2008

COMMERCE

Group—I

(*Accounting & Control*)

(*Accounting for Managerial Decisions*)

PAPER—IX

Full Marks : 100

Time : 4 hours

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

FIRST HALF

(*Advanced Cost Accounting*)

[*Marks* : 50]

Answer **Q. No. 1** and any other *two* from the rest, taking *one* from each Group

1. Answer any *two* of the following: 10x2

(*a*) (*i*) Write a note on 'Target Costing'.

(*ii*) Jumbo Enterprise operates a standard costing system and analysis of variances is made every month. The following information relating to fixed overhead for the month of April 2008 was available. Compute all possible variances.

Standard unit fixed overhead: 2 hours @ Rs. 3·70 per hour or Rs. 7·40

Budgeted output	: 5,100 units
Actual output	: 4,850 units
Actual operating hours	: 8,000
Actual Fixed overhead	: Rs. 42,300.

5 + 5

(*b*) (*i*) Distinguish between 'Decision Unit' and 'Decision Package' in the context of Zero Base Budgeting.

(*ii*) What measure/s can you suggest for evaluation of divisional performance? 6 + 4

(*c*) Sun Ltd. produces 2,00,000, 30,000, 25,000, 20,000 and 75,000 units of its five products *A*, *B*, *C*, *D* and *E* respectively in a manufacturing process and sells them at Rs. 17, Rs. 13, Rs. 8, Rs. 10 and Rs. 14 per unit. Except product *D* remaining products can be further processed and then can be sold at Rs. 25, Rs. 17, Rs. 12 and Rs. 20 per unit in case of *A*, *B*, *C* and *E* respectively.

Raw material cost of Rs. 35,90,000 and other manufacturing expenses amounting to Rs. 5,47,000 are incurred in the manufacturing process, which are absorbed on the products on the basis of sales value after further processing less further process cost. The further processing costs of *A*, *B*, *C* and *E* are

Rs. 12,50,000, Rs. 1,50,000 Rs. 50,000 and Rs. 1,50,000 respectively. Fixed cost is Rs. 4,73,000.

You are required to prepare the following in respect of the coming year :

(*i*) Statement showing income forecast of the company assuming that none of its products are to be further processed.

(*ii*) Statement showing income forecast of the company assuming that products *A*, *B*, *C* and *E* are to be further processed.

(*iii*) Can you suggest further processing from the analysis in (*i*) & (*ii*)? 4 + 4 + 2

(*d*) G Ltd. maintains separate books for financial accounting and cost accounting. The Financial

Profit and Loss Account of the company for the year ended 31.3.2008 is given below :

Profit and Loss Account
for the year ended 31.3.2008

	Rs.	Rs.		Rs.	Rs.
To opening balance of inventory:			By Sales		36,08,000
Raw materials	2,00,000		By Closing balance of Inventory:		
Work-in-Progress	50,000		Raw materials	1,80,000	
Finished goods	1,50,000	4,00,000	Work-in-progress	40,000	
To Purchase of raw materials		15,40,000	Finished goods	1,60,000	3,80,000
To Wages		4,80,000	By Miscellaneous income		22,000
To Factory Overhead		2,60,000			
To Administrative Overhead		2,40,000			
To Selling and distribution overhead		1,80,000			
To Debenture interest		40,000			
To Preliminary expenses written off		50,000			
To Net Profit c/d		8,20,000			
		40,10,000			40,10,000

A statement showing reconciliation of profit as per Financial Accounts with that as per Cost Accounts prepared by the company is also given below :

Reconciliation Statement

	Rs.	Rs.	Rs.
Profit as per Profit and Loss A/c			**8,20,000**
Less : Differences in valuation of inventory :			
Raw materials-opening balance		**20,000**	
Work-in-Progress-opening balance		**12,000**	
Work-in-Progress-closing balance		**4,000**	
Finished goods-opening balance		**30,000**	
		(66,000)	
Add : Raw materials-closing balance	**30,000**		
Finished goods-closing balance	**15,000**	**45,000**	
		(21,000)	
Add : Other items :			
Debentures interest	**40,000**		
Preliminary expenses written off	**50,000**		
	90,000		
Less : Miscellaneous income	**22,000**	**68,000**	**47,000**
Profit as per Costing Profit and Loss A/c			**8,67,000**

