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) A Contract is estimated to be 80% complete in its first year of construction as certified. The Contractee pays 75% of value of work certified, as and when certified and makes the final payment on the completion of contract. Following information is available for the first year:

	₹
Cost of work-in-progress uncertified	18,000
Profit transferred to Profit & Loss A/c at the end of year 1 on incomplete contract	60,000
Cost of work to date	98,000

Calculate the value of work-in-progress certified and amount of contract price.

(b) A lorry starts with a load of 25 tonnes of goods from station A. It unloads 5 tonnes at station B and rest of goods at station C. It reaches back directly to station A after getting reloaded with 18 tonnes of goods at station C. The distance between A to B, B to C and then from C to A are 60 kms. 100kms, and 150 kms respectively. Compute 'Absolute tones – kms' and 'Commercial tones – kms'.

(c) A company is currently operating at 80% capacity level. The production under normal capacity level is 1,50,000 units. The variable cost per unit is ₹14 and the total fixed costs are ₹8,00,000. If the company wants to earn a profit of ₹4,00,000, then what should be the price of the product per unit?

(d) Distinguish between Indifference Point and Break-Even Point with regard to their definition and purpose.

(e) Akash Ltd. is preparing its cash budget for the period. Sales are expected to be ₹1,00,000 in April 2014, ₹2,00,000 in May 2014, ₹3,00,000 in June 2014 and ₹ 1,00,000 in July 2014. Half of all sales are cash sales, and the other half are on credit. Experience indicates that 70% of the credit sales will be collected in the month following the sale, 20% the month after that, and, 10% in the third month after the sale. What is the budgeted collection for the month of July 2014?

(f) "Turnover". Is gross turnover whether includes excise duty or not – State.

(g) State the term Cost Audit.

(h) What are the determinants of Demand?

(i) The Demand and Supply function under perfect Competition are $y=16-x^2$ and $y=2x^2+4$ respectively. Find the Market Price.

(j) State the limitation of Simultaneous Equation.

2. Answer any two questions. [2x20=40]

(a)

(i) The monthly budgets for manufacturing overhead of SHAHEEN LTD. for two levels of activity were as follows:

Capacity	60%	100%
Budgeted production	600	1,000
	₹	₹
Wages	1,200	2,000
Consumable stores	900	1,500
Maintenance	1,100	1,500
Power & Fuel	1,600	2,000
Depreciation	4,000	4,000
Insurance	1,000	1,000
	9,800	12,000

Required:

I. Indicate which of the items are fixed, variable and semi-variable;
II. Prepare a Budget for 80% capacity; and
III. Find the total cost, both fixed and variable per unit of output at 60%, 80% and 100% capacity.

$[1\frac{1}{2}+4\frac{1}{2}+3=9]$

(ii) The following information provides details of costs, volumes and cost drivers for a particular period in respect of AKASH INDUSTRIES LTD. for the products X, Y and Z:

	Product X	Product Y	Product Z	Total
Production and Sales (Units)	30,000	20,000	8,000	
Raw material usage (Units)	5	5	11	
Direct material cost (₹)	25	20	11	12,38,000
Direct Labour hours	$4/3$	2	1	88,000
Machine hours	$4/3$	1	2	76,000
Direct Labour Cost (₹) per unit	8	12	6	
Number of production runs	3	7	20	30
Number of deliveries	9	3	20	32
Number of receipts (2x7)*	15	35	220	270
Number of production orders	15	10	25	50
Overhead Costs (₹): Setup Machines Receiving Packing Engineering	30,000 7,60,000 4,35,000 2,50,000 3,73,000 18,48,000			

* The company operates a just-in-time inventory policy and receives each component once per production run.

In the past, the company has allocated overheads to products on the basis of direct labour hours. However, the majority of overheads are related to machine hours rather than direct labour hours.

The company has recently redesigned its costing system by recovering overheads using two volume-related bases: machine hours and a materials handling overhead rate for recovering overheads of the receiving department.

Both the current and the previous cost systems reported low profit margins for Product X, which is the company's highest-selling product.

The cost accountant has recently attended a seminar/workshop on Activity Based Costing and the overhead costs for the last period have been analysed by the major activities in order to compute activity-based costs.

Required:

I. Compute the product costs using a traditional volume-related costing system based on the assumption that:

   (A) all overheads are recovered on the basis of direct labour hours (i.e. the company's past product costing system); and

   (B) the overheads of the receiving department are recovered by a materials handling overhead rate and the remaining overheads are recovered using a machine hour rate (i.e. the company's current costing system). [3+3]

(iii) Explain the term Negotiated Price of transfer Price. [5]

(b)

(i) In its budget for the period ahead 'M' Ltd. is considering two possible sales forecasts for the three products as follows:

Forecast	Product		
	X	Y	Z
I. Sales (Units)	22,000	40,000	6,000
Selling price per unit	₹ 10	₹ 6	₹ 7.50
II. Sales (Units)	30,000	50,000	7,000
Selling price per unit	₹ 9	₹ 5.50	₹ 7.50

Variable costs per unit are expected to be the same at the different levels of possible sales. The variable costs per unit are as follows:

Particulars	Product		
	X	Y	Z
Direct material	3.00	2.00	4.00
Direct labour	2.00	1.50	1.00
Variable overheads	1.00	0.50	1.00

Fixed overheads are expected to total ₹ 1,00,000. These are expected to be unaffected by the possible changes in activity which are being considered. Due to recent high labour turnover problems, direct labour will be restricted to a maximum of ₹ 1,30,000 in the period. It can be assumed that all labour is of the same grade and is freely transferable between products. Other resources are expected to be generally available.

