

Roll No.

Total No. of Questions – 6

Time Allowed – 3 Hours

Total No. of Printed Pages – 12

Maximum Marks – 100

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

Question 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 :

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=20**

(a) G Ltd. manufactures a single product for which market demand exists for additional quantity. Present sales of ₹ 6,00,000 utilises only 60% capacity of the plant. The following data are available :

- (1) Selling price : ₹ 100 per unit
- (2) Variable cost : ₹ 30 per unit
- (3) Semi-variable expenses : ₹ 60,000 fixed + ₹ 5 per unit
- (4) Fixed expenses : ₹ 1,00,000 at present level, estimated to increase by 25% at and above 80% capacity.

You are required to prepare a flexible budget so as to arrive at the operating profit at 60%, 80% and 100% levels.

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- (b) Moon Ltd. produces products 'X', 'Y' and 'Z' and has decided to analyse its production mix in respect of these three products – 'X', 'Y' and 'Z'.

You have the following information :

	X	Y	Z
Direct Materials ₹ (per unit)	160	120	80
Variable Overheads ₹ (per unit)	8	20	12

Direct labour :

Departments :	Rate per hour (₹)	Hours per unit X	Hours per unit Y	Hours per unit Z
Department-A	4	6	10	5
Department-B	8	6	15	11

From the current budget, further details are as below :

	X	Y	Z
Annual Production at present (in units)	10,000	12,000	20,000
Estimated Selling Price per unit (₹)	312	400	240
Sales departments estimate of possible sales in the coming year (in units)	12,000	16,000	24,000

There is a constraint on supply of labour in **Department-A** and its manpower cannot be increased beyond its present level.

Required :

- Identify the best possible product mix of Moon Ltd.
- Calculate the total contribution from the best possible product mix.

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- (c) A company's plant processes 6,750 units of a raw material in a month to produce two products 'M' and 'N'.

The process yield is as under :

Product M	80%
Product N	12%
Process Loss	8%

The cost of raw material is ₹ 80 per unit.

Processing cost is ₹ 2,25,000 of which labour cost is accounted for 66%. Labour is chargeable to products 'M' and 'N' in the ratio of 100 : 80.

Prepare a Comprehensive Cost Statement for each product showing :

- (i) Apportionment of joint cost among products 'M' and 'N' and
 - (ii) Total cost of the products 'M' and 'N'.
- (d) W Limited undertook a contract for ₹ 5,00,000 on 1st July, 2019. On 30th June, 2020 when the accounts were closed, the following details about the contract were gathered :

	Amount (₹)
Materials purchased	1,00,000
Wages paid	45,000
General expenses	10,000
Materials on hand (30-6-2020)	25,000
Wages accrued (30-6-2020)	5,000
Work certified	2,00,000
Cash received	1,50,000
Work uncertified	15,000

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The above contract contained "Escalation clause" which read as follows :

"In the event of increase in the prices of materials and rates of wages by more than 5%, the contract price would be increased accordingly by 25% of the rise in the cost of materials and wages beyond 5% in each case."

It was found that since the date of signing the agreement, the prices of materials and wage rates increased by 25%. The value of the work certified does not take into account the effect of the above clause.

Calculate the '**value of work certified**' after taking the effect of 'Escalation Clause' as on 30th June, 2020.

2. (a) X Ltd. manufactures two types of pens 'Super Pen' and 'Normal Pen'. **10**

The cost data for the year ended 30th September, 2019 is as follows :

	(₹)
Direct Materials	8,00,000
Direct Wages	4,48,000
Production Overhead	1,92,000
Total	14,40,000

It is further ascertained that :

- (1) Direct materials cost in Super Pen was twice as much of direct material in Normal Pen.
- (2) Direct wages for Normal Pen were 60% of those for Super Pen.
- (3) Production overhead per unit was at same rate for both the types.
- (4) Administration overhead was 200% of direct labour for each.