Prepare the following accounts as they would appear in the cost records : (*i*) Raw Materials Control Account ; (*ii*) Work-in-Progress Account ; and (*iii*) Finished Goods Stock Accounts. 10

GROUP—A

Answer any *one* question

2. Palmolive Ltd. produces product Colgate which passes through two processes before it is completed and transferred to finished stock. The following data relate to April, 2008 :

Particulars	Process I	Process II	Finished Stock
	Rs.	Rs.	Rs.
Opening stock	7,500	9,000	22,500
Direct Materials	15,000	15,750	—
Direct Wages	11,200	11,250	—
Factory Overheads	10,500	4,500	—
Closing stock	3,700	4,500	11,250
Inter-process Profit included in opening stock	—	1,500	8,250

Output of Process I is transferred to Process II at 25% profit on the transfer price. Output of Process II is transferred to finished stock at 20% profit on the transfer price. Stocks in process are valued at Prime Cost. Finished stock is valued at the price at which it is received from Process-II. Sales revenue during the period is Rs. 1,40,000.

Prepare Process Cost Accounts showing Profit element at each stage. Also compute actual realised profit and value of stock for Balance Sheet purpose. 9 + (3 + 3)

3. A company manufactures two products, *X* and *Y* using imported raw materials. The selling prices of these products are: *X* Rs. 144 and *Y* Rs. 216. The Standard Cost data are as under:

		Product *X*	Product *Y*
		Rs.	Rs.
Raw Materials	*A*	15	20
	B	5	20

Direct Wages @ Rs. 4 per hour		
Department		
I	24	36
II	12	24
III	36	—
IV	—	48
Variable Overheads	16	14

Fixed Overhead
per annum Rs.2,50,000

The company operates an 8 hour shift for 300 days in a year and the number of workers engaged in each department is given below:

Department	No. of Workers
I	45
II	24
III	27
IV	36

(*i*) How many units of each product should be manufactured and what is the resultant maximum profit if the number of employees can not be increased or transferred from one department to another?

(*ii*) If only one product is to be manufactured by the company which of the products would give the maximum profit and what is the amount of such profit ? 11 + 4

GROUP—B

Answer any *one* question

4. Fashion Furnitures produces and sells three products— Chairs, Tables and Benches. The company is interested in presenting its budget for the quarter ending 31st March 2008. It expects to sell 4,200 chairs, 900 tables and 500 benches during the said period at the selling price of Rs. 60, Rs, 125 and Rs. 188 per unit respectively. The following information is available for the purpose :

(*i*) Materials and labour requirements :

	Chairs	Tables	Benches
Timber per unit (in cft.)	0·5	1·5	2·5
Upholstery (Padding) per unit (in sq. yds.)	0·25	—	—
Carpenter's time (minutes per unit)	45	60	75
Fixer and Finisher's time (minutes per unit)	15	15	30

Timber costs Rs. 60 per cft. and upholstery costs Rs. 20 per sq. yds. Fixing and finishing material costs 5% of the cost of timber and upholstery. Carpenter gets Rs. 10 per hour while the fixer and finisher gets Rs. 6 per hour.

(*ii*) Inventory levels planned :

	Timber (cft.)	Upholstery (sq. yds.)	Chairs (nos.)	Tables (nos.)	Benches (nos.)
Opening	600	400	400	100	50
Closing	650	260	200	200	50

(*iii*) Fixed overheads would be Rs. 8,000 per month. You are required to :

(*a*) Prepare a Production Budget,

(*b*) Prepare a Materials Purchase Budget in quantities as well as in rupees,

(*c*) Prepare a Direct Wages Cost Budget,

(*d*) Present a statement showing variable cost of manufacture per unit of all three products,

(*e*) Find out the budgeted net income for the said quarter. 2 + 4 + 2 + 3 + 4

5. A large company is organised into several manufacturing divisions. Division X buys all its requirements of raw materials R from division Y. The full manufacturing cost of R for Division Y is Rs. 88 per kg. Till recently Division Y was willing to supply R to Division X at a transfer price of Rs. 80 per kg. The incremental cost of R for Division Y is Rs. 76 per kg. Since Division Y is now operating at its full capacity, it is unable to meet the outside customers' demand for R at its market price of Rs. 100 per kg. Division Y, therefore, threatened to cut off supplies to Division X unless the latter agrees to pay the market price for R.

