Cost & Management Accountancy
Syllabus 2012

1. Answer all questions :

(a) Deerbound Manufacturing transferred ₹3,000,000 of raw materials into production during the most recent year. Direct labor and factory overhead for the period totaled ₹2,000,000. Beginning work in process was ₹670,000 and ending work in process was ₹850,000. Finished goods inventory decreased by ₹50,000. If gross profit was ₹1,600,000, how much was sales for the period? 2

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

i. 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).
ii. Payment of a government mining and environmental tax of ₹ 3,000 per ton of coal mined.
iii. 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 ₹1,50,000 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 (a) if 180 tons are mined each day, or (b) if 220 tons are mined each day? Explain the difference in the unit-cost figures. 3

(c) List the non-cost considerations in a shut-down or continue decision. 3

(d) What are the limitations of ZBB ? 2

(e) 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 ? 2

(f) A person is doing Internal Audit on one of the factories manufacturing 'Cement' in a company. He was proposed for appointment as Cost Auditor in another factory of the same company manufacturing cement for the same period. Is this appointment as Cost Auditor 'In Order'? 2

(g) Given the following data:
WIDGETS P = 80 - Q (Demand)
P = 20 + 2Q (Supply)

Now suppliers must pay a tax of ₹6 per unit. Find the new equilibrium price-inclusive price and quantity. 3

(h) What is Law of Demand 3

Section A – Answer any two.

2. **a)** A company fixes the inter-divisional transfer prices for its products on the basis of cost plus and estimated return on investment in its division. The relevant portion of the budget for the Division A for the year 2012-13 is given below :

	₹
Fixed assets	5,00,000
Current assets (other than debtors)	3,00,000
Debtors	2,00,000
Annual fixed cost of the division	8,00,000
Variable cost per unit of product	10
Budgeted volume of production per year (units)	4,00,000
Desired return on investment	28%

You are required to determine the transfer price for the division A. 4

b) ABC Limited manufactures two radio models, the Nova which has been produced for five years and sells for ₹ 900, and the Royal, a new model introduced in early 2012, which sells for ₹ 1,140. Based on the following Income statement for the year 2012-13, a decision has been made to concentrate ABC Limited's marketing resources on the Royal model and to begin to phase out the Nova model.

ABC Limited
Income Statement for the year ending March 31, 2013

	Royal Model	Nova Model	Total
	₹	₹	₹
Sales	45,60,000	1,98,00,000	2,43,60,000
Cost of Goods sold	31,92,000	1,25,40,000	1,57,32,000
Gross margin	13,68,000	72,60,000	86,28,000
Selling & Administrative Expenses	9,78,000	58,30,000	68,08,000
Net Income	3,90,000	14,30,000	18,20,000
Unit Produced and sold	4,000	22,000	
Net Income per unit sold	97.50	65	

The standard unit costs for the Royal and Nova models are as follows:

	Royal Model	Nova Model
	₹	₹
Direct materials	584	208
Direct Labour		
Royal (3.5 hrs x ₹ 12)	42	
Nova (1.5 hrs x ₹ 12)		18
Machine usage		
Royal (4 hrs x ₹ 18)	72	
Nova (8 hrs x ₹ 18)		144
Manufacturing overheads (applied on the		

basis of machine hours at a pre-determined rate of ₹ 25 per hour)	100	200
Standard Cost	798	570

ABC Ltd.'s Controller is advocating the use of activity-based costing and activity-based cost management and has gathered the following information about the company's manufacturing overheads cost for the year ending March 31, 2013.

Activity centre (Cost driver)	Traceable Costs ₹	Number of Events		
		Royal	Nova	Total
Soldering (Number of solder joints)	9,42,000	3,85,000	11,85,000	15,70,000
Shipments (Number of shipments)	8,60,000	3,800	16,200	20,000
Quality control (Number of Shipments)	12,40,000	21,300	56,200	77,500
Purchase orders (Number of orders)	9,50,400	1,09,980	80,100	1,90,080
Machine Power (Machine hours)	57,600	16,000	1,76,000	1,92,000
Machine setups (Number of setups)	7,50,000	14,000	16,000	30,000
Total Traceable costs	48,00,000			

Required:

(i) Prepare a Statement showing allocation of manufacturing overheads using the principles of activity-based costing.

