CA - INTERMEDIATE
GROUP I – PAPER 3
COST AND MANAGEMENT ACCOUNTING
Series – 2 (May 2020)

Batch : ALL *Date :20.03.2020*
Maximum Marks: 100 **Time - 3 Hours**

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Question No. 1 is compulsory.
Attempt any four questions from the rest.

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1(a) A company produces the product ABC which sells for Rs. 25 per unit. Variable cost is Rs. 20 per unit and Fixed overhead for the year is Rs. 6,00,000. **5**

Required:

(a) Calculate sales value needed to earn a profit of 10% on sales.
(b) Calculate margin of safety sales if profit is Rs. 1,20,000.

(b) Calculate the earnings of A and B from the following particulars for a month and allocate the labour cost to each job X, Y and Z: **5**

		A	B
(i)	Basic Wages	Rs. 100	Rs. 160
(ii)	Dearness Allowance	50%	50%
(iii)	Contribution to Provident Fund (on basic wages)	8%	8%
(iv)	Contribution to Employees' State Insurance (on basic wages)	2%	2%
(v)	Overtime Hours	10	

The Normal working hours for the month are 200. 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. The two workers were employed on jobs X, Y and Z in the following proportions:

	Jobs		
	X	**Y**	**Z**
Workers A	40%	30%	30%
Worker B	50%	20%	30%

Overtime was done on job Y.

(c) Ambuja construction company undertook a contract at an estimated price of Rs. 125 lacs. The relevant data for the year ended 31.03.2010 are as under: **5**

	(Rs. '000)
Materials issued to site	5,000
Direct wages paid	3,200
Plant hired	700
Site office costs	270
Materials returned from site	100
Direct expenses	1100
Work certified	10,000
Progress payment received	7,200

A special plant was purchased specifically for this contract at Rs. 8,00,000 and after use on this contract till the end of 31.03.2010, it was valued at Rs.5,00,000. This cost of materials at site at the end of the year was estimated at Rs. 18,00,000. Direct wages accrued as on 31.03.2010 was Rs. 1,10,000.

Required

Prepare the Contract Account for the year ended 31st March, 2010.

(d) The following standards have been set to manufacture a product: **5**

Direct materials:	₹
2 units of P at ₹ 4 per unit	8.00
3 units of Q at ₹ 3 per unit	9.00
15 units of R at ₹ 1 per unit	15.00
	32.00
Direct labour 3 hours @ ₹ 8 per hour	24.00
Total standard prime cost	**56.00**

The company manufactured and sold 6,000 units of the product during the year.

Direct material costs were as follows:

12,500 units of P at ₹4.40 per unit

18,000 units of Q at ₹2.80 per unit

88,500 units of R at ₹1.20 per unit

The company worked 17,500 direct labour hours during the year. For 2,500 of theses hours the company paid at ₹ 12 per hour while for the remaining the wages were paid at the standard rate.

Calculate material price, usage variances, labour rate, and efficiency variances.

2 (a) Aditya Ltd. has a monthly requirement for an item of raw material is 1,000 units. The purchase price per unit of material is ₹ 60. The cost of processing an order is ₹ 540 and the carrying cost is 20%. There is a single supplier for the material which offers quantity discounts as under: **10**

Order Quantity (in units)	Price per unit
Less than 2,000 units	60.00
2,000 units and less than 4,000 units	59.80
4,000 units and less than 6,000 units	59.50
6,000 units and less than 8,000 units	58.90
8,000 units and above	58.40

The company uses the cash credit facility provided by the company's banker to finance its raw material purchase. The bank due to its own infrastructural constraint, can accommodate a maximum of five fund transfer (NEFT/ RTGS) requests for any single beneficiary per annum. The company in short term is unable to arrange any other source of finance.

Required:

(i) Calculate the optimum purchase order size for the company;

(ii) Calculate the order level where the company could have minimised its total cost;

(iii) The amount of loss that the company has to bear due to bank's inability to process fund transfer requests.

(b) Aiasha Co Ltd. produces a component, which passes through two processes. During the month of January 2011, materials for 40,000 components were put into Process I of which 30,000 were completed and transferred to Process II. Those not transferred to Process II were 100% complete as to materials cost and 50% complete as to labour and overheads cost. The Process I costs incurred were as follows: **10**

Direct Materials	Rs.15,000
Direct Wages	Rs.18,000
Factory Overheads	Rs.12,000

Of those transferred to Process II, 28,000 units were completed and transferred to finished goods stores. There was a normal loss with no salvage value of 200 units in Process II. There were 1,800 units, remained unfinished in the process with 100% complete as to materials and 25% complete as regard to wages and overheads.