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(5) Selling cost was ₹ 1 per Super pen.

(6) Production and sales during the year were as follow :

Production		Sales	
	No. of units		No. of units
Super Pen	40,000	Super Pen	36,000
Normal Pen	1,20,000		

(7) Selling price was ₹ 30 per unit for Super Pen.

Prepare a Cost Sheet for 'Super Pen' showing :

(i) Cost per unit and Total Cost

(ii) Profit per unit and Total Profit

(b) TEE Ltd. is a manufacturing company having three production departments 'P', 'Q' and 'R' and two service departments 'X' and 'Y' details pertaining to which are as under :

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	P	Q	R	X	Y
Direct wages (₹)	5,000	1,500	4,500	2,000	800
Working hours	13,191	7,598	14,995	—	—
Value of machine (₹)	1,00,000	80,000	1,00,000	20,000	50,000
H.P. of machines	100	80	100	20	50
Light points (Nos.)	20	10	15	5	10
Floor space (sq. ft.)	2,000	2,500	3,500	1,000	1,000

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The expenses are as follows :

	(₹)
Rent and Rates	10,000
General Lighting	600
Indirect Wages	3,450
Power	3,500
Depreciation on Machines	70,000
Sundries (apportionment on the basis of direct wages)	13,800

The expenses of Service Departments are allocated as under :

	P	Q	R	X	Y
X	45%	15%	30%	—	10%
Y	35%	25%	30%	10%	—

Product 'A' is processed for manufacture in Departments P, Q and R for 6, 5 and 2 hours respectively.

Direct Costs of Product A are :

Direct material cost is ₹ 65 per unit and Direct labour cost is ₹ 40 per unit.

You are Required to :

- Prepare a statement showing distribution of overheads among the production and service departments.
- Calculate recovery rate per hour of each production department after redistributing the service departments costs.
- Find out the Total Cost of a 'Product A'.

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3. (a) ABC Ltd. has furnished the following information regarding the overheads for the month of June 2020 : 10

(i)	Fixed Overhead Cost Variance	₹ 2,800 (Adverse)
(ii)	Fixed Overhead Volume Variance	₹ 2,000 (Adverse)
(iii)	Budgeted Hours for June, 2020	2,400 hours
(iv)	Budgeted Overheads for June, 2020	₹ 12,000
(v)	Actual rate of recovery of overheads	₹ 8 Per Hour

From the above given information

Calculate :

- (1) Fixed Overhead Expenditure Variance
 - (2) Actual Overheads Incurred
 - (3) Actual Hours for Actual Production
 - (4) Fixed Overhead Capacity Variance
 - (5) Standard hours for Actual Production
 - (6) Fixed Overhead Efficiency Variance
- (b) An automobile company purchases 27,000 spare parts for its annual requirements. The cost per order is ₹ 240 and the annual carrying cost of average inventory is 12.5%. Each spare part costs ₹ 50. 10

At present, the order size is 3,000 spare parts.

(Assume that number of days in a year = 360 days)

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Find out :

- (i) How much the company's cost would be saved by opting EOQ model ?
- (ii) The Re-order point under EOQ model if lead time is 12 days.
- (iii) How frequently should orders for procurement be placed under EOQ model ?

4. (a) Following details are related to the work done in Process-I by ABC Ltd. during the month of May 2019 : 10

(₹)

Opening work in process (3,000 units)	
Materials	1,80,500
Labour	32,400
Overheads	90,000
Materials introduced in Process-I (42,000 units)	36,04,000
Labour	4,50,000
Overheads	15,18,000

Units Scrapped : 4,800 units

Degree of completion :

Materials : 100%

Labour & overhead : 70%

Closing Work-in-process : 4,200 units

Degree of completion :

Materials : 100%

Labour & overhead : 50%

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Units finished and transferred to Process-II : 36,000 units

Normal loss :

4% of total input including opening work-in-process

Scrapped units fetch ₹ 62.50 per piece.

