PAPER – 10: COST & MANAGEMENT ACCOUNTANCY

The following table lists the learning objectives and the verbs that appear in the syllabus learning aims and examination questions:

	Learning objectives	Verbs used	Definition
LEVEL B	KNOWLEDGE What you are expected to know	List	Make a list of
		State	Express, fully or clearly, the details/facts
		Define	Give the exact meaning of
	COMPREHENSION What you are expected to understand	Describe	Communicate the key features of
		Distinguish	Highlight the differences between
		Explain	Make clear or intelligible/ state the meaning or purpose of
		Identity	Recognize, establish or select after consideration
		Illustrate	Use an example to describe or explain something
	APPLICATION How you are expected to apply your knowledge	Apply	Put to practical use
		Calculate	Ascertain or reckon mathematically
		Demonstrate	Prove with certainty or exhibit by practical means
		Prepare	Make or get ready for use
		Reconcile	Make or prove consistent/ compatible
		Solve	Find an answer to
		Tabulate	Arrange in a table
	ANALYSIS How you are expected to analyse the detail of what you have learned	Analyse	Examine in detail the structure of
		Categorise	Place into a defined class or division
		Compare and contrast	Show the similarities and/or differences between
		Construct	Build up or compile
		Prioritise	Place in order of priority or sequence for action
		Produce	Create or bring into existence

Paper – 10: Cost & Management Accountancy

Time Allowed: 3 Hours **Full Marks: 100**

This paper contains 4 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.

1. Answer all questions **[2x10=20]**

(a) The profit volume ratio of X Ltd. is 50% and the margin of safety is 40%. You are required to calculate the net profit if the sales volume is ₹1,00,000.

(b) A JBC machine was used on a contract site for the period of 7 months and depreciation on it was charged to the contract ₹78,750. If the working life of the machine is 5(five) years and salvage value is ₹25,000. Estimate the cost of JBC machine.

(c) The standard wage rate is ₹40 per hour; Actual wage rate is ₹45 per hour, standard time is 500 hours and actual hours worked is 480 hours. If wages paid for 505 hours then what will be the labour idle time variance?

(d) During the physical verification of stores of X Ltd. it was found that 100 units of raw material 'Y' was returned to the supplier has not been recorded. Its purchase invoice price is ₹5 per unit while the current standard cost is ₹4.80 per unit. Pass necessary journal entry to record the adjustment in the Cost Ledger of X Ltd.

(e) Arena Ltd. is preparing its cash budget for the year 2015-2016. An extract from its sales budget for the same year shows the following sales values:

March 2015	₹1,20,000
April 2015	₹1,40,000
May 2015	₹1,10,000
June 2015	₹1,30,000

40% of its sales are expected to be for cash. Of its credit sales, 50% are expected to pay in the month after sales and 50% are expected to pay in the second month after the sale. Calculate the value of sales receipts to be shown in the cash budget for May 2015.

(f) What is the meaning of "Turnover" in relation to the Companies (Cost Records and Audit) Rules, 2014?

(g) What is the difference between Cost Accounting policy and Cost Accounting system?

(h) Name the three method of pricing of a Product.

(i) The cost function of a firm is given by $c=x^3-4x^2+9x$, find at what level of output Average Cost is minimum and what level will it be.

(j) Write two function of Market.

2. Answer any two questions from a, b and c. [2x20=40]

(a)

(i) Following information relates to the manufacturing of a componenet X-101 in a cost centre:

Cost of materials	Re.0.06 per component
Operator's wages	Re.0.72 an hour
Machine-hour rate	₹1.50
Setting up time of the machine	2 hours and 20 minutes
Manufacturing time	10 minutes per component

Prepare cost sheets showing both production and setting up costs total and per unit, when a batch consists of: (1) 10 components, (2) 100 components [5]

(ii) Paramount Engineers are engaged in construction and erection of a budget under a long-term contract. The cost incurred up to 31-3-2015 was as under:

Fabrication (₹ lakhs)

Direct materials	280
Direct labour	100
Overheads	60
	440
Erection costs to date	110
	550

The contract price is ₹11 crores and the cash received on account till 31-3-2015 was ₹6 crores. A technical estimate of the contract indicates the following degree of completion of work:

Fabrication – Direct material – 70%, Direct labour and overheads – 60%, Erection – 40%.

You are required to estimate the profit that could be taken to profit and loss account against this partly completed contract as at 31-3-2015. [10]

(iii) Write a note on Equivalent Production. [5]

(b)

(i) A company manufactures a products, currently providing 80% capacity with a turnover of ₹8,00,000 at ₹ 25 per unit.

The cost data are as under:

Material cost ₹7.50 per unit, Labour cost ₹6.25 per unit.

Semi-variable cost (including variable cost of ₹3.75 per unit) ₹1,80,000

Fixed cost ₹90,000 up to 80% level of output, beyond this an additional ₹20,000 will be incurred.