No further process material costs occur after introduction at the first process until the end of the second process, when protective packing is applied to the completed components. The process and packing costs incurred at the end of the Process II were:

Packing Materials	Rs.4,000
Direct Wages	Rs.3,500
Factory Overheads	Rs.4,500

Required:

(i) Prepare Statement of Equivalent Production, Cost per unit and Process I A/c.

(ii) Prepare statement of Equivalent Production, Cost per unit and Process II A/c.

3(a) From the records of a manufacturing company, the following budgeted details are available: **10**

	₹	₹
Direct Materials		1,99,000
Direct Wages:		
Machine Shop (12,000 hours)	63,000	
Assembly Shop (10,000 hours)	48,000	1,11,000
Works Overhead:		
Machine Shop	88,200	
Assembly Shop	51,800	1,40,000
Administrative Overhead		90,000
Selling Overhead		81,000
Distribution Overhead		62,100

You are required to:

(a) Prepare a Schedule of Overhead Rates from the figures available stating the basis of overhead recovery rates used under the given circumstances.

(b) Work out a Cost Estimate for the following job based on overhead calculated on above basis.

Direct Material:	25 kg @ ₹ 16.80/kg
	15 kg @ ₹ 20.00/kg
Direct labour: (On the basis of hourly rate	Machine shop 30 hours
For machine shop and assempbly shop)	Assembly shop 42 hours

(b) A company processes a raw material in its Department 1 to produce three products, viz. A, B and X at the same split-off stage. During a period 1,80,000 kgs of raw materials were processed in Department 1 at a total cost of ₹ 12,88,000 and the resultant output of A, B and X were 18,000 kgs, 10,000 kgs and 54,000 kgs respectively. A and B were further processed in Department 2 at a cost of ₹ 1,80,000 and ₹ 1,50,000 resepectively. **10**

X was further processed in Department 3 at a cost of ₹ 1,08,000. There is no waste in further processing. The details of sales affected during the period were as under:

	A	**B**	**X**
Quantity Sold (kgs.)	17,000	5,000	44,000
Sales Value (₹)	12,24,000	2,50,000	7,92,000

There was no opening stocks. If these products were sold at split-off stage, the selling prices of A, B and X would have been ₹ 50, ₹ 40 and ₹ 10 per kgs respectively. Required.

i. Prepare a statement showing the apportionment of joint costs to A, B and X.
ii. Present a statement showing the cost per kg of each product indicating joint cost and further processing cost and total cost separately.
iii. Prepare a statement showing the product wise and total profit for the period.
iv. State with supporting calculations as to whether any or all the products should be further processed or not.

4(a) Cambridge School has a total of 150 students consisting of 5 sections with 30 students per section. The school plans for a picnic around the city during the week-end to places such as Alipur zoo, the Niko Park, Birla planetarium etc. A private transport operator has come forward to lease out the buses for taking students. Each bus will have a maximum capacity of 50 (excluding 2 seats reserved for the teachers accompanying the students). The school will employ two teachers for each bus, paying them an allowance of Rs. 50 per teacher. It will also lease out the required number of buses. The following are the other cost estimates: **10**

	Cost per Student
Breakfast	Rs. 5
Lunch	10
Tea	3
Entrance Fee at Zoo	2

Rent Rs. 650 per bus.
Special permit fee Rs. 50 per bus.
Block entrance fee at the planetarium Rs. 250.
Prizes to students for games Rs. 250.
No cost are incurred in respect of the accompanying teachers (except the allowance of Rs. 50 per teacher).

You are required to prepare:

(a) A flexible budget estimating the total cost for the levels of 30, 60, 90, 120, and 150 students. Each item of cost is to be indicated separately.
(b) Compare the average cost per student at these levels.
(c) What will be your conclusions regarding the break-been level of student if the school proposes to collect Rs. 45 per student?

