

INTERMEDIATE EXAMINATION

December 2015

P-10(CMA)
Syllabus 2012

Cost and Management Accountancy

Time Allowed: 3 Hours

Full Marks: 100

The figures in the margin on the right side indicate full marks.

This paper contains four questions.

All questions are compulsory, subject to instruction provided against each question.

All workings must form part of your answer.

Assumptions, if any, must be clearly indicated.

Please (i) Write answers to all parts of a question together.

(ii) Open a new page for answer to a new question.

(iii) Attempt the required number of questions only.

1. Answer all questions.

- (a) Given: Sales ₹ 2,00,000; Fixed Cost ₹ 40,000; BEP ₹ 1,60,000. Ascertain the profit. 2
- (b) A contract is expected to be 80% complete in its first year of construction, as certified. The Contractee pays 75% of the work certified as and when certified and makes final payment on the completion of the Contract. The following information is available for the first year:

	(₹)
Cost of Work uncertified	80,000
Profit transferred to Profit and Loss Account at the end of year1 on incomplete contract	60,000
Cost of Work to date	8,80,000

Compute the Notional Profit. 2

- (c) Narrate any two practical difficulties in installing a costing system. 2
- (d) State any two limitations of inter-firm comparison. 2
- (e) Calculate the efficiency ratio from the following figures:
- | | | |
|------------------------|-----------|---|
| Budgeted production | 160 units | |
| Actual production | 120 units | |
| Standard time per unit | 10 hours | |
| Actual hours worked | 1000 | 2 |
- (f) Is a cost auditor required to audit and certify monthly, quarterly, half-yearly and yearly cost statements? 2
- (g) Is the provision of rotation of auditors applicable to cost auditors also? 2
- (h) What is 'shadow price'? 2
- (i) Mention two conditions for price discrimination. 2
- (j) If Total Revenue (₹) = $20Q$ and Total Cost (₹) = $400 + 12Q$, find Break Even Point in units. 2
Given, Q = number of units.

Please Turn Over

2. Answer any two questions (Carrying 20 marks each):

- (a) (i) In 2014 the turnover of Akash Ltd., which operated at a margin of safety of 25%, amounted to ₹ 12,00,000 and its profit volume ratio was 40%. During 2015 the company estimated that although the same volume of sales would be maintained, the sale value would go down due to decrease in selling price. There will be no change in variable costs. The company proposes to reduce its fixed costs through an intensive cost reduction programme. These changes will alter the profit volume ratio and margin of safety to $\frac{100}{3}\%$ and 40% respectively in 2015.

You are required to present a comparative statement indicating sales, variable costs, fixed costs and profits of the company for 2014 and 2015. 10

- (ii) Chinu Enterprize has furnished the following information from the financial books for the year ended on 31st March, 2015:

	(₹)		(₹)
Opening Stock (1000 units @ ₹ 140 each)	1,40,000	Sales (10250 units)	28,70,000
Material consumed	10,40,000	Closing stock (750 units @ ₹ 200 each)	1,50,000
Wages	6,00,000		
Gross Profit c/d	12,40,000		
	30,20,000		30,20,000
Factory Expenses	3,79,000	Gross Profit b/d	12,40,000
Administration Expenses	4,24,000	Bad debts recovered	5,000
Selling Expenses	2,20,000	Rent received	40,000
Bad debts	16,000		
Discount Allowed	20,000		
Net Profit	2,26,000		
	12,85,000		12,85,000

The cost sheet shows the cost of materials at ₹ 104 per unit and the labour cost at ₹ 60 per unit. The factory overheads are absorbed at 60% of labour cost and administration overheads at 20% of factory cost. Selling expenses are charged at ₹ 25 per unit. The opening stock of finished goods is valued at ₹ 180 per unit.

You are required to prepare:

- A statement showing profit as per Cost Accounts for the year ended on 31st March, 2015;
and 5
- A statement showing the reconciliation of profit as disclosed in Cost Accounts with the profit shown in Financial Accounts. 5

- (b) (i) A manufacturing company operates a costing system and showed the following data in respect of the month of November, 2015.

Budgeted		Actual	
Working days	20	Working days	22
Man hours	4,000	Man hours	4,200
Fixed Overhead Cost (₹)	2,400	Fixed Overhead Cost (₹)	2,500
Output (units)	800	Output (units)	900

You are required to calculate fixed overhead variances from the above data.

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- (ii) From the following data, prepare a Production Budget for ABC Co. Ltd., for the six months period ending on 30th June, 2015.

Stocks for the budgeted period:

(in units)

Product	As on 01 January, 2015	As on 30 June, 2015
A	6,000	10,000
B	9,000	8,000
C	12,000	17,500

Other relevant data:

Product	Normal loss in production	Requirement to fulfill sales programme (units)
A	4%	60,000
B	2%	50,000
C	5%	80,000

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- (iii) Naitik Ltd. provides the following cost data of a product passing through two manufacturing processes: Process A and Process B.

(Amount in ₹)

	Process A	Process B
Input: 8800 units	9,59,200	—
Material	46,500	93,680
Labour Cost	1,45,000	95,000
Electric Power	48,000	32,000
Normal loss	5%	4%
Value of scrap per unit	10	12
Output (units)	8,300	8,000

Other manufacturing expenses are ₹ 1,68,000 to be charged on the basis of labour cost.

