

Roll No.

Total No. of Questions – 06

Total No. of Printed Pages – 12

Time Allowed – 3 Hours

Maximum Marks – 100

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Answers to questions are to be given only in English except in case of candidates who have opted for Hindi Medium. If a candidate has not opted for Hindi Medium, his/her answers in Hindi will not be valued.

Questions No. 1 is compulsory.

Answer any four questions from the remaining five questions.

Working notes should form part of the answers.

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1. Answer the following : 4×5
=20
- (a) MM Ltd. has provided the following information about the items in its inventory.

Item Code Number	Units	Unit Cost (₹)
101	25	50
102	300	01
103	50	80
104	75	08
105	225	02
106	75	12

MM Ltd. has adopted the policy of classifying the items constituting 15% or above of Total Inventory Cost as 'A' category, items constituting 6% or less of Total Inventory Cost as 'C' category and the remaining items as 'B' category.

You are required to :

- Rank the items on the basis of % of Total Inventory Cost.
- Classify the items into A, B and C categories as per ABC Analysis of Inventory Control adopted by MM Ltd.

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- (b) SNS Trading Company has three Main Departments and two Service Departments. The data for each department is given below :

Departments	Expenses (in ₹)	Area in (Sq. Mtr)	Number of Employees
Main Department :			
Purchase Department	5,00,000	12	800
Packing Department	8,00,000	15	1700
Distribution Department	3,50,000	7	700
Service Departments :			
Maintenance Department	6,40,000	4	200
Personnel Department	3,20,000	6	250

The cost of Maintenance Department and Personnel Department is distributed on the basis of 'Area in Square Metres' and 'Number of Employees' respectively.

You are required to :

- Prepare a Statement showing the distribution of expenses of Service Departments to the Main Departments using the "Step Ladder method" of Overhead Distribution.
- Compute the Rate per hour of each Main Department, given that, the Purchase Department, Packing Department and Distribution Department works for 12 hours a day, 24 hours a day and 8 hours a day respectively. Assume that there are 365 days in a year and there are no holidays.

- (c) AUX Ltd. has an Annual demand from a single customer for 60,000 Covid-19 vaccines. The customer prefers to order in the lot of 15,000 vaccines per order. The production cost of vaccine is ₹ 5,000 per vaccine. The set-up cost per production run of Covid-19 vaccines is ₹ 4,800. The carrying cost is ₹ 12 per vaccine per month.

You are required to :

- Find the most Economical Production Run.
- Calculate the extra cost that company incurs due to production of 15,000 vaccines in a batch.

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- (d) LR Ltd. is considering two alternative methods to manufacture a new product it intends to market. The two methods have a maximum output of 50,000 units each and produce identical items with a selling price of ₹25 each. The costs are :

	Method – 1 Semi-Automatic (₹)	Method – 2 Fully-Automatic (₹)
Variable cost per unit	15	10
Fixed costs	1,00,000	3,00,000

You are required to calculate :

- (1) Cost Indifference Point in units. Interpret your results.
- (2) The Break-even Point of each method in terms of units.

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2. (a) The following data relates to manufacturing of a standard product during the month of March, 2021 :

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Particulars	Amount (in ₹)
Stock of Raw material as on 01-03-2021	80,000
Work in Progress as on 01-03-2021	50,000
Purchase of Raw material	2,00,000
Carriage Inwards	20,000
Direct Wages	1,20,000
Cost of special drawing	30,000
Hire charges paid for Plant	24,000
Return of Raw Material	40,000

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Carriage on return	6,000	✓
Expenses for participation in Industrial exhibition	8,000	✓ - selling OH.
Legal charges - Admin OH.	2,500	
Salary to office staff - Admin OH.	25,000	
Maintenance of office building - Admin OH.	2,000	
Depreciation on Delivery van - Distribut.	6,000	
Warehousing charges - Factory OH.	1,500	
Stock of Raw material as on 31-03-2021	30,000	✓
Stock of Work in Progress as on 31-03-2021	24,000	

- Store overheads on materials are 10% of material consumed.
- Factory overheads are 20% of the Prime cost.
- 10% of the output was rejected and a sum of ₹ 5,000 was realized on sale of scrap.
- 10% of the finished product was found to be defective and the defective products were rectified at an additional expenditure which is equivalent to 20% of proportionate direct wages.
- The total output was 8000 units during the month.