(ii) Prepare a Statement showing product cost profitability using activity-based costing.

(iii) Should ABC Ltd. continue to emphasize the Royal model and phase out the Nova model ? Discuss. (4+4+2 = 10)

c) What are the characteristics of Product Life Cycle Concept ? 6

3. a) A construction company undertook a contract at an estimated price of ₹108 lacs, which includes a budgeted profit of Rs. 18 lacs. The relevant data for the year ended 31.03.2013 are as under:

	(₹ '000)
Materials issued to site	5,000
Direct wages paid	3,800
Plant hired	700
Site office costs	270
Materials returned from site	100
Direct expenses	500
Work certified	10,000
Progress payment received	7,200

A special plant was purchased specifically for this contract at ₹ 8,00,000 and after use on this contract till the end of 31.03.2013, it was valued at ₹5,00,000. This cost of materials at site at the end of the year was estimated at ₹ 18,00,000. Direct wages accrued as on 31.03.2013 was ₹ 1,10,000.

Required

Prepare the Contract Account for the year ended 31st March, 2013 and compute the profit to be taken to the Profit and Loss account. 6

b) A company produces two joint product X and Y, from the same basic materials. The processing is completed in three departments.

Materials are mixed in department I. At the end of this process X and Y get separated. After separation X is completed in the department II and Y is finished in department III. During a period 2,00,000 kgs of raw material were processed in department I, at a total cost of ₹ 8,75,000, and the resultant 60% becomes X and 30% becomes Y and 10% normally lost in processing.

In department II 1/6 of the quantity received from department I is lost in processing. X is further processed in department II at a cost of ₹1,80,000.

In department III further new material added to the material received from department I and weight mixture is doubled, there is no quantity loss in the department and further processing cost (with material cost) is ₹1,50,000.

The details of sales during the year:

	Product X	Product Y
Quantity sold (kgs)	90,000	1,15,000
Sales price per kg (Rs.)	10	4

There were no opening stocks. If these products sold at split-off-point, the selling price of X and Y would be ₹ 8 and ₹ 4 per kg respectively.

Required:

(i) Prepare a statement showing the apportionment of joint cost to X and Y in proportion of sales value at split off point.

(ii) Prepare a statement showing the cost per kg of each product indicating joint cost, processing cost and total cost separately.

(iii) Prepare a statement showing the product wise profit for the year.

(iv) On the basis of profits before and after further processing of product X and Y, give your comment that products should be further processed or not. (2+3+2+2= 9)

c) List a few reasons of Material Price Variance 5

4. **a)** Gadgets Ltd. manufactures and sells one product only. The budgeted volume of production and sales is 70,000 units per month. The standard selling price is ₹ 4 per unit. The standard costs are as follows :

Variable :	Materials	₹ 1.00
	Labour	0.50
Fixed :	Overheads	2.25
	Total	3.75

The company carries a substantial stock of finished units at all times. The following statement has been prepared covering the first three months' trading of the current year :

	Month 1	Month 2	Month 3
Units produced	80,000	50,000	80,000

Units sold	80,000	70,000	60,000
Sales	₹ 3,20,000	₹ 2,80,000	₹ 2,40,000
Standard cost of production	3,00,000	1,87,500	3,00,000
Stock transfer		75,000	(75,000)
Standard cost of sales	3,00,000	2,62,500	2,25,000
Standard profit	20,000	17,500	15,000

In the opinion of the Sales Director, sales are likely to continue for the rest of the year at an average rate of 60,000 units per month. The Managing Director, although somewhat disappointed at this figure, says that the company is not likely to suffer with a monthly profit less than ₹ 15,000 and asks you to confirm his view.
You are required to write a brief memorandum to the Managing Director commenting on his view and setting out the position as you see it. 10

b) A retail dealer in garments is currently selling 24,000 shirts annually. He supplies the following details for the year ended 31st March 2009.

