## 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 company maintains a margin of safety of 25% on its current sales and earns a profit of ₹30 lakhs per annum. If the company has a p/v ratio of 40%, what would be its current sales?

**(b)** List the non-cost considerations in a shut-down or continue decision.

**(c)** In case of joint products, the main objective of accounting of the cost is to apportion the joint costs incurred up to the split off point. For cost apportionment one company has chosen Physical Quantity Method. Three joint products 'A', 'B' and 'C' are produced in the same process. Up to the point of split off the total production of A, B and C is 60,000 kg, out of which 'A' produces 30,000 kg and joint costs are ₹3, 60,000. What would be the Joint costs allocated to product A?

**(d)** Coal India Ltd. (CI) owns the rights to extract minerals from Jharkhand state. CI has costs in three areas:

- Payment to a mining subcontractor who charges ₹4,000 per ton of coal mined and returned to the beach (after being processed on the mainland to extract three minerals – ilmenite, rutile, and zircon).
- Payment of a government mining and environmental tax of ₹3,000 per ton of coal mined.
- Payment to a barge operator. This operator charges ₹1,50,000 per month to transport each batch of coal up to 100 tons per batch per day to the mainland and ten return to Jharkhand State (i.e., 0-100 tons per day ₹,50,000 per month; 101 – 200 tons per day = ₹3,00,000 per month, and so on.) Each barge operates 25 days per month. The ₹50,000 monthly charge must be paid even if fewer than 100 tons are transported on any day and even if Coal India Ltd. requires fewer than 25 days of barge transportation in that month.)

What is the unit cost per ton of coal mined (I) if 180 tons are mined each day, or (II) if 220 tons are mined each day?

**(e)** Write two limitations of ZBB.

**(f)** A Company manufacturing Cotton Textiles wrote off in the same year the expenditure in replacement of Copper Rollers used for Printing Fabrics and Stainless Steel Frames used for Drying Yarn. Whether the Cost Auditor can qualify the report for these?

**(g)** How will you treat Cenvat availed as credit on purchased raw materials in the Cost Accounting Records?

**(h)** Name the way of determining price under Oligopoly.

**(i)** Show that elasticity of demand = $\frac{AR}{AR - MR}$, where AR and MR are average and marginal revenue respectively at any output.

**(j)** Name the types of Price Elasticity of Demand.

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

**(a)**

**(i)** X uses traditional standard costing system. The inspection and setup costs are actually ₹ 1,760 against a budget of ₹ 2,000.

ABC system is being implemented and accordingly, the number of batches is identified as the cost driver for inspection and setup costs. The budgeted production is 10,000 units in batches of 1,000 units, whereas actually, 8,800 units were produced in 11 batches.

**I.** Find the volume and total fixed overhead variance under the traditional standard costing system.

**II.** Find total fixed overhead cost variance under the ABC system. [4+6=10]

**(ii)** What are the methods of fixing "Transfer Price" for transfer of a product from one profit centre to another? Mention one demerit of each method. [1+4]

**(iii)** A company is manufacturing building bricks and fire bricks. Both the products require two processes:

Brick- forming heat –treating

Time requirements for the two bricks are:

| | Building Bricks | Fire Bricks |
|---|---|---|
| Forming per 100 Bricks | 3 hrs | 2 hrs |
| Heat- treatment per 100 Bricks | 2 hrs | 5 hrs |

Total costs of the two departments in one month were:

Forming ₹21,200 heart-treatment ₹48,800

Production during the month was:

Building bricks 1,30,000 Nos. Fire Bricks 70,000 Nos.