You are required to prepare a Cost Sheet for the above period showing the :

- Cost of Raw Material consumed
- Prime Cost
- Work Cost
- Cost of Production
- Cost of Sales

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- (b) OPR Ltd. purchases crude vegetable oil. It does refining of the same. The refining process results in four products at the split-off point – S, P, N and A. Product 'A' is fully processed at the split-off point. Product S, P and N can be individually further refined into SK, PM, and NL respectively. The joint cost of purchasing the crude vegetable oil and processing it were ₹ 40,000. Other details are as follows :

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Product	Further processing costs (₹)	Sales at split-off point (₹)	Sales after further processing (₹)
S	80,000	20,000	1,20,000
P	32,000	12,000	40,000
N	36,000	28,000	48,000
A	—	20,000	—

You are required to identify the products which can be further processed for maximizing profits and make suitable suggestions.

- (c) Following information is given of a newly setup organization for the year ended on 31st March, 2021.

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Number of workers replaced during the period	50
Number of workers left and discharged during the period	25
Average number of workers on the roll during the period	500

You are required to :

- Compute the Employee Turnover Rates using Separation Method and Flux Method.
- Equivalent Employee Turnover Rates for (i) above, given that the organization was setup on 31st January, 2021.

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3. (a) The Profit and Loss account of ABC Ltd. for the year ended 31st March, 2021 is given below : 10

Profit and Loss account
(for the year ended 31st March, 2021)

To Direct Material	6,50,000	By Sales	15,00,000
To Direct Wages	3,50,000	(15000 units)	
To Factory overheads	2,60,000	By Dividend	9,000
To Administrative overheads	1,05,000	received	
To Selling overheads	85,000	(+) ,	
To Loss on sale of investments	2,000		
To Net Profit	57,000		
	15,09,000		15,09,000

- Factory overheads are 50% fixed and 50% variable.
- Administrative overheads are 100% fixed.
- Selling overheads are completely variable.
- Normal production capacity of ABC Ltd. is 20,000 units.
- Indirect Expenses are absorbed in the cost accounts on the basis of normal production capacity.
- Notional rent of own premises charged in Cost Accounts is amounting to ₹ 12,000.

You are required to :

- Prepare a Cost Sheet and ascertain the Profit as per Cost Records for the year ended 31st March, 2021.
- Reconcile the Profit as per Financial Records with Profit as per Cost Records.

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- (b) PQR Ltd. is engaged in the production of three products P, Q and R. The company calculates Activity Cost Rates on the basis of Cost Driver capacity which is provided as below :

Activity	Cost Driver	Cost Driver Capacity	Cost (₹)
Direct Labour hours	Labour hours	30,000 Labour hours	3,00,000
Production runs	No. of Production runs	600 Production runs	1,80,000
Quality Inspections	No. of Inspection	8000 Inspections	2,40,000

The consumption of activities during the period is as under :

Activity / Products	P	Q	R
Direct Labour hours	10,000	8,000	6,000
Production runs	200	180	160
Quality Inspection	3,000	2,500	1,500

You are required to :

- Compute the costs allocated to each Product from each Activity.
- Calculate the cost of unused capacity for each Activity.
- A potential customer has approached the company for supply of 12,000 units of a new product 'S' to be delivered in lots of 1500 units per quarter. This will involve an initial design cost of ₹ 30,000 and per quarter production will involve the following :

Direct Material	₹ 18,000
Direct Labour hours	1,500 hours
No. of Production runs	15
No. of Quality Inspection	250

Prepare cost sheet segregating Direct and Indirect costs and compute the Sales value per quarter of product 'S' using ABC system considering a markup of 20% on cost.

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4. (a) A Manufacturing unit manufactures a product 'XYZ' which passes through three distinct Processes – X, Y and Z. The following data is given :

	Process X	Process Y	Process Z
Material consumed (in ₹)	2,600	2,250	2,000
Direct wages (in ₹)	4,000	3,500	3,000

- The total Production Overhead of ₹ 15,750 was recovered @ 150% of Direct wages.
- 15,000 units at ₹ 2 each were introduced to Process 'X'.
- The output of each process passes to the next process and finally, 12,000 units were transferred to Finished Stock Account from Process 'Z'.
- No stock of materials or work in progress was left at the end.

The following additional information is given :

Process	% of wastage to normal input	Value of Scrap per unit (₹)
X	6%	1.10
Y	?	2.00
Z	5%	1.00

You are required to :

- Find out the percentage of wastage in process 'Y', given that the output of Process 'Y' is transferred to Process 'Z' at ₹ 4 per unit.
- Prepare Process accounts for all the three processes X, Y and Z.

