹ 85,00,000

Based on the above, you are required to calculate the following (MCQ 11 to 15) :

11. What is the break-even sales at the level of proposed sales mix (with Product W) ? 2

(A) ₹ 40,00,000

(B) ₹ 40,75,000

(C) ₹ 48,83,117

(D) ₹ 53,80,000

12. What is the total profit at the level of proposed sales mix (with Product W) ? 2

(A) ₹ 21,15,000

(B) ₹ 10,95,000

(C) ₹ 15,62,500

(D) ₹ 19,60,000

13. What is the combined contribution-to-sales (C/S) ratio at the existing sales level ? 2

(A) 40%

(B) 37.5%

(C) 32.5%

(D) 45%

14. What is the total profit at the existing sales level ? 2

(A) ₹ 32,00,000

(B) ₹ 18,00,000

(C) ₹ 36,00,000

(D) ₹ 16,00,000

15. What is the new contribution-to-sales (C/S) ratio in the proposed situation (with Product W) ? 2

(A) 35%

(B) 38.5%

(C) 47%

(D) 40.5%

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PART - II

- 1/ (a) ABC Limited manufactures four products A, B, C and D in the same factory. The following information is given for a certain period :

Particulars	A	B	C	D
Input Materials (in units)	600	400	400	200
Average Yield	80%	90%	96%	72%

The finished goods' packaging cost is ₹ 4,600.

Other information :

- (1) All the products are packed in boxes where each box is having capacity of 24 units.
- (2) Product A and product B are packed in larger boxes whereas product C and product D are packed in smaller boxes, which cost half the price of bigger box.
- (3) Each box contains only one type of product. There is no product mix up in packaging.

You are required to :

- (i) Find out how many large and small boxes are used.
 - (ii) Find out the cost of per large box and per small box.
 - (iii) Allocate the packaging cost among the four finished products.
- (b) ECO Cotton Limited manufactures two joint products Cotton Fiber, Cotton Seed and a by-product Cotton Linters by processing a raw cotton.

The joint processing costs are ₹ 1,46,100.

Joint products can be further processed and sold at a higher market price, with some sales promotion efforts whereas, by-product Cotton Linters can be sold only after further processing.

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$480 \times ? =$
 $360 \times ? =$
 $314 \times ? =$
 $144 \times ? =$
460

The relevant details of three products are as follows :-

Particulars	Cotton Fiber	Cotton Seed	Cotton Linters
Output (in kgs.)	2,800	1,800	300
Selling price at the split-off point (per kg.)	₹ 90	₹ 60	-
Further processing cost (per kg.)	₹ 9	₹ 6	₹ 2
Further marketing cost (per kg.)	₹ 5	₹ 2	₹ 1
Selling price after further processing (per kg.)	₹ 110	₹ 67	₹ 10

You are required to :-

- Show how joint cost would be apportioned between Cotton Fiber and Cotton Seed using the sales value at split-off, after crediting net realisable value of by-product Cotton Linters.
 - Determine the total profit or loss if the joint products are sold without further processing.
 - Which of the joint products can be processed further for maximizing profits using incremental analysis of profit?
- (c) Worker 'X' of M/s ABC Manufacturing Ltd. was assigned a Job no 101. He began the job on 1st June at 9:00 A.M. and completed on 4th June at 12:00 P.M. There are 9 working hours in a day from 9:00 A.M. onwards. Work done and approved was 1,800 units. 4

Other information :

- Standard quantity per hour : 45 units per hour
- Wage rate : ₹ 150 per hour
- Bonus (Halsey plan) : 50 % of time saved

You are required to calculate the remuneration of worker X on the basis of Halsey plan and Rowan Plan.

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$9 + 9 + 9 + 3 = 30 \text{ hr}$
 60 unit

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2. (a) Dhol Makers Ltd. sold 6,000 units of a musical instrument "Dholak".

