Paper-12: FINANCIAL MANAGEMENT & INTERNATIONAL FINANCE

Time Allowed: 3 Hours **Full Marks: 100**

The figures in the margin on the right side indicate full marks.
Answer Question No. 1 from Part A which is compulsory and any five questions from Part B.
Working notes should form a part of the answer
"Wherever necessary, suitable assumptions should be made and indicated in answers by the candidates"

PART A (25 Marks)

Question 1.

(a) In each of the cases given below, one out of four answers is correct. Indicate the correct answer (= 1 mark) and give workings/reasons briefly in support of your answer (= 1 mark) **[2 × 9]**

(i) **XYZ Ltd. has a gearing of 30%. Its cost of equity is 21% and the cost of debt is 15%. The company's WACC is:**
(A) 14.3%;
(B) 19.2%;
(C) 14.7%;
(D) 4.5%.

(ii) **Dividend-Payers Ltd. has a stable income and stable dividend policy. The average annual dividend payout is ₹ 27 per share (Face Value = ₹ 100). You are required to find out Dividend payout in year 2, if the company were to have an expected market price of ₹ 160 per share at the existing cost of equity. [The market price in year 1 is ₹ 150]**
(A) ₹ 28.88;
(B) ₹ 26.86;
(C) ₹ 28.80;
(D) ₹ 26.98.

(iii) **The P/V ratio of a firm dealing in precision instruments is 50% and margin of safety is 40%. Calculate net profit, if the sales volume is ₹ 50,00,000.**
(A) ₹ 10,00,000;
(B) ₹ 1,00,000;
(C) ₹ 5,00,000;
(D) ₹ 6,00,000.

(iv) **What is the opportunity cost of not taking a discount, when the credit terms are 2/20 net 45? [Assume 1 year = 360 days]**
(A) 24.9%;
(B) 29.4%;
(C) 22.9%;
(D) 29.2%.

(v) **If the following rates are prevailing: Euro/$: 1.1916/1.1925 and $/£: 1.42/1.47, what will be the cross rate between Euro / Pound?**
(A) 1.6921/1.7530;
(B) 1.7530/1.6921;
(C) 1.6921/1.1925;
(D) 1.7530/1.1916.

(vi) The dollar is currently trading at ₹ 40. If dollar appreciates by 10%, what will be the spot rate?
(A) ₹ 40.00;
(B) ₹ 0.0275;
(C) ₹ 0.0225;
(D) ₹ 44.00.

(vii) A firm has sales of ₹ 75,00,000 variable cost of ₹ 42,00,000 and fixed cost of ₹ 6,00,000.It has a debt of ₹ 45,00,000 at 9% interest and equity of ₹ 55,00,000. At what level of sales, the EBIT of the firm will be equal to zero?
(A) ₹ 28,48,500;
(B) ₹ 28,84,500;
(C) ₹ 22,84,500;
(D) ₹ 26,48,500.

(viii) Zoom Technologies Limited issued 1,00,000, 14% debentures of ₹ 100 each, redeemable after 5 years at ₹ 110 each. The commission payable to under writers and brokers is 10%. The after-tax cost of debt, assuming a tax rate of 45%, will be:
(A) 15.1%;
(B) 12.54%;
(C) 10%;
(D) 11.7%.

(ix) According to Gordon's dividend capitalisation model, if the share price of a firm is ₹ 43, its dividend pay-out ratio is 60%, cost of equity is 9%, ROI is 12% and the number of shares are12,000, what will be the net profit of the firm?
(A) ₹ 15,480
(B) ₹ 23,220
(C) ₹ 36,120
(D) ₹ 54,180

Answer:

(i) (B)
WACC = (21% × 0.70) + (15% × 0.30)
= 14.7% + 4.5% = 19.2%.

(ii) (C)
K_e = 27/150 x 100 = 18%

$$K_e = \frac{DPS}{160} = 18\%$$

Therefore, DPS= 160 x 18% = ₹ 28.80

(iii) (A)
Margin of Safety = ₹ 50,00,000 @40% = ₹ 20,00,000
BEP Sales = ₹ 50,00,000 – ₹ 20,00,000 = ₹ 30,00,000
Fixed cost = BEP (s) × p/v ratio = ₹ 30,00,000 @ 50% = ₹ 15,00,000
Contribution = ₹ 50,00,000 x 50/100 = ₹ 25,00,000
Profit = ₹ 25,00,000 – ₹ 15,00,000 = ₹ 10,00,000.

