

INTERMEDIATE EXAMINATION

December 2013

I-P8(CMA)

Syllabus 2008

Cost & Management Accounting

Time Allowed: 3 Hours

Full Marks: 100

The figures in the margin on the right side indicate full marks.

Question No. 1 is compulsory and answer any five from the rest.

1. (a) Match the statement in Column I with appropriate statement in Column II:

1×5=5

Column I

- (i) Machine Hour Rate
- (ii) DISC method
- (iii) Batch Costing
- (iv) Capital Expenditure Budgeting
- (v) FSND Analysis

Column II

- (A) Control of Inventory
- (B) Investment Planning
- (C) Time keeping
- (D) Absorption of factory overhead
- (E) Toy Industry

- (b) State whether the following statements are TRUE or FALSE:

1×5=5

- (i) Cost Accounting is defined as technique and process of ascertaining costs.
- (ii) An efficient worker always gets more bonus under Rowan Plan in comparison to Halsey 50% plan.
- (iii) Marginal cost includes prime cost plus variable overhead.
- (iv) Master budget is prepared generally for long-term.
- (v) $\text{Average stock level} = \text{Average consumption} \times \text{Average re-order period}$.

- (c) Fill in the blanks:

1×5=5

- (i) Difference between Sales and BEP is known as _____.
- (ii) _____ is the value of benefit sacrificed in favour of an alternative course of action.
- (iii) Cost of abnormal idle time is charged to _____.
- (iv) Aggregate of indirect material, indirect Labour and indirect expenses is known as _____.
- (v) WIP appears on the credit side of the contract account when the contract is _____ at end of the accounting period.

- (d) In the following cases, one out of four answers is correct. You are required to indicate the correct answer (= 1 mark) and give workings (= 1 mark):

2×5=10

- (i) Total cost of 2000 units is ₹ 32000 and for 3200 units is ₹ 38,000. Fixed cost will be

- (a) ₹ 32,000
- (b) ₹ 22,000
- (c) ₹ 20,000
- (d) ₹ 6000

Please Turn Over

(2)

(ii) The BEP is 15,000 units, Fixed Cost is ₹ 22,500, variable cost per units ₹ 45 the P/V ratio will be

- (a) $33\frac{1}{3}\%$
(b) 55%
(c) 15%
(d) 25%

(iii) The standard and actual data for product 'MNP' are given as under:

Standard 40 hours @ ₹ 20 per hour. Actual 45 hours @ ₹ 22 per hour, so labour efficiency variance is

- (a) ₹ 90 Adverse
(b) ₹ 100 Favourable
(c) ₹ 90 Favourable
(d) ₹ 100 Adverse

(iv) If the capacity usage ratio of a production department is 90% and activity ratio is 99%, then efficiency ratio is

- (a) 120%
(b) 110%
(c) 90%
(d) 100%

(v) Monthly demand of a product is 500 units. Set up cost per batch is ₹ 60 cost of manufacturing per unit is ₹ 20 Rate of Interest is 10% p.a. Based on these parameter, the Economic Batch Quantity would be

- (a) 600 units
(b) 500 units
(c) 1500 units
(d) 1000 units

$$EOQ = \frac{2 \times \text{M. demand} \times \text{Set. Cost}}{C \times \text{Rate of Interest}}$$

$$EOQ = \frac{2 \times 500 \times 60}{2 \times 20 \times 10\%} = 1500$$

2. (a) Chandu Ltd. is currently working at its 60% capacity and produces 24,000 units. The unit cost and selling price for the same level are as follows:

	Per unit (₹)	
Material	120	7.0
Labour	90	6.0
Factory overhead (80% variable)	60	4.8 V.
Administrative overhead (75% fixed)	40	12 Fixed.
Selling and distribution overhead (50% variable)	30	4.0
Total Cost per unit	340	3.0 Fix
Selling price per unit	500	10 Var.

You are required to prepare a flexible budget and estimate the profit of the company when it works at 80% and 100% capacities. It is believed that at 80% capacity raw material cost increases by 3% and selling price falls by 3% whereas at 100% capacity raw material cost increases by 5% and selling price falls by 10%. $5+5=10$

(b) List out ten functional budgets.