You are required to prepare the Process Accounts, Abnormal Loss Account and Abnormal Gain Account.

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Please Turn Over

- (c) (i) XYZ Ltd., which has a system of assessment of Divisional Performance on the basis of residual income, has two Divisions, Alfa and Beta. Alfa has annual capacity to manufacture 15,00,000 units of a special component that it sells to outside customers but has idle capacity. The budgeted residual income of Beta is ₹ 1,20,00,000 and that of Alfa is ₹ 1,00,00,000.

Other relevant details extracted from the budget for the current year are as follows:

Particulars of Alfa:

Sale (Outside customers)	12,00,000 units @ ₹ 180 per unit
Variable cost per unit	₹ 160
Divisional fixed cost	₹ 80,00,000
Capital employed	₹ 7,50,00,000
Cost of Capital	12%

Beta has received a special order for which it requires components similar to the ones made by Alfa. Fully aware of the idle capacity of Alfa, Beta has asked Alfa to quote for manufacture and supply of 3,00,000 units of the components with a slight modification during final processing. Alfa and Beta agreed that this will involve an extra variable cost to Alfa amounting to ₹ 5 per unit.

- I. Calculate the transfer price, which Alfa should quote to Beta to achieve its budgeted residual income. 6
 - II. If Beta can buy the required components from open market at a price of ₹ 180 (situation A), ₹ 172 (situation B) or ₹ 160 (situation C), what should be its autonomous decision: buying from market at market price or buying from Alfa at the transfer price, in each of the situations? Also state with reason in what situation the decision of Beta may result in a sub-optimal decision for the company as a whole. 6
- (ii) Roshan Ltd., produces three products P, Q and R and for each of them uses three different machines X, Y and Z. Capacity of the machines are limited to 7000 hours for X, 8600 hours for Y and 5400 hours for Z per month. Relevant data for November 2015 are stated below:

Products	P	Q	R
Selling price per unit (₹)	10,000	8,000	6,000
Variable cost per unit (₹)	7,000	5,600	4,000
Machine hours required per unit			
X	20	12	4
Y	20	18	6
Z	20	6	2
Expected Demand (units)	200	200	200

Machine Z is identified as the bottleneck. Calculate the optimum product mix based on the throughput concept and ascertain the total profits if fixed cost amounts to ₹ 7,80,000. 8

3. Answer any two questions (Carrying 8 marks each):

- (a) (i) A Company meets the threshold limits for both maintenance of cost records and cost audit in Year-0 and consequently comes under the purview of the Rules in Year-I. If turnover of the company gets reduced to lower than the prescribed threshold limit in Year-I, will Cost Records and Cost Audit be applicable for Year-2? 4
- (ii) Is maintenance of cost accounting records mandatory for a multi-product company where all the products are not covered under the Rules even if the Turnover of the individual product/s that are covered under the Rules is less than rupees thirty five crores? 4
- (b) What are the duties of the Companies in relation to provisions of Section 148 of the Companies Act, 2013 and the Rules framed there under? 8
- (c) What are the eligibility criteria for appointment as a cost auditor? 8

4. Answer any three questions (Carrying 8 marks each):

- (a) (i) The total cost function of Krish Ltd. is $C = x^3/3 - 5x^2 + 27x + 10$, where C is the total cost (₹) and x is the output in units. A tax @ ₹ 3 per unit of output is imposed and producer adds it to his cost. The demand function is given by $P = 2055 - 5X$, where P (₹) is the price per unit of output. Find the profit maximizing output and the price at that level of output. 4
- (ii) Z Ltd. Sells output in a perfectly competitive market. The average variable cost function is (₹) $AVC = 300 - 40Q + 2Q^2$ where, Q is the quantity in units. 4
- Z Ltd. has an obligation to pay ₹ 500 irrespective of the output produced. What is the price below which Z Ltd. has to shut down its operation in the short run? 4
- (b) (i) A company sells two types of products, one is Super and the other is Delux. Super contains 5 units of chemical A and 2 units of chemical B per jar. Delux contains 3 units of each of chemical A and B per carton. The Super is sold for ₹ 7 per jar and the Delux is sold for ₹ 4 per carton. 2
- A customer requires at least 150 units of chemical A and at least 120 units of chemical B for his business. How many of each type of the products should the customer purchase to minimize the cost while meeting his requirements? 2
- Formulate LPP model for solving the above problem (do not solve it). 2
- (ii) Total Cost (₹) $= 300x - 12x^2 + \frac{x^3}{3}$, where x is the quantity of output. Calculate output at which (I) marginal cost is minimum and (II) marginal cost = average cost. 4
- (c) Given below are the figures of milk demand for last seven years:

Year	2009	2010	2011	2012	2013	2014	2015
Milk Demand (in lakh liters)	830	920	1020	1130	1060	1240	1410

You are required to determine the trend values by using least square method and estimate the demand of milk for the year 2017. 8

- (d) (i) What are the differences between ISO-quant curve and indifference curve? 4
- (ii) Briefly explain the 'Penetration Price Policy'. 4