Prepare :

- (i) Statement of equivalent production.
- (ii) Statement of cost per equivalent unit.
- (iii) Process-I A/c
- (iv) Normal Loss Account and
- (v) Abnormal Loss Account

- (b) Following are the particulars of two workers 'R' and 'S' for a month :

Particulars	R	S
(i) Basic Wages (₹)	15,000	30,000
(ii) Dearness Allowance	50%	50%
(iii) Contribution to EPF (on basic wages)	7%	7.5%
(iv) Contribution to ESI (on basic wages)	2%	2%
(v) Overtime (hours)	20	—

The normal working hours for the month are 200 hrs. Overtime is paid at double the total of normal wages and dearness allowance. Employer's contribution to State Insurance and Provident Fund are at equal rates with employees' contributions.

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Both workers were employed on jobs A, B and C in the following proportions :

Jobs	A	B	C
R	75%	10%	15%
S	40%	20%	40%

Overtime was done on job 'A'.

You are required to :

- (i) Calculate ordinary wage rate per hour of 'R' and 'S'.
 - (ii) Allocate the worker's cost to each job 'A', 'B' and 'C'.
- (c) Discuss any four objectives of 'Time keeping' in relation to attendance and payroll procedures. 4
5. (a) SEZ Ltd. built a 120 km. long highway and now operates a toll road to collect tolls. The company has invested ₹ 900 crore to build the road and has estimated that a total of 120 crore vehicles will be using the highway during the 10 years toll collection tenure. The other costs for the month of "June 2020" are as follows : 10
- (i) Salary :
 - Collection personnel (3 shifts and 5 persons per shift) – ₹ 200 per day per person.
 - Supervisor (3 shifts and 2 persons per shift) – ₹ 350 per day per person.
 - Security personnel (2 shifts and 2 persons per shift) – ₹ 200 per day per person.
 - Toll Booth Manager (3 shifts and 1 person per shift) – ₹ 500 per day per person.

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- (ii) Electricity – ₹ 1,50,000
(iii) Telephone – ₹ 1,00,000
(iv) Maintenance cost – ₹ 50 lakhs
(v) The company needs 30% profit over total cost.

Required :

- (1) Calculate cost per kilometre.
(2) Calculate the toll rate per vehicle.
- (b) ABC Ltd. is engaged in production of three types of Fruit Juices : 6
Apple, Orange and Mixed Fruit.

The following cost data for the month of March 2020 are as under :

Particulars	Apple	Orange	Mixed Fruit
Units produced and sold	10,000	15,000	20,000
Material per unit (₹)	8	6	5
Direct Labour per unit (₹)	5	4	3
No. of Purchase Orders	34	32	14
No. of Deliveries	110	64	52
Shelf Stocking Hours	110	160	170

Overheads incurred by the company during the month are as under :

	(₹)
Ordering costs	64,000
Delivery costs	1,58,200
Shelf Stocking costs	87,560

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Required :

- (i) Calculate cost driver's rate.
 - (ii) Calculate total cost of each product using Activity Based Costing.
 - (c) Describe the various levels of activities under 'ABC' methodology.
6. Answer any **four** of the following :
- (a) Differentiate between "Cost Accounting and Management Accounting".
 - (b) What are the important points an organization should consider if it wants to adopt Performance Budgeting ?
 - (c) Explain what are the **pre-requisites** of integrated accounting.
 - (d) State the Method of Costing to be used in the following industries :
 - (i) Real Estate
 - (ii) Motor repairing workshop
 - (iii) Chemical Industry
 - (iv) Transport service
 - (v) Assembly of bicycles
 - (vi) Biscuits manufacturing Industry
 - (vii) Power supply Companies
 - (viii) Car manufacturing Industry
 - (ix) Cement Industry
 - (x) Printing Press
 - (e) Differentiate between "Marginal and Absorption Costing".

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