5

$$400 - 20 = 380$$

$$380 - 20 = 360$$

$$360 - 20 = 340$$

$$45 - 22 = 23$$

$$23 - 22 = 1$$

$$1 - 22 = -21$$

Standard → 800
 Actual → 990

3. (a) State the differences between Differential costing and Marginal costing. 5

(b) While preparing the estimate of profitability for the coming year, the Sales Manager of a company indicated sale of the single product manufactures at a sale price of ₹ 60 per unit.

At that price the expected profit will be ₹ 25,00,000. The variable cost of the product is ₹ 20 per unit and the total fixed expenses for the year was estimated at ₹ 15,00,000.

The Sales Manager further indicated that if there is a reduction in price, the quantity of sale will rise in the following manner:

	When selling price reduced by	Quantity of sale to increase by
(i)	10%	20%
(ii)	5%	15%
(iii)	2.5%	8%

As a Cost Accountant, you have been asked to evaluate the effect of alternative sale prices as above and suggest the best alternative to be adopted in the coming year: 10

4. (a) Discuss the accounting treatment for spoilage and defectives in Cost Accounting. 5

(b) A Company produces two products A & B using similar inputs and facilities.

The availability of Labour hours in a year is 2,35,000 hours and this is considered as the limiting factor. The following details are available for the two products:

	Product A	Product B
Selling price per unit (₹)	100	50
Direct material per unit (₹)	50	11
Direct Labour (₹ 5 per hour)	25	20
Estimated sale demand (Nos.)	10,000	50,000

Other variable costs common to both products are:

- (i) variable production overhead ₹ 2 per hour of direct labour.
- (ii) Variable selling overhead 10% of sale price.

In the context of the above limiting factor, you are required to calculate a production plan that will maximise contribution to the company and also workout total contribution at that level. 10

5. (a) The following details relating to the product 'X' during the month of March, 2013 are available:

Standard Cost per unit

Materials 50 kg @ ₹ 40 per kg.

Labour 400 hours @ ₹ 1.00 (one) per hour.

Actual Cost for the month

Material 4,900 kgs @ ₹ 42 per kg.

Labour 39,600-hours @ ₹ 1.10 per hour.

Actual Production—100 units

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You are required to compute:

- (i) Material Price Variance (MPV)
- (ii) Material Usage Variance (MUV)
- (iii) Material Cost Variance (MCV)
- (iv) Labour Rate Variance (LRV)
- (v) Labour Efficiency Variance (LEV)
- (vi) Labour Cost Variance (LCV)

You are also required to reconcile the standard and the actual cost with the help of such variances. 6+4=10

(b) Define uniform costing. What are the essential requirements to install a uniform costing system? 5

6. (a) In a concern engaged in process industry, four products emerge from a particular process of operation. The total cost of input for the period ended 30.9.2013 is ₹ 2,53,500. The details of output, additional costs after split-off point and the sales value of the products are as under:

Products	Output (kgs.)	Addl. Cost after Split-off point (₹)	Sales value (₹)
A	8,000	60,000	1,68,000
B	5,000	10,000	1,10,000
C	3,000	—	60,000
D	4,000	20,000	90,000

If the products are sold at split-off point, without further processing, the Sales value would have been:
(₹)

A	1,15,000
B	90,000
C	55,000
D	80,000

You are required to prepare a statement of profitability based on the products being sold.

- (i) after further processing
- (ii) at the split-off point.

5+5=10

(b) Define the terms: Capacity costs and Relevant cost.

2+3=5

7. (a) Bright Engineering Co. Ltd. manufactures two products X & Y in its factory, similar raw material and similar production processes are involved in their production.

The following particulars are given for the year 2012.

