This question paper contains 4 printed pages

7242

Roll No

M. Sc. /II

OPERATIONAL RESEARCH –Paper XIV

(Financial Management)

(Admissions of 2001 and onwards)

Time 3 hours

Maximum Marks 75

(Write your Roll No on the top immediately on receipt of this question paper)
Attempt any **five** questions

Q1 (a) What are three major functions of a finance manager? How are they related? 6

(b) Explain the different forms of business organization 5

(c) You have the following information on ABC Corp..

Current ratio	3.0
Quick ratio	1.7
Current liabilities	Rs 500, 000
Inventory turnover	4 to 1
Gross profit margin	25

Given these figures, calculate the firm's sales 4

Q2. Prepare a cash budget for the Ace manufacturing company, indicating receipts and disbursements for the May, June, and July. The firm wishes to maintain at all times a minimum cash balance of Rs 20,000. Determine whether or not borrowing will be necessary during the period, and if it is, when and for how much. As of April 30, the firm had a balance of Rs. 20,000 in cash Use following information.

Sales figure

Actual Sales		**Forecasted Sales**	
January	50,000	May	70,000
February	50,000	June	80,000
March	60,000	July	1,00,000
April	60,000	August	1,00,000

- Accounts receivable: 50% of total sales are for cash. The remaining 50% will be collected equally during the following two months (the firm incurs a negligible bad-debt loss)

- Purchases are made one month before the sales and 90% of this is paid for in the month it is sold Purchases equal to 70% of sales
- Selling, general, and administrative expenses Rs. 10,000 per month plus 10% of sales All of these expenses are paid during the month of incurrence.
- Interest payments. A semiannual interest payment on Rs. 1,50,000 of bonds outstanding (12% coupon) is paid during July. An annual Rs 50,000 sinking-fund payment is also made at that time
- Dividends A Rs. 10,000 dividend payment will be declared and made in July
- Capital expenditure Rs. 40,000 will be invested in plant and equipment in June
- Taxes Income Tax payments of Rs 5,000 will be made in July.

15

Q3 The following are the accounts of two companies A Ltd and B Ltd who are in direct competition with each other **Extracts from Trading and Profit and Loss Accounts for year ended 31 December 2009,**

	Company A Ltd	**Company B Ltd**
	Rs	Rs
Sales	540,000	691,200
Less Cost of Sales	405,000	539,280
Gross Profit	135,000	151,920
Less Expenses	91,800	110,520
Net Profit	43,200	41,400

Balance Sheets as at 31 December 2009

	Company A Ltd	**Company B Ltd**
	Rs	Rs.
Assets Fixed Assets at cost	344,080	310,400
Less accumulated depreciation	72,000	79,200
	272,080	231,200
Current Assets:		
Stock	50,400	45,000
Debtors	67,680	57,960
Bank	7,200	-------
	125,280	102,960
Liabilities		
Current Liabilities		
Creditors	34,200	67,320
Bank Overdraft	-------	3,600
	34,200	70,920
Share Capital	135,000	86,400
Capital Reserve	100,000	50,000
Retained Earning	38,160	51,840
10% Debentures	90,000	75,000
	363,160	263,240

b) Calculate the following ratios for each company: Gross Profit margin, Net Profit margin, Av. Collection period (based on 360 days year), Inventory turnover, Current Ratio, Acid Test (Quick) Ratio, Return on total assets, Return on equity, Total assets turnover, Debt/Equity Ratio, Expenses/Sales % How much average inventory should be carried if management wants the inventory turnover to be 4?

c) Compare and contrast the two companies and identify the company, which is more efficient, give reasons

15

Q4 (a) An analytical statement of ABC Ltd. based on an output (sales) level of 80,000 units is shown below.

	Rs.
Sales	9,60.000
Variable Cost	5,60,000
Revenue before fixed cost	4,00,000
Fixed cost	2,40,000
Earning before Interest and Tax	1,60,000
Interest	60,000
Earning before Tax	1,00,000
Tax	50,000
Net Income	50,000

Calculate the degree of

(i) Operating Leverage,
(ii) Financial Leverage; and
(iii) Combined Leverage

6

(b) Provide details of Miller and ORR cash management model. Further explain how it has been modified by Stone?

6

(c) Delphi Corp. currently pays a dividend of Rs 2 per share, and this dividend is expected to grow at a 15% annual rate for three years, then at a 10% rate for the next three years, after which it is expected to grow at a 5% rate forever. What value would you place on the stock if an 18% rate of return is required?

3

Q5(a) A home mortgage is a loan from a bank or broker to facilitate the purchase of a home Some of the key features of a standard home mortgage are·

(a) The principle borrowed, P_0;
(b) The annual interest rate at which it is borrowed, r,
(c) The monthly payment, y and
(d) The number of years to pay off the loan, N Show that these components are related by the following expression

$$y = P_0 \frac{r}{12} - \frac{(1+r/12)^{12N}}{(1+r/12)^{12N}-1}$$

5

(b) Discuss the risk-return relationship involved in the firm's assets investment decisions as it pertains to working capital management.

5

(c) What is Dupont analysis of profitability of a firm? Explain and enumerate the elements of this analysis.

5

Q6 (a) Compare and contrast the goals of 'Profit Maximization' and 'Maximization of owner's wealth' in the management of financial affairs of a business

6

(b) Formulate a goal-programming model for the working capital management Assume a current ratio of 2 1 and quick ratio of 1·1 Use the appropriate goals

9