Division X is resisting the pressure because its budget based on the consumption of 1,00,000 kgs. per month at a price of Rs. 80 per kg. is expected to yield a profit of Rs. 25,00,000 per month and so a price increase to Rs. 100 per kg. Will bring the Division X close to break-even point. In search of a solution of the crisis, Division X has found out a substitute material for R from an outside supplier

at a price of Rs. 95 per kg. Division X, however, prefers to offer Division Y the full manufacturing cost of Rs. 88 for R to using substitute material.

Required:

(*a*) to show the profit positions for both the Divisions as well as for the company as a whole for each of the following transfer prices: (*i*) Rs. 80, (*ii*) Rs. 88, (*iii*) Rs. 95, and (*iv*) Rs. 100.

(*b*) to show the profit positions of the Divisions and the company if Division X decides to use substitute material. $(4\times3)+3$

SECOND HALF

(*Advanced Management Accounting*)

[*Marks* : 50]

Answer **Q. No. 6** and any *two* from the rest

6. Answer any *two* of the following: 10×2

(*a*) "Management Accounting assists in corporate planning process." Explain with examples.

(*b*) Explain trend ratios as a form of trend analysis. What precautions should be taken in trend analysis ?

(*c*) *X* Ltd. has the following Balance Sheet as at 31st March, 2008.

Liabilities	Rs.	*Assets*	Rs.
1,00,000 equity shares @ 10 each	10,00,000	Fixed Assets	20,00,000
Reserve & Surplus	3,00,000	Investments (long-term)	10,00,000
10% Debentures	15,00,000	Stocks	4,00,000
12% Bank Loan	5,00,000	Debtors	3,00,000
Creditors	4,00,000	Bills Receivable	2,00,000
Bills payable	2,50,000	Cash & Bank balance	1,00,000
Bank Overdraft	50,000		
	40,00,000		40,00,000

EBIT of the company for the year ended 31st March, 2008 was Rs. 4,00,000 against a turnover of Rs. 30,00,000. The company has a Price–Earning ratio of 9·72 Income of the company is taxed @ 35% on net income. With the help of the above information calculate Altman's *Z*-score and comment about financial health of the company.

(*d*) Sultan Ltd. produces a range of products with an average contribution/sales ratio of 30% on current prices. Currently, fixed costs are Rs. 1,50,000 per year and estimates are being prepared for the next budget period for which the following forecasts have been made:

Sales (At Current Price)	Probability
Rs. 4,00,000	0·2
Rs. 7,00,000	0·7
Rs. 9,00,000	0·1

Inflation rate for the next budget period	Probability
2%	0·2
6%	0·5
12%	0·3

The inflation rate is expected to affect all variable costs and 60% of the fixed costs. The company anticipates that it could be able to raise selling prices in the line with inflation without losing sales. The probabilities shown are independent.

You are required to : (*a*) prepare a table for all possible results and calculate the probability of at least breaking even ; (*b*) calculate the probability of making at least a profit of Rs. 70,000.

7. The information below is taken from the records of two companies in the same industry. The companies are *X* Ltd. and *Y* Ltd. and the data is as follows :

	X Ltd. Rs.	*Y* Ltd. Rs.
Cash	2,10,000	3,20,000
Debtors	3,30,000	6,30,000
Stock	12,30,000	9,50,000
Plant & Equipment	16,95,000	24,00,000
Total Assets	34,65,000	43,00,000
Creditors	9,00,000	10,50,000
8% Debentures	5,00,000	10,00,000
Equity Share Capital	11,00,000	17,50,000
Retained Earnings	9,65,000	5,00,000
Total Liabilities	34,65,000	43,00,000
Sales	56,00,000	82,00,000
Cost of goods sold	40,00,000	64,80,000
Other operating expenses	8,00,000	8,60,000
Interest expenses	40,000	80,000
Income taxes	2,66,000	2,73,000
Dividends	1,00,000	1,80,000

Answer each of the following questions by making a comparison of one, or more, relevant ratios :

(*i*) Which company is using the equity shareholders' money more profitably ?