	X	Y
No. of units produced	10,000	15,000
No. of orders (total)	30	120
No. of Labour Hours per unit	2	4
Set ups in the year	20	80
Machine hour per unit	6	2

On the basis of the above and assuming that the Company will not change its debt structure in future, preference shares will be redeemed but will be replaced by 10% Preference Shares of the same amount, will not change its Dividend-Payout Ratio and there is no Dividend Distribution Tax; you are required to determine Intrinsic Value of the Share using Constant Growth Model. 9

- (b) M. Ltd. agrees to acquire N. Ltd. based on the capitalization of last three years profits of N. Ltd. at an earning yield of 25%

Profits of N. Ltd. for the years	₹ (in lakhs)
2010	75
2011	89
2012	82

Calculate the value of business based on earning yield basis. 6

3. (a) Consider the following information in respect of Blue Chip Limited. 11

	(₹ In Crores)					
	2013	2014	2015	2016	2017	2018
Total Revenue	57.73	69.86	81.74	92.37	100.66	107.72
Cost of Goods Sold	23.93	29.93	35.24	39.72	42.28	45.76
Gross Profit	33.80	39.93	46.50	52.65	58.38	61.96
Administrative Expenses	3.56	4.38	5.11	5.72	6.07	6.55
Selling and Distribution Expenses	18.26	23.14	27.91	32.19	35.53	38.37
Depreciation	4.70	2.43	1.59	1.27	2.18	1.83
EBIT	7.28	9.98	11.89	13.47	14.60	15.21
Additional Information						
Marginal Tax Rate	33.90%	33.90%	33.90%	33.90%	33.90%	33.90%
Increase in Operating Working Capital	3.30	3.60	4.00	4.10	4.20	4.30
Capital Expenditure	0.61	0.66	0.61	0.78	0.92	0.71

Assuming that the company is having 3.5 crores of equity shares, Debt of ₹ 0.75 crores, steady growth rate of 8% in free cash flows after 2018 and weighted Average Cost of Capital (WACC) of 12.5%, determine the value of its share using free cash flow valuation method.

Year	1	2	3	4	5	6	7
Discounting factor @ 12.5%	0.8889	0.7901	0.7023	0.6243	0.5549	0.4933	0.4385

Please Turn Over

- (b) A company is expected to generate future profits of ₹ 54,00,000. What is its value of business if investment of this type of business are expected to give an annual return of 20%? 4
4. (a) A company has issued 14% convertible debentures of ₹ 100 each at par. Each debenture will be convertible into 8 equity shares of ₹ 10 each at a premium of ₹ 5 per share. The conversion will take place at the end of 4 years. The corporation tax rate is assumed to be 40% including education cess and surcharge, if any. The prevailing coupon rate of similar bonds in the market is 15%.
Assume that tax savings occur in the same year that the interest payments arise. The flotation cost is 5% of the issue amount. Calculate the cost of convertible debentures. (Discount factor @ 14%, 1-4 years is 2.914 and @ 15%, 1-4 years is 2.855; Discount factor for 4th year @ 14% is 0.592 and @ 15% is 0.572) 10
- (b) Discuss the limitations of discounted cash flow valuation. 5
5. (a) A company acquired for its internal use a software on 28.01.2012 from the USA for US \$ 1,00,000. The exchange rate on that date was ₹ 52 per US dollar.
The seller allowed trade discount @ 5%. The other expenditure were
- | | |
|--|--|
| (i) Import Duty | : 20% |
| (ii) Purchase Tax | : 10% |
| (iii) Entry Tax | : 5% (Recoverable later from tax department) |
| (iv) Installation expenses | : ₹ 25,000 |
| (v) Profession fees for clearance from customs | : ₹ 20,000 |
- Compute the cost of software to be capitalized. 10
- (b) What are the bases for valuation? 5
6. (a) The following information relates to the business of a firm 11
- Average capital employed in the business ₹ 7,20,000.
 - Net trading profits of the firm for the past three years after taxation were ₹ 1,07,600, ₹ 90,700 and ₹ 1,12,500
 - Reasonable return expected in the same type of business is 10%.
 - Fair remuneration to the partners for their services is ₹ 12,000 per annum.
- You are required to calculate the value of Goodwill—
- On the basis of five year's purchase of the annual average super profits.
 - On the basis of capitalization of the annual average super profits at the reasonable return of 10 percent, &
 - On the basis of annuity of super profits, taking the present value of annuity of one rupee for five years at 10% interest is ₹ 3.78.
- (b) The Following are the operating results of a firm:
- | | |
|------------------------|-----------------------------------|
| Sales (Units) | 25,000 |
| Interest per annum | ₹ 30,000 |
| Selling price per unit | ₹ 24 |
| Tax rate | 35% including education cess etc. |
| Variable cost per unit | ₹ 16 |
| Fixed cost per annum | ₹ 80,000 |
- Compute operating leverage and financial leverage. 4