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- (b) MRSL Healthcare Ltd. has incurred the following expenditure during the last year for its newly launched 'COVID-19' Insurance policy :

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	₹
Office administration cost	48,00,000
Claim management cost	3,80,000
Employees cost	16,20,000
Postage and logistics	32,40,000
Policy issuance cost	29,50,000
Facilities cost	46,75,000
Cost of marketing of the policy	1,38,90,000
Policy development cost	35,00,000
Policy servicing cost	96,45,000
Sales support expenses	32,00,000
I.T. Cost	?

Number of Policy sold : 2,800

Total insured value of policies – ₹ 3,500 Crores

Cost per rupee of insured value – ₹ 0.002

You are required to :

- Calculate Total Cost for "COVID-19" Insurance policy segregating the costs into four main activities namely (a) Marketing and Sales support (b) Operations (c) I.T. Cost and (d) Support functions.
- Calculate Cost Per Policy.

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- (c) Brick Constructions Ltd. commenced a contract on April 1, 2020. The contract was for ₹ 10,00,000. The following information relates to the Contract as on 31st March, 2021 :

- The value of work completed up to Feb. 28, 2021 was certified by the architect and as a matter of policy; the Contractee has retained ₹ 1,30,000 as retention money which is 20% of the certified work and paid the balance amount.
- The cost of work completed subsequent to the architect's certificate was of ₹ 30,000.
- The expenditure incurred related to material purchase, wages and other chargeable expenses were ₹ 5,10,000
- Materials of the value of ₹ 20,000 were lying on the site.
- A special plant was purchased specifically for this contract at ₹ 40,000 and after use on this contract till 31st March, 2021; it was valued at ₹ 25,000.

You are required to compute the value of Work Certified, Cash received for certified work and Notional profit of the contract for the year ended on 31st March, 2021.

5. (a) The standard output of a Product 'DJ' is 25 units per hour in manufacturing department of a Company employing 100 workers. In a 40 hours week, the department produced 960 units of product 'DJ' despite 5% of the time paid was lost due to an abnormal reason. The hourly wage rates actually paid were ₹ 6.20, ₹ 6.00 and ₹ 5.70 respectively to Group 'A' consisting 10 workers, Group 'B' consisting 30 workers and Group 'C' consisting 60 workers. The standard wage rate per labour is same for all the workers. Labour Efficiency Variance is given ₹ 240 (F).

You are required to compute :

- (i) Total Labour Cost Variance.
- (ii) Total Labour Rate Variance.
- (iii) Total Labour Gang Variance.
- (iv) Total Labour Yield Variance, and
- (v) Total Labour Idle Time Variance.

- (b) PSV Ltd. manufactures and sells a single product and estimated the following related information for the period November, 2020 to March, 2021.

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Particulars	November, 2020	December, 2020	January, 2021	February, 2021	March, 2021
Opening Stock of Finished Goods (in Units)	7,500	3,000	9,000	8,000	6,000
Sales (in Units)	30,000	35,000	38,000	25,000	40,000
Selling Price per unit (in ₹)	10	12	15	15	20

Additional Information :

- Closing stock of finished goods at the end of March, 2021 is 10,000 units.
- Each unit of finished output requires 2 kg of Raw Material 'A' and 3 kg of Raw Material 'B'.

You are required to prepare the following budgets for the period November, 2020 to March, 2021 on monthly basis :

- (i) Sales Budget (in ₹)
- (ii) Production budget (in units) and
- (iii) Raw material Budget for Raw material 'A' and 'B' separately (in units)

6. Answer any **four** of the following :

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(a) Specify the types of Responsibility centres under the following situations :

(i) Purchase of bonds, stocks, or real estate property.

(ii) Ticket counter in a Railway station.

(iii) Decentralized branches of an organization.

(iv) Maharatna, Navratna and Miniratna public sector undertaking (PSU) of Central Government.

(v) Sales Department of an organization.

(b) What is Margin of Safety ? What does a large Margin of Safety indicates ? How can you calculate Margin of Safety ?

(c) Rowan Premium Bonus system does not motivate a highly efficient worker as a less efficient worker and a highly efficient worker can obtain same bonus under this system. Discuss with an example.

(d) What do you understand by Build-Operate-Transfer (BOT) approach in Service Costing ? How is the Toll rate computed ?

(e) Write a short note on VED analysis of Inventory Control.