You are required to:

Taking each of the possible sales forecasts in turn

I. Say what the principal budget factor is for each of the forecasts.

II. For each forecast calculate the sales budget that you would recommend to maximize profits.

III. What profit would you expected from each sales budget?

Assume that the products will be sold according to the selling price estimated as per the forecast and no interchange of the forecast is allowed. [3+3+6=12]

(ii) Monarch Limited undertakes to supply 1,000 units of a component per month for the months of January, Feb. and March 2014. Every month a batch order is opened against which materials and labour cost are booked at actual. Overheads are levied at a rate per labour hour. The selling price is constructed at ₹15 per unit.

From the following data, present the cost and profit per unit of each batch order and the overall position of the order for 3,000 units.

Month	Batch output (Numbers) ₹	Material Cost ₹	Labour Cost ₹
January 2014	1,250	6,250	2,500
February 2014	1,500	9,000	3,000
March 2014	1,000	5,000	2,000

Labour is paid at the rate of ₹2 per hour. The other details are:

Month	Overheads	Total labour Hour
January 2014	₹12,000	4,000
February 2014	₹9,000	4,500
March 2014	15₹000	5,000

[5+3]

(c)
(i) A Company manufacture its sole product by passing the raw material through three distinct process in its factory. During the month of April 2014, the company purchased 96,000 kg of raw material at ₹5 per kg & introduced the same in process 1. Further particulars of manufacture for the month are given below:-

	Process I	Process II	Process III
Material consumed	₹33,472	₹27,483	₹47,166
Direct labour	80,000	72,000	56,000
Overhead	1,20,000	1,08,000	84,000
Normal Waste in process as % of input	3%	1%	1%
Sale value of waste (₹/kg)	2	3	5
Actual output during the month (kg)	93,000	92,200	91,500

Prepare the three process accounts relating to abnormal; loss/gain, if any.

[3+3+3+2^1/$_2$+2^1/$_2$]

(ii) Following data is available for T.T.D & Co.:
Standard working hours 8 hours per day 5 days per week

Maximum capacity	50 employees
Actual working	40 employees
Actual hours expected to be worked per four weeks	6,400 hours
Standard hours expected to be earned per four weeks	8,000 hours
Actual hours worked in the four-week period	6,000 hours
Standard hours earned in the four week period	7,000 hours

The related period is of 4 weeks. In this period there was a special one day holiday due to national event. Calculate the following ratios:
(I) Efficiency ratio,(II) Activity ratio, (III) Calendar ratio, (IV) Standard capacity usage ratio, (V) Actual capacity usage ratio, (VI) Actual usage of budgeted capacity ratio. [6]

3. Answer any two questions. [2x8=16]

(a) List out the objectives of Cost Audit. [8]

(b)
(i) Explain the relevance of Cost Audit. [6]

(ii) What is the time limit within which the central government can seek clarification from the Cost Auditor? [2]

(c)
(i) Difference between Cost Accounting Policy and Cost Accounting system. [3]

(ii) How will you treat the following items in Cost Accounting Records?
  I. Interest received on security deposit with the Electricity Board.
  II. Voluntary Retirement Compensation paid to workers, included under wages
  III. Profit on sale of fertilizers to cane-growers by a sugar company. [3]

(iii) Variance Accounting is also part of a system of Cost Records. Explain [2]

4. Answer any three questions. **[3x8=24]**

(a) What are the factors involved in Demand Forecasting? Name the methods of demand forecasting? [7+1]

(b)

(i) NANDINI ELECTRICALS an electronics firm assumes a cost function $C(x) = x\left(\dfrac{x^2}{10} + 200\right)$, where 'x' is a monthly output in thousands of units. Its revenue function is given by R(x) = x(1100-1.5x).
Find:
  I. the output required per month to make the Marginal Profit = 0; and
  II. the Profit of this level of output [3+1]

(ii) State the main features of Perfect Competition Market. [4]

(c) State the term Law of Demand. Illustrate the exceptions to the law of demand. [1+7]

(d)
(i) HITACHI LTD. an air conditioner manufacturer, produces 'x' sets per week at a total cost of $x^2+780x+25000$. The firm is a monopolist and the demand function for its product is x = $(15000 - \dfrac{p}{4})$, where the price is 'p' per set.
  I. Determine the number of AC sets to be produced per week at which the firm will earn maximum net revenue; and
  II. Decide the monopoly price. [3+1=4]

(ii) The efficiency (E) of a small manufacturing concern depends on the number of workers (W) and is given by: $10E = \dfrac{-W^3}{40} + 30W - 392$. Find the strength of the workers, which give maximum efficiency. [4]