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The cost data for the year ended 31st March, 2025 is as follows :

Particulars	(₹)
Expenses paid for pollution control and maintenance	93,400
Expenses paid for quality control check activities	70,000
Lease rent of production assets	1,20,000
Hire charges paid for hiring specific equipment	315 per hour
Primary packing cost	51,600
Direct Labour Wages	6,00,000
Fee paid for technical assistance	1,26,000
Opening stock of finished goods as on 1 st April, 2024 (2,000 units)	10,10,000
Closing stock of finished goods as on 31 st March, 2025 (1,000 units)	?
Cost of production	27,50,000

It is further ascertained that :

- (1) Labour is paid @ ₹ 1,000 per labour hour.
- (2) Specific equipment is hired for the number of labour hours worked.
- (3) The company follows the 'First-In, First-Out' (FIFO) method for closing stock valuation.
- (4) Selling and distribution overhead is ₹ 25 per dholak.
- (5) Profit is 20% on sales.

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You are required to prepare a cost sheet showing :

- (i) Raw material consumed
- (ii) Prime cost
- (iii) Works/Factory cost
- (iv) Cost of goods sold
- (v) Cost of sales
- (vi) Net profit & Sales

- (b) A producer of oils purchases 400 litres of oil at ₹ 75 per litre in containers of 40 litres each. Other expenses at the process were ₹ 37,350 including an abnormal loss of ₹ 12,500 due to an accident. Normal waste at the process is 10%. Waste is sold at ₹ 10 per litre and each empty container is sold for ₹ 50. Generally 10% of containers gets damaged so badly that they became unsalable. However in the given situation, more containers were damaged and only 5 containers were in saleable condition. Actual output was 375 litres which is sold at a profit of 20% on cost. 5

You are required to prepare Process Account and Income Statement.

3. (a) Gold Drive bank is having a branch which is engaged in processing of 'Gold Loan' and 'Car Loan' applications in addition to other services to customers. 8

The bank has hired three direct professional workers for processing 'Gold Loan' applications and four direct professional workers for processing 'Car Loan' applications.

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In addition to above, following expenses are incurred by the branch :

- (1) Branch manager who supervises all the activities of branch, is paid at ₹ 1,10,000 per month.
- (2) Legal charges, printing & stationery and advertising expenses are incurred at ₹ 28,000, ₹ 15,000 and ₹ 20,000 respectively for a month.
- (3) Other expenses are ₹ 51,000 per quarter.
- (4) Depreciation on building is ₹ 4,20,000 per annum.
- (5) Overhead costs of the branch allocable to processing of 'Gold Loan' applications and to 'Car Loan' applications is 20% & 15% respectively of total overhead costs of the branch.

Number of applications processed :

- 'Gold Loan' – 400 application per month; and
- 'Car Loan' – 500 applications per month.

You are required to :

- (i) Compute the total salary of direct professionals for processing of 'Gold Loan' and 'Car Loan' applications respectively, by assuming that cost of processing a 'Car Loan' application is same as 'Gold Loan' application.
- (ii) Find out the total cost of processing a 'Car Loan' application.

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- (b) Wings Institute of Air-hostess training, has reserved a spacious training hall for ₹ 25,000 on a weekly basis with a seating capacity of 320 trainees. The institute has designed an intensive training schedule comprising 3 training session per day, 5 days a week for 25 weeks, on aviation and hospitability. 6

Training delivered by the lead trainer to whom a honorarium of ₹ 3,600 per training session is paid. In addition, she receives travel reimbursement of ₹ 500 per day and refreshments costing ₹ 1,200 per week to maintain comfort and focus during sessions.

She also takes 2 lectures per week on safety and customer services during weekends only at ₹ 5,000 per lecture (inclusive of travelling and refreshment expenses), ensuring complete coverage of aviation education. Trainee support services covering utilities and essential training aids amount to ₹ 2,020 per week.

You are required to :

- (i) Calculate the total cost per training batch.
- (ii) Determine the minimum training fee per trainee in a batch to cover costs, if the batch is fully occupied.
- (iii) If the institute targets 20% profit margin on the training fee and decides to charge ₹ 14,800 per trainee, then calculate minimum percentage of batch size to be filled.