Calculate:

1. Activity level at breakeven point

2. Number of units to be sold to earn a net income of 8% of sales.
3. Activity level needed to earn a profit of ₹95,000.
4. What should be the selling price per unit, if breakeven point is to be brought down to 40% activity level? [$2^1/_2$ x 4 = 10]

(ii) Vishnu Ltd. manufactures and sells product 'PT'. The company estimates the following demand for product 'PT' for the year 2014-2015:

Quarter	Units
I	20,000
II	22,000
III	25,000
IV	33,000

The production department will manufacture 80% of the current quarter's sales and 20% of the following quarter's sales. The anticipated and desired stock position for the year 2014-2015 is as follows:

Anticipated stock as on April 1, 2014	4,000 units
Desired stock as on March 31, 2015	5,000 units

The standard cost per unit of the product based on a budgeted production volume of 3,00,000 hrs is as follows:

Direct materials	2 kgs @ ₹20	₹40
Direct labour	3 hrs @ ₹20	₹60
Variable overhead	3 hrs @ ₹10	₹30
Fixed overgead	3 hrs @ ₹12	₹36

Expected selling price of the product is ₹210.

You are required to:

1. Prepare a quarter-wise production budget for 2014-2015, showing the number of units to be produced and total cost of direct materials, direct labour, variable overheads and fixed overheads,
2. Find the quarter in which the company is expected to break-even. [5+2]

(iii) Write the factor on which the success of a Uniform Costing depends. [3]

(c)

(i) A company is organized into two divisions namely A and B produces three products K, L and M.

Data per unit are:

	K	L	M
Market price (₹)	120	115	100
Variable costs (₹)	84	60	70
Direct labour hours	4	5	3
Maximum sales potential (units)	1,600	1,000	600

Division B has demand for 600 units of product L for its use. If Division A cannot supply the requirement, Division B can buy a similar product from market at ₹ 112 per unit.

What should be the transfer price of 600 units of L for Division B, if the total direct labour-hours available in Division A are restricted to 15,000? [8]

(ii) The following standards have been set to manufacture a product:

Direct Material	₹
2 units of A @ ₹ 4 per unit	8.00
3 units of B @ ₹ 3 per unit	9.00
15 units of C @ ₹ 1 per unit	15.00
	32.00
Direct labour 3 hrs. @ ₹ 8 per hour	24.00
Total standard prime cost	56.00

The company manufactures and sold 6,000 units of the product during the year. Direct material costs were as follows:

12,500 units of A at ₹ 4.40 per unit

18,000 units of B at ₹ 2.80 per unit

88,500 units of C at ₹ 1.20 per unit

The company worked 17,500 direct labour hours during the year. For 2,500 of these hours the company paid at ₹ 12 per hour while for the remaining the wages were paid at standard rate. Calculate materials price variances and usage variances and labour rate and efficiency variances. [2x4=8]

(iii) Explain the term inter-process profit. [4]

3. Answer any two questions from a, b and c. [2x8=16]

(a)

(i) The Rules prescribed in 2011 had introduced the concept of reporting under ―Product Group‖. The present Rules are silent about Product Group. What is the requirement of preparation of cost statements of products/services so far as maintenance of cost accounting records is concerned and reporting thereof in the cost audit report? [3]

(ii) What constitutes the cost records under Rule 2(e)? [5]

(b)

(i) The Rules state that cost records are to be maintained in Form CRA-1. However, CRA-1 does not prescribe any format but only provides principles to be followed for different cost elements. What are the role and status of Cost Accounting Standards/GACAP and its applicability vis-à-vis CRA-1? [5]

(ii) What types of Educational Services are covered under the Companies (Cost Records and Audit) Rules 2014? [3]

(c) What are the eligibility criteria for appointment as a cost auditor? [8]

4. Answer any three questions from a, b, c and d. [3x8=24]

(a) State the term Demand Forecasting and what are the factors involved in it? [2+6]

(b)

(i) Given $C = x^3 - 5x^2 + 9x$; $R = 6x^2 + 6x - 2$. Find the total profit and hence marginal profits. [3]

(ii) List out the components of time series. [2]

(iii) Discuss briefly the degree of price discrimination as distinguished by famous Economist Prof. Pigou. [3]

(c)

(i) Difference between Perfect Competition and Monopoly. [4]

(ii) The Demand and Supply function under perfect Competition are $y=16-x^2$ and $y=2x^2+4$ respectively.
Find:
(i) the Market Price
(ii) Consumer's Surplus [2+2]

(d)

(i) A company sells two types of products, one is Super and the other is Delux. The Super contains 2 units of chemical M and 4 units of chemical N per jar and the Delux contains 3 units of each of the chemicals M and N per carton. The super is sold for ₹3 per jar and the Delux is sold for ₹4 per carton. A customer requires at least 90 units of chemical M and at least 120 units of the chemical N for his business. How many of each type of Super should the customer purchase to minimize the cost while meeting his requirements? Formulate the Linear Programming model for the above problem, need not to solve. [2]

(ii) K ltd. sells output in a perfectly competive market. The average variable cost function K ltd. is $AVC = 400 - 40Q + 2Q^2$
K ltd has an obligation to pay ₹500 irrespective of the output produced. What is the price below which K ltd. has to shut down its operation in the short run? [3]

(iii) The Demand function is $X = 200 + 8p + 20\ p^2$, where X is demand for the commodity at price 'p' compute marginal quantity demand, average quantity demand and hence elasticity of demand. At p =4 [1+1+1]