(iv) (B)

$$\text{Opportunity cost} = \frac{\text{discount percent}}{100 - \text{discount percent}} \times \frac{360}{N}$$

$$= \frac{2}{98} \times \frac{360}{25} = 29.4\%$$

(v) (A)
Bid (Euro/£) = Bid (Euro/$) x Bid ($/£)
Bid rate for €/£ = 1.1916 x 1.42 = 1.6921
Ask rate for €/£ = 1.1925 x 1.47 = 1.7530
∴ Quote as €/£ = 1.6921/1.7530

(vi) (D)
If dollar appreciates by 10%, then we can apply 10% directly to the given $ quote.
Therefore, 40 + 40 × 0.1 = 44
The new spot rate would be $1 = ₹ 44.

(vii) (C)
EBIT to become zero means 100% reduction in EBIT.

$$\text{Financial Leverage} = \frac{\text{EBIT}}{\text{EBT}} = \frac{27,00,000}{22,95,000} = 1.1765$$

$$\text{Operating Leverage} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{33,00,000}{27,00,000} = 1.2222$$

Combined Leverage = 1.1764 x 1.2222= 1.438
Sales have to drop by 100/1.438 = 69.54%
New Sales will be = 7500000 x (1-0.6954) = ₹ 22,84,500(approx)

(viii) (D)

$$K_d = \frac{I(1+t) + \left(\frac{F-P}{n}\right)}{\left(\frac{F+P}{2}\right)}$$

$$= \frac{14(1-0.45) + \frac{110-(100-10)}{5}}{\left(\frac{110+90}{2}\right)} = 11.7\%$$

(ix) (C)
Gordon's equity capitalisation model:
P = E (1–b)/(K–br) or 43 = E (0.6)/{0.09 – (0.4 × 0.12)}
or E = ₹ 3.01.
Net Profit = EPS × No. of shares = ₹ 3.01 × 12000 = ₹ 36120.

(b) State if each of the following sentences is true or false: [1×7]

(i) A call option is the right to sell, whereas a put option is a right to buy.

(ii) One of the demerits of ARR (Accounting Rate of Return) method is that time value of money is not considered here.

(iii) If the parties to the lease transaction are domiciled in different countries, it is known as domestic lease.

(iv) Gross Working Capital is the excess of current assets over current liabilities.

(v) The maturity period of commercial paper usually ranges from 90 days to 360 days.

(vi) In case of ABC Analysis for inventory control, 'A' class items means high percentage of the total items but having low values.

(vii) Fixed assets turnover ratio indicates the extent to which the investment in fixed assets has contributed towards sales.

Answer:

(i) False: Call Options give the option buyer the right to buy the underlying asset. Put Options give the option buyer the right to sell the underlying asset.

(ii) True: In ARR method, the time value of money is not considered. It is an one of the demerits of the method.

(iii) False: If the parties to the lease transaction are domiciled in different countries, it is known as international lease.

(iv) False: Gross Working Capital refers to the firm's investment in total current or circulating assets.

(v) True: The maturity period of commercial paper usually ranges from 90 days to 360 days.

(vi) False: In case of ABC Analysis for inventory control, 'A' class items means small percentage of the total items but having higher values.

(vii) True: Fixed assets turnover ratio indicates the extent to which the investment in fixed assets has contributed towards sales.

PART B (75 MARKS)

Question 2.

(a) The turnover of Bengal Polymers Limited is ₹ 60 lakhs of which 80% is on credit. Debtors are allowed one month to clear off the dues. A factor is willing to advance 90% of the bills raised on credit for a fee of 2% per month plus a commission of 4% on the total amount of debts. The company, as a result of this arrangement, is likely to save ₹ 21,600 annually in management costs and avoid bad debts at 1% on the credit sales.

A scheduled bank has come forward to make an advance equal to 90% of the debts at interest rate of 18% per annum. However, its processing fee will be 2% on the debts.