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4. (a) The following data pertaining to a company engaged in manufacturing and sale of a single product during the year : 7

Particulars	Budget	Actual
Sales (in units)	60,000	66,000
Sales (₹)	1,80,00,000	2,14,50,000
Direct Materials (₹)	28,80,000	36,30,000
Direct labour (₹)	43,20,000	52,80,000
Variable Overheads (₹)	72,00,000	81,84,000

Additional information is given below :

	Standard (₹)	Actual (₹)
Direct Material price per kg	10	8
Direct labour rate per hour	10	12

You are required to calculate :

- (i) Direct material usage variance
 - (ii) Direct material price variance
 - (iii) Direct labour efficiency variance
 - (iv) Direct labour rate variance
 - (v) Variable overhead cost variance
- (b) The following financial information is available for a company with a normal production capacity of 40,000 units for the year ended 31st March, 2025 : 7
- Sales amounted to ₹ 8,00,000, Units sold : 35,000 units.
 - There was no opening or closing stock of finished units.
 - Direct material and direct wages costs were ₹ 3,50,000 and ₹ 2,00,000 respectively.

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- Actual factory expenses were ₹ 1,00,000, of which 55% were fixed.
- Administrative expenses related to production activities incurred during the year but not paid were ₹ 50,000, which were entirely fixed.
- Actual selling and distribution expenses amounted to ₹ 20,000, of which 35% were fixed.
- The company earned interest and dividend income totalling ₹ 10,000.

You are required to prepare :

- (i) The cost sheet and ascertain the profit as per cost accounts for the year ended 31st March, 2025, assuming that the indirect expenses are absorbed on the basis of normal production capacity; and
- (ii) A statement reconciling the profits shown by financial and cost accounts.

5. (a) A machine shop has 6 identical drilling machines manned by 4 operators. 6
The machine cannot be worked without an operator wholly engaged on it.
The original cost of all these machines works out to ₹ 3,00,000.

These particulars are furnished pertaining to a period of 4 months :

Normal available hours per month	156 hrs.
Absenteeism (without pay) hours	9 hrs.
Leave (with pay) hours	10 hrs.
Normal idle time unavoidable hours	5 hrs.
Average rate of wages per worker for 6 hours a day	₹ 450
Production bonus estimated	20% on wages
Value of power consumed	₹ 20,500
Supervision and indirect labour	₹ 8,500
Lighting and electricity	₹ 4,500

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These particulars are furnished for a year :

Repairs and maintenance including consumables - 2% per annum of value of machines.

Depreciation - 15% per annum of original cost.

Other sundry works expenses - ₹ 12,000 p.a.

General management expenses allocated - ₹ 24,000 p.a.

The machine shop has taken an annual insurance for all 6 machines also.

Given that the comprehensive machine hour rate for 4 months period is ₹ 125 per machine hour.

You are required to find out the total amount of annual insurance premium.

(b) Following data is available for XYZ Ltd. for the month of March 2025 :

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Standard working hours	7 hours per day of 5 days per week
Number of weeks in the month	4 weeks
Maximum Capacity (No. of employees)	60 employees
Actual working (No. of employees)	42 employees
Actual Capacity Usage Ratio	65%
Activity Ratio	125%

Calculate the following :

- (i) Actual Hours worked
- (ii) Standard Hours for actual output
- (iii) Standard Capacity Usage Ratio
- (iv) Actual Usage of Budgeted Capacity Ratio

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- (c) A company can make any one of the 2 products M or S during the year. It can exercise its option only at the beginning of each year. 3

Relevant information about the products for the next year is given below :

Particulars	M	S
Selling Price (₹/unit)	75	45
Variable Cost (₹/unit)	45	30
Market Demand (in units)	3,000	8,000
Production Capacity (in units)	4,000	7,000
Fixed Cost (₹)	1,20,000	

You are required to compute the opportunity cost for each of the product.

- (a) Classify the following items of expenses by functions and variability : 5

S. No.	Item	Function	Variability/Behaviour
(i)	Consumable Store		
(ii)	General Manager's salary		
(iii)	Delivery van expenses		
(iv)	Compensation (fixed salary plus commission on sales)		
(v)	Rent of finished goods warehouse		

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(b) Suggest a suitable incentive scheme to a factory for its workers, keeping in view the following : 5

(i) The entire gains of improved production should not go to the workers.

(ii) In the name of speed, quality should not suffer.

(iii) The rate setting department being newly established are liable to commit mistakes.

(c) Discuss the usefulness/suitability of Activity Based Costing. 4

OR

(c) Discuss the four components of Budgetary Control System. 4