(*ii*) Which company is better able to meet its current debts ?

(*iii*) If you were to purchase the debentures of one company, which company's debentures would you buy ?

(*iv*) Which company collects its receivables faster, assuming all sales to be credit sales ?

(*v*) How long does it take each company to convert an investment in stock to cash ?

(*vi*) Which company retains the larger proportion of income in the business ? 15

8. Nelson Oil Company owns drilling rights in a given area for ten years and has two possibilities : either to drill with the hope of finding oil, or to sell its drilling rights to another company.

Suppose that the company estimates the probability of finding oil ('success') 0·55 and the probability of dry hole (failure') 0·45. Assume that the drilling cost

is Rs. 14 lakhs, so that in case of failure, the company loses this sum, but in case of striking oil, the company will earn a net present value (after deducting the drilling and other costs) of Rs. 36 lakhs.

The oil company initially is faced with a decision whether or not to make a seismic test, which would add more information on the chances of finding oil. Assume that this test costs Rs. 4 lakhs and there is an equal probability that the test will succeed or fail.

Denoting a successful test as T_s, an unsuccessful test as T_f, striking oil as S and not striking oil as F. The conditional probabilities are $P(S/T_S) = 0{\cdot}90$, $P(F/T_S) = 0{\cdot}10$, $P(S/T_f) = 0{\cdot}20$, $P(F/T_f) = 0{\cdot}80$.

The company can sell the drilling rights, but the price realised depends on its timing:

(*i*) If the firm decides not to carry out seismic test, it can sell the drilling rights for Rs. 12 lakhs,

(*ii*) If the firm proposes to sell the drilling rights after it carries out the test and the result is a success, the firm can realise Rs. 24 lakhs. But if the test fails, the poor result of the test decreases the market value to only 6 lakhs.

Required:

(*a*) Draw a decision tree which shows the sequences of decisions.

(*b*) What is the optimum decision using the maximum expected NPV criterion ? 15

9. Rony & Co. wants to replace its old machine with a new automatic machine. Two models Ding and Dong are available at the same cost of Rs. 7 lakhs each. Salvage value of the old machine is Rs. 1 lakh. The utilities of the existing machine can be used if the company purchases Ding. But an additional cost of utility to be purchased in this case is Rs. 1 lakh. However, if the company purchases Dong then all the existing utilities will have to be replaced with new utilities costing Rs. 2 lakhs. The salvage value of the old utilities will be Rs. 0·20 lakh. The earning after tax are expected to be :

Year	Earning after Tax		P.V. Factor at 15%
	Ding (Rs.)	Dong (Rs.)	
1	1,00,000	2,00,000	0·87
2	1,50,000	2,10,000	0·76
3	1,80,000	1,80,000	0·66
4	2,00,000	1,70,000	0·57
5	70,000	40,000	0·50
Salvage value at the end	50,000	70,000	—

The target rate of return of the company is 15%.

Required:

(*i*) compute the NPV of two machines separately,

(*ii*) advice which of the machines is to be selected. 15

10. (*a*) Bony Ltd. has absorbed that a 90% learning curve ratio applies to all labour related costs each time a new model enters production. It is anticipated that 320 units of a new model will be manufactured during 2008. Direct labour cost for the first lot of 10 units amount to 1,000 hours @ Rs. 8 per hour. Variable overhead cost is Rs. 2 per direct labour hour.

You are required to determine—

(*i*) Total labour and labour related variable costs to manufacture 320 units of output,

(*ii*) Average cost of the first 80 units produced,

(*iii*) Incremental cost of 101-200 units.

(*b*) Discuss the effects of liberal versus stiff credit standards. 10 + 5

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