# PAPER – 10: COST & MANAGEMENT ACCOUNTANCY

## Paper – 10: Cost & Management Accountancy

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

### Section - A

1.  **Answer Question No.1 which is compulsory carrying 25 Marks**

    **(a) Answer the following**                                                           **[5 x 2 = 10]**

    **(i)** A company prepares a budget for a production of 2,00,000 units. Variable cost per unit is ₹15 and the fixed cost is ₹2 per unit. The company fixes its selling price to fetch a profit of 10% on cost. What is the break-even point? (both in units and ₹)

    **(ii)** 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.

    **(iii)** A factory operates a standard cost system, where 2,000 kgs of raw materials @ ₹12 per kg were used for a product, resulting in price variance of ₹6,000(F) and usage variance of ₹ 3,000 (A). Then what will be the standard material cost of actual production?

    **(iv)** 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.

    **(v)** 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.

    **(b) Match the following**                                                            **[5 x 1 = 5]**

    |   | Column 'A'          |   | Column 'B'              |
    |---|---------------------|---|-------------------------|
    | 1 | Angle of Incidence  | A | Coal Industry           |
    | 2 | JIT System          | B | Profitability Rate      |
    | 3 | Pareto Distribution | C | Management by exception |
    | 4 | Variance Analysis   | D | ABC Analysis            |
    | 5 | Output costing      | E | Control of Inventory    |

    **(c)** Under what conditions, will the appointment of Cost Auditor for conducting Cost Audit be appointed in firm's name? Who will authenticate such reports and how? Can the appointment of proprietary firms also be appointed?                        **[5]**

**(d)** The total cost function of a manufacturing firm is given by C = 2x³ − x² + 3x + 5 and the Marginal Revenue = 8 − 3x, X = output, determine the most profitable output of the firm. **[5]**

## Section - B

**(Cost & Management Accounting – Methods & Techniques and Cost Records and Cost Audit)**
**Answer any three questions from the following. Each question carries 17 marks**

**2. (a)** Following information relates to the manufacturing of a component X-101 in a cost centre:

| Cost of materials | ₹ 0.06 per component |
|---|---|
| Operator's wages | ₹ 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]**

**(b)** Kapur Engineering Company undertakes long term contract which involves the fabrication of pre stressed concrete block and the reaction of the same on consumer's life.
The following information is supplied regarding the contract which is incomplete on 31st March, 2012

Cost Incurred:

| Fabrication cost to date: | ₹ |
|---|---|
| Direct materials | 2,80,000 |
| Direct Labour | 90,000 |
| Overheads | 75,000 |
| | 4,45,000 |
| Erection cost to date | 15,000 |
| Total | 4,60,000 |
| Contract price | 8,19,000 |
| Cash received on account | 6,00,000 |

Technical estimate of work completed to date:
Fabrication: Direct materials          80%
Direct labour and overheads          75%
Erection                                          25%
You are required to prepare a statement for submission to the management indicating
(a) The estimated profit on the completion of the contract;
(b) The estimated profit to date on the contract. **[12]**

**3. (a)** Taurus Ltd. produces three products A, B and C from the same manufacturing facilities. The cost and other details of the three products are as follows:

| | A | B | B |
|---|---|---|---|
| Selling price per unit (₹) | 200 | 160 | 100 |
| Variable cost per unit (₹) | 120 | 120 | 40 |
| Fixed expenses/month (₹) | | | 2,76,000 |
| Maximum production per month (units) | 5,000 | 8,000 | 6,000 |
| Total hours available for the month | | | 200 |
| Maximum demand per month (units) | 2,000 | 4,000 | 2,400 |

The processing hour cannot be increased beyond 200 hrs per month.
You are required to:
(a) Compute the most profitable product-mix.
(b) Compute the overall break-even sales of the co., for the month based in the mix
    calculated in (a) above.                                                    [12]

(b) You are required to prepare a Selling Overhead Budget from the estimates given
    below:

| | ₹ |
|---|---|
| Advertisement | 1,000 |
| Salaries of the Sales Dept. | 1,000 |
| Expenses of the Sales Dept.(Fixed) | 750 |
| Salesmen's remuneration | 3,000 |
| | |

Salesmen's and Dearness Allowance - Commission @ 1% on sales affected
Carriage Outwards: Estimated @ 5% on sales
Agents Commission: 7½% on sales
The sales during the period were estimated as follows:
(a) ₹80,000 including Agent's Sales ₹8,000
(b) ₹90,000 including Agent's Sales ₹10,000
(c) ₹1,00,000 including Agent's Sales ₹10,500                                   [5]

4. (a) The net profits of a manufacturing company appeared at ₹ 64,500 as per financial
    records for the year ended 31st December, 2012. The cost books however, showed
    a net profit of ₹ 86,460 for the same period. A careful scrutiny of the figures from
    both the sets of accounts revealed the following facts.