Prepare a statement of manufacturing costs for the two varieties of bricks. [5]

**(b)**

**(i)** A Company produces three products A, B and C. The following information is available for a period:

| Product | A | B | C | Throughout |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Contribution (₹ per unit) (Sales – Direct Materials) | 30 | 25 | 15 | Accounting Ratio |
| Machine hours required per unit of production: | | | | |
| Machine 1 | 10 hours | 2 hours | 4 hours | 133.33% |
| Machine 2 | 15 hours | 3 hours | 6 hours | 200.00% |
| Machine 3 | 5 hours | 1 hour | 2 hours | 66.67% |

Estimated Sales Demand for A, B and C are 500 units each and machine capacity is limited to 6,000 hours for each machine. You are required to analyze the above information and apply Theory of Constraints process to remove the constraints. How many units of each product will be made? [5]

**(ii)** The Manager of a Repairs Maintenance Deptt. in response to a request, submitted the following budget estimates for his department that are to be used to construct a flexible budget to be used during the coming year.

| Details of cost | Planned at 6,000 Direct repair Hours | Planned at 9,000 Direct repair Hours |
|---|---|---|
| Employee salaries | ₹30,000 | ₹30,000 |
| Indirect repair materials | ₹40,200 | ₹60,300 |
| Miscellaneous cost etc. | ₹13,200 | ₹16,800 |

**i.** Prepare a flexible budget for the department upto activity level of 10,000 repair hours (use increments of 1,000).

**ii.** What would be the budget allowance at 8,500 direct repair hours? [5+2]

**(iii)** A radio manufacturer, who commenced his business on 1st April, 2014 supplies you with the following information and asks you to prepare a statement showing the profit per radio sold. Wages and materials are to be charged at actual cost, works overhead at 75% of wages and office overhead at 30% of works cost. Number of radios manufactured and sold during the year was 540.

**Other particulars:**

| | |
|---|---|
| Materials per set | ₹240 |
| Wages per set | ₹80 |
| Selling price per set | ₹600 |

If the actual works expenses were ₹32,200 and office expenses were ₹61,760, prepare a Reconciliation Statement. [8]

**(c)**

**(i)** What are the prerequisites for Installation of a Uniform Costing System? [5]

**(ii)** Gupta Enterprise is operating at 60% capacity level producing and selling 60,000 units @ ₹50 per unit. Other relevant particulars are as follows:

| | Cost per unit |
|---|---|
| Material | ₹20 |
| Conversion Cost (variable) | ₹10 |
| Dealer's margin (10% of sales) | ₹5 |

Fixed cost for the period is ₹6,00,000

As there is a stiff competition it is not possible to sell all the products at the existing cost price structure. The following alternative proposals are considered:

(i) Decrease selling price by 20%

(ii) Increase dealer's margin from 10% to 20%

Select the better alternative. Also calculate the sales volume required to maintain the same amount of profit under the alternative which is considered better assuming that volume of sales will not be a limiting factor under such alternative. Also assume that fixed cost will remain constant. [7+2]

**(iii)** List out the advantages and disadvantages of adopting standard costs for inventory valuation. [3+3]

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

**(a)**

**(i)** Will the Companies subject to Cost Audit be also required to file Compliance Report under Companies (Cost Accounting Records) Rule 2011? How to prepare the Compliance Report? [2+3]

**(ii)** Whether a Cost Auditor can be appointed as Internal Auditor of the company. Whether there is any restriction on the cost auditor to accept assignments from a company where he is the cost auditor. [1+2]

**(b)**

**(i)** Classify the Cost Audit Reporting Format. [6]

**(ii)** A company is exporting 80% of its sales and 20% is domestic sale. Can this company be exempted from the mandatory cost audit? [2]

**(c)**

**(i)** Inclusion of Petroleum Blocks there is no commercial production of oil or gas. Explain. [4]

**(ii)** Variance Accounting is also part of a system of Cost Records. Explain. [4]

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

**(a)** What are the factors influencing Elasticity of Demand? [8]

**(b)**

**(i)** 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? [3+1]

**(ii)** The cost function of a competitive firm is $c = 200 + 10q + 2q^2$. Determine price level if the firm only earns normal profit. [4]

**(c)**

**(i)** Fit straight line by the least square method to the following figures of production of Sugar Factory. Estimate the production for the year 2015.

| Year | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|
| Production(in Lakh tons) | 76 | 87 | 95 | 81 | 91 | 96 | 90 |

[4+2]

**(ii)** What are the conditions for price discrimination? [2]

**(d)**

**(i)** Distinguish between macro and micro economics [6]

**(ii)** State Average Fixed Cost. [2]