(b) The following is the Trading and Profit & Loss Account of ABC Limited **10**

Particulars	(₹)	Particulars		(₹)
To Materials	28,06,000	By Sales (30,000 units)		68,75,000
To Direct wages	18,05,750	By Finished goods stock (1,000 units)		1,30,000
To Production Overheads	9,92,250	By Work-in-progress:		
To Administration Overheads	5,10,375	Materials	55,250	
To Selling and Distribution Overheads	3,68,875	Wages	26,000	
To Preliminary Expenses written off	22,750	Production Overheads	16,250	97,500
To Goodwill written off	45,500			
To Fines	7,250	By Dividends received		4,90,000
To Interest on term loan	13,000	By Interest from bank		95,000
To Loss on Sale of machine	16,250			
To Tax	1,95,000			
To Net Profit for the year	9,04,500			
	76,87,500			**76,87,500**

ABC Limited manufactures a standard unit.
The Cost Accounting records of ABC Ltd. show the following:
(i) Production overheads have been charged to work-in-progress at 20% on Prime cost.
(ii) Administration Overheads have been recovered at ₹15.75 per finished Unit.
(iii) Selling & distribution Overheads have been recovered at ₹13 per Unit sold.
(iv) The Under- or Over-absorption of Overheads have not been transferred to costing P/L A/c.

Required:
(i) Prepare a proforma Costing Profit & Loss statement, indicating net profit.
(ii) Prepare Control accounts for Production overheads, Administration Overheads and Selling & Distribution Overheads.
(iii) Prepare a statement reconciling the profit disclosed by the Cost records with that shown in Financial accounts.

5 (a) A company has two production departments and two service departments. The data relating to a period are as under: **10**

	Production Departments		Service Departments	
	PD_1	**PD_2**	**SD_1**	**SD_2**
Direct materials(₹)	80,000	40,000	10,000	20,000
Direct wages(₹)	95,000	50,000	20,000	10,000
Overheads(₹)	80,000	50,000	30,000	20,000
Power requirement at normal capacity operations(Kwh.)	20,000	35,000	12,500	17,500
Actual power consumption during the period(Kwh.)	13,000	23,000	10,250	10,000

The power requirements of these departments are met by a power generation plant. The said plant incurred an expenditure, which is not included above, of ₹ 1,21,875 out of which a sum of ₹ 84,375 was variable and the rest is fixed,. After apportionment of power generation plant costs to the four departments, the service department overheads are to be redistributed on the following basis:

	PD_1	PD_2	SD_1	SD_2
SD_1	50%	40%	-----	10%
SD_2	60%	20%	20%	---

You are required to:

(i) Apportion the power generation plant costs to the four departments.
(ii) Re-apportion service department costs to production departments.
(iii) Calculate the overhead rates per direct labour hour of production departments, given that the direct wage rates of PD_1 and PD_2 are ₹ 5 and ₹ 4 per hour respectively.

(b) ABC Ltd. Manufactures two types of machinery equipments Y and Z and applies/absorbs overheads on the basis of direct-labour hours. The budgeted overheads and direct-labour hours for the month of December, 2006 are Rs. 12,42,500 and 20,000 hours respectively. The information about Company's products is as follows: **10**

	Equipment Y	Equipment Z
Budgeted Production volume	2,500 units	3,125 units
Direct material cost	Rs. 300 per unit	Rs. 450 per unit
Direct labour cost		
Y : 3 hours @ Rs. 150 per hour	Rs. 450	
X : 4 hours @ Rs. 150 per hour		Rs. 600

ABC Ltd.'s overheads of Rs. 12,42,500 can be identified with three major activities:

Order Processing (Rs. 2,10,000), machine processing (Rs. 8,75,000), and product inspection (Rs. 1,57,500). These activities are driven by number of orders processed, machine hours worked, and inspection hours, respectively. The data relevant to these activities is as follows:

	Orders processed	Machine hours worked	Inspection hours
Y	350	23,000	4,000
Z	250	27,000	11,000
Total	600	50,000	15,000

Required:

(i) Assuming use of direct-labour hours to absorb/apply overheads to production, compute the unit manufacturing cost of the equipment's Y and Z, if the budgeted manufacturing volume is attained.
(ii) Assuming use of activity-based costing, compute the unit manufacturing costs of the equipment's Y and Z, if the budgeted manufacturing volume is achieved.
(iii) ABC Ltd.'s selling prices are based heavily on cost. By using direct-labour hours as an application base, calculate the amount of cost distortion (under-costed or over- costed) for each equipment.
(iv) Discuss, how an activity-based costing might benefit ABC Ltd.

6 (Attempt Any Four)

(a)	EXPLAIN the difference between cost control and cost reduction.	**5**
(b)	STATE the limitations of cost and management accounting.	**5**
(c)	EXPLAIN the difference between Allocation and Apportionment of expenses	**5**
(d)	DISCUSS the accounting treatment of Idle time and overtime wages.	**5**
(e)	STATE Direct Expenses with examples.	**5**