7. (a) Negotiation is going on for transfer of A. Ltd. on the basis of Balance Sheet and the additional information as given below :

Balance Sheet of A. Ltd. As on 31st March, 2012			
Liabilities	Amount (₹)	Assets	Amount (₹)
Share Capital (₹ 10 fully paid up share)	10,00,000	Goodwill	1,00,000
Reserves & Surplus	4,00,000	Land & Building	3,00,000
Sundry Creditors	3,00,000	Plant & Machinery	8,00,000
		Investment	1,00,000
		Stock	2,00,000
		Debtors	1,50,000
		Cash & Bank	50,000
Total	17,00,000	Total	17,00,000

Profit before tax for 2011-12 amounted to ₹ 6,00,000 including ₹ 10,000 as interest on investment. However, an additional amount of ₹ 50,000 per annum shall be required to be spent for smooth running of the business. Market value of the land & building and plant & machinery are estimated at ₹ 9,00,000 and ₹ 10,00,000 respectively. In order to match the above figures further depreciation to the extent of ₹ 40,000 should be taken into consideration. Income tax rate may be taken at 30%. Return on capital @ 20% before tax may be considered as normal for this business for the present stage.

For the purpose of determining the rate of return profit for this year after the aforesaid adjustments may be taken as expected average profit. Similarly, average trading capital employed is also to be considered on the basis of position in this year.

It has been agreed that a three years purchase of super profit shall be taken as the value of goodwill for the purpose of the deal. You are requested to calculate the value of goodwill for the company. 10

- (b) Which are the forces driving mergers and acquisitions activities? 5

8. ABC Garments Ltd. is a company which produces and sells to retailers a certain range of fashion clothing. They have made the following estimates of prudential cash flows for the next 10 years. 15

Yr.	1	2	3	4	5	6	7	8	9	10
Cash flow (₹ in lakhs)	1500	1700	2000	2500	3000	3400	3800	4500	5000	6000

DCF Ltd. is a company which owns a series of boutiques in a certain locality. The boutiques buy clothes from various suppliers and retail them. Each boutique has a manager and an assistant but all purchasing and policy decisions are taken centrally. An independent cash flow estimate of DCF Ltd. was as follows;

Yr.	1	2	3	4	5	6	7	8	9	10
Cash flow (₹ in lakhs)	120	160	200	280	340	460	520	600	660	800

Please Turn Over

ABC Garments Ltd. is interested in acquiring DCF Ltd. in order to get some additional retail outlets. They make the following cost-benefit calculation;

(i) Net value of assets of DCF Ltd.

	₹ in lakh
Sundry fixed assets	800
Investments	200
Stock	400
Total	1400
Less : Sundry Creditors	400
Net Assets	1000

(ii) Sundry fixed assets amounting to ₹ 50,00,000 cannot be used and their net realisable value is ₹ 45,00,000

(iii) Stock can be realised immediately at ₹ 470 lakh.

(iv) Investments can be disposed off for ₹ 212 lakhs.

(v) Some workers of DCF Ltd. are to be retrenched for which estimated compensation is ₹ 130 lakh.

(vi) Sundry creditors are to be discharged immediately.

(vii) Liabilities on account of retirement benefits not accounted for in the balance sheet by DCF Ltd. is ₹ 48 lakhs.

(viii) Expected cash flows of the combined business will be as follows:

Yr.	1	2	3	4	5	6	7	8	9	10
Cash flow (₹ in lakhs)	1800	1900	2300	2950	3500	4000	4500	5300	5800	6900

Find out the maximum value of DCF Ltd. which ABC Garments Ltd. can quote. Also show the difference in valuation had there been no merger. Use 20% as discount factor.

Year	1	2	3	4	5	6	7	8	9	10
Discounting factor @ 20%	0.8333	0.6944	0.5787	0.4823	0.4019	0.3349	0.2791	0.2326	0.1938	0.1615