| | ₹ |
|---|---|
| (i) Income-tax provided in financial books | 20,000 |
| (ii) Bank Interest (Cr) in financial books | 250 |
| (iii) Work overhead under recovered | 1,550 |
| (iv) Depreciation charged in financial records | 5,600 |
| (v) Depreciation recovered in cost | 6,000 |
| (vi) Administrative overheads over-recovered | 850 |
| (vii) Loss due to obsolescence charged in financial accounts | 2,800 |
| (viii) Interest on Investments not included in cost accounts | 4,000 |
| (ix) Stores adjustments (Credit in financial books) | 240 |
| (x) Loss due to depreciation in stock value | 3,350 |

Prepare Reconciliation Statement.                                              [10]

(b) From the following information compute (i) Equivalent production (ii) statement of
    apportionment of cost, (iii) prepare Process Account.

| Work-in-progress (opening) | State of completion |
|---|---|
| 200 units @ ₹4 per unit | 100% Material |
| | 40% Labour & Overheads |
| Units introduced 1050 | |
| Transfer to next process 1100 units | 100% Material |
| Closing stock 150 units | 70% Labour and Overhead |

| Other information: | ₹ |
|---|---|
| Material cost | 1,050 |
| Labour | 2,250 |
| Production Overhead | 1,125 |
| | 4,425 |

[7]

**5. (a)** A factory has a key resource (bottleneck) of Facility A which is available for 31,300 minutes per week.

Budgeted factory costs and data on two products, X and Y, are shown below:

| Product | Selling Price/Unit | Material Cost/Unit | Time in Facility A |
|---------|--------------------|--------------------|--------------------|
| X | ₹ 35 | ₹ 20.00 | 5 minute |
| Y | ₹35 | ₹ 17.50 | 10 minutes |

Budgeted factory costs per week:

| | ₹ |
|---|---|
| Direct labour | 25,000 |
| Indirect labour | 12,500 |
| Power | 1,750 |
| Depreciation | 22,500 |
| Space costs | 8,000 |
| Engineering | 3,500 |
| Administration | 5,000 |

Actual production during the last week is 4,750 units of product X and 650 units of product Y. Actual factory cost was ₹ 78,250.

Calculate:

(i) Total factory costs (TFC)

(ii) Cost per Factory Minute

(iii) Return per Factory Minute for both products

(iv) TA ratios for both products.

(v) Throughput cost per the week.

(vi) Efficiency ratio **[12]**

**(b)** Transferor Ltd. has two processes – Preparing and Finishing. The normal output per week is 7,500 units (completed) at a capacity of 75%.

Transferee Ltd. had production problems in preparing and require 2,000 units per week of prepared material for their finishing process.

The existing cost structure of one prepared unit of Transferor Ltd. at the existing capacity is as follows.

Material: ₹ 2.00 (variable 100%)

Labor: ₹ 2.00 (variable 50%)

Overheads: ₹ 4.00 (variable 25%)

The sale price of a completed unit of Transferor Ltd. is ₹16 with a profit of ₹4 per unit.

Contrast the effect on the profits of Transferor Ltd. for 6 months (25 weeks) of supplying units to Transferor Ltd. with the following alternative transfer prices per unit.

i) Marginal Cost

ii) Marginal Cost + 25%

iii) Marginal cost + 15% return on capital employed. (Assume capital employed ₹20 lakhs)

iv) Existing Cost

v) Existing Cost + a portion of profit on the basis of preparing cost / total cost X unit profit

vi) At an agreed market price of ₹8.50.

Assume no increase in the fixed costs. **[5]**

**6. (a)** What constitutes the cost records under Rule 2(e)? **[5]**

**(b)** 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]**

**(c)** What are the eligibility criteria for appointment as a cost auditor? **[7]**

## Section C

**(Economics for managerial decision making)**
**Answer any two from the following. Each question carries 12 marks**

7. (a) What are the factors involved in Demand Forecasting? **[6]**

   (b) The market for tri – cycles for small kids is competitive and each tri- cycle is priced at ₹ 230. The cost function of a firm is given by TC = $130q - 10q^2 + q^3$.
   (i) What is $q^0$ and $p^0$
   (ii) Is the industry in equilibrium? **[4+2]**

8. (a) Explain the different kinds of demand oriented pricing. **[6]**

   (b) The efficiency (E) of a small manufacturing concern depends on the number of workers (W) and is given by 10 E = $\dfrac{-W^3}{40}$ + 30W – 392, find the strength of the worker, which give maximum efficiency. **[6]**

9. (a) What are the pricing policies for introduction stage of a new product? **[6]**

   (b) A company is planning to market a new model of a doll. Rather than setting the selling price of the doll based only on production cost estimation management polls the retailers of the doll to see how many dolls they will buy for various prices. From this survey, it is determined at the unit demand function (the relationship between the amount 'x' each retailer would buy and the price he would pay) is x = 30,000 – 1500P. The fixed cost of the production of the dolls are found to be ₹ 28,000/- and cost of Material & labour to produce each doll is estimated to be ₹ 8/-per unit. What price should the company charge retailer in order to obtain a maximum profit? Also find the maximum profit. **[6]**