Selling price per shirt: ₹ 800
Variable cost per shirt: ₹ 600
Fixed Cost:
Staff salaries: ₹ 24,00,000
General Office Cost : ₹ 8,00,000
Advertising Cost: ₹ 8,00,000

As a Cost Accountant, you are required to answer the following each part independently:

i. Calculate Break Even Point and margin of safety in sales revenue and number of shirts sold.
ii. Assume that 30,000 shirts were sold during the year, find out the net profit of the firm.
iii. Assuming that in the coming year, an additional staff salary of ₹ 10,00,000 is anticipated, and price of shirt is likely to be increased by 15%, what should be the break- even point in number of shirts and sales? **(3+2+2 = 7)**

c) What are the essential pre-requisites of integrated accounting system? 3

Section B – Answer any one

5. (a) 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 ? (2+2+2)

(b) A company is exporting 80% of its sales and 20% is domestic sale. Can this company be exempted from the mandatory cost audit? 3

(c) The profit as per financial accounts of XY Cement Ltd. For the year 2011-2012 was ₹ 1,34,27,561. The profit as per Cost Accounting Records for the same period was more. You are required to prepare a reconciliation statement and arrive at the profit as per Cost Accounts. The following details are collected from the financial accounting schedules and cost accounting records. 7

Particulars	Financial Accounts (₹)	Cost Accounts (₹)
Value of stock :		
Opening Balance : W.I.P.	29,52,315	23,45,720
Finished Goods	2,48,37,410	2,72,16,930
Closing Balance : W.I.P.	41,72,635	36,35,345
Finished Goods	3,67,51,410	4,15,24,148
Interest Income from Inter-Company Deposits	6,14,250	-
Donation gives	4,75,250	-
Loss on sale of Fixed Assets	1,04,148	-
Value of cement taken for own consumption	3,75,920	3,45,200
Cost of Power drawn from own wind mill:		
- E.B. Tariff	-	48,58,415
- At Cost	34,10,420	-

6. (a) As a Cost Auditor, suggest different measures to rectify imbalance in production facilities. 5

(b) The following figures are extracted from the statement prepared by the cost Accountant and the Trial balance of XYZ., which is a single product company:

Particulars	31.03.12	Year ending 31.03.11	31.03.10
		(₹ In Lakhs)	
Gross sales inclusive of Excise Duty	2,040	1,985	1,875
Excise Duty	295	280	265
Raw Materials consumed	1,140	1,060	975
Direct Wages	35	32	27
Power and Fuel	30	27	24
Stores and Spares	6	5	4
Depreciation charged to production cost centres	16	15	13
Factory overheads:			
Salaries and Wages	5	4	3
Depreciation	2	2	2
Rates and taxes	1	1	1
Other overheads	6	5	4
Administrative overheads:			
Salaries and wages	10	9	8
Rate and Taxes	2	2	2
Other overheads	162	154	148
Selling and distribution overheads:			
Salaries and Wages	7	6	5
Packing and Forwarding	6	6	5
Depreciation	1	1	1
Other overheads	124	118	108
Interest	85	74	68
Bonus and Gratuity	12	10	9
Gross current assets	840	724	640
Current Liabilities and provisions	324	305	246

You are required to compute the following ratios as per requirement the Cost Audit report Rules, 2011:

(i) Operating Profit as percentage of value Addition.

(ii) Value Addition as percentage of net sales. 5+6 = 11

Note: The computation should be based on EBDIT as operating profit.

Section C – Answer any two

7. (a) Determine breakeven point & profitable range of output if $p = 20 – 0.02x$ and $c = 320 + 10x + 0.03x^2$ 4

(b) A producer sells saress in a competitive market during the festive season : where $TC = 1600 + 300q – 40q^2 + 2q^3$

At what minimum price will the firm continue production? 4

(c) What are the factors influencing Elasticity of Demand ? 4

8. (a) 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

(b) 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) What are factors involved in Demand Forecasting ? 4

9. (a) Describe the effects of each of the following managerial decisions or economic influences on the value of the firm:

A. The firm is required to install new equipment to reduce air pollution.

B. Through heavy expenditures on advertising, the firm's marketing department increases sales substantially.

C. The production department purchases new equipment that lowers manufacturing costs.

D. The firm raises prices. Quantity demanded in the short run is unaffected, but in the longer run, unit sales are expected to decline. (2+2+2+2 = 8)

(b) The demand for fresh water is given by $P = 24 – 12q$ where $TC = 0$. If there are 2 sellers in the market calculate p & q. What happens if there are 8 sellers? 4