Advise management of the company whether it should avail services of a factor or accept offer from the bank. [10]

Answer:

Alternative - I: (Factoring)

Calculation of Effective Cost of Factoring:
Sale for the year ₹ 60,00,000
Credit sales ₹ 48,00,000
Receivables = (₹ 48,00,000 ÷ 12) × 1 month = ₹ 4,00,000

Cost of factoring per month:
Fee = ₹ 4,00,000 × 90% × 2% = ₹ 7,200
Commission = ₹ 4,00,000 × 4% = ₹ 16,000
Cost per month = ₹ (7,200 + 16,000) = ₹ 23,200

Calculation of Savings per month:
Management cost = (₹ 21,600/12) = (₹ 1,800)
Bad Debts = (₹ 4,00,000 × 1%) = (₹ 4,000)
Total cost of Factoring = ₹ (23,200 – 1,800 – 4,000) = ₹ 17,400

Alternative - II: (Bill Discounting)
Cost of Bill Discounting:
Average debtors = ₹ 4,00,000 per month
Processing Fee = (₹ 4,00,000 × 2%) = ₹ 8,000
Interest / Discount = ₹ 4,00,000 @ 90% × 18% (1/12) = ₹ 5,400
Loss due to bad debts p.a. = ₹ 4,000
Administration cost = ₹ 1,800
Total cost of Bill Discounting = ₹ 19,200

Conclusion:
As the factoring cost is less than the Bill Discounting cost the Company may opt for factoring but not bill discounting.

(b) Explain the salient features of non-recourse project financing. [5]

Answer:
Non-recourse Project Financing:

Project financing is different from conventional direct financing.
In relation to conventional direct financing, lenders to the firm look at the firm's asset portfolio that generates cash flows to service their loans. The assets and their financing are integrated into the firm's asset and liability portfolios. Often, such loans are not secured by any pledge or collateral security.

The critical distinguishing feature of a project financing is that the project is a distinct legal entity; project assets, project related contracts, and project cash flow are segregated to substantial degree from the sponsoring entity. The financing structure is designed to allocated financial returns and risks efficiently than a conventional financial structure.

In a project financing, the sponsors provide at most, limited recourse to cash flows from their other assets that are not part of the project. Also, they typically pledge the project assets, but none of their other assets, to secure the project loans. Project financing arrangements invariably involve strong contractual relationships among multiple parties, and maintaining them at a reasonable cost. Project financing will usually be cost-effective than conventional direct financing when —

(1) project financing permits a higher degree of leverage than the sponsors could achieve on their own; and
(2) the increase in leverage produces tax shield benefits sufficient to offset the higher cost of debt funds, resulting in a lower overall cost of capital for the project.

Question 3.

(a) Saran Ltd. has achieved sales of ₹ 40 million and a net profit of ₹ 5 million in the year ended 31-3-2014. The following figures are extracted from the accompanying Balance Sheet (Extracts) as on 31-03-2014 of the company:

	₹ (million)
Paid up Equity Share Capital	**5**
Reserve and Surplus	**3**
Long-term Loans	**8**
Current Liabilities and Provisions	**4**

The company wants to increase the Return on Equity by 7.5 percent in the year ending 31-03-2015.

Required:
Assess the change needed in the Net Profit margin of the company to meet the desired increase in its ROE. Assume that the other ratios will not change. **[6]**

Answer:
By using DU PONT technique:

$$\text{Present Return on Equity} = \frac{\text{Net Profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total Assets}} \times \frac{\text{Total Assets}}{\text{Equity}}$$

$$= \left(\frac{5}{40} \times \frac{40}{20} \times \frac{20}{8} \right) \times 100$$

$$= 62.5\%$$

Now, required Return on Equity = 62.5% + 7.5% = 70%

$$\text{Required Net Profit margin} = \left(\frac{\text{Return on Equity}}{\frac{\text{Sales}}{\text{Total Assets}} \times \frac{\text{Total Assets}}{\text{Equity}}} \right) \times 100$$

$$= \left(\frac{70}{2.00 \times 2.50} \right) \times 100 = 14\%$$

$$\text{Existing Net Profit Margin} = \frac{5}{40} \times 100 = 12.5\%$$

Change in Net Profit margin = 14% – 12.5%
So, increase = 1.5%

Note – 1:
Total Assets = Total Liabilities as on 31-03-2011
= Capital + Reserves + Loans + Current Liabilities.
= ₹ (5+3+8+4) million.
= ₹ 20 million.

Note – 2:
Equity = Net worth = Capital + Reserves
= ₹ (5 + 3) million = ₹ 8 million

(b) List out the main official foreign sources of finance. **[5]**

Answer:
Official Main Foreign Sources of Finance:

1. Foreign Collaboration: In India joint participation of foreign and domestic capital has been quite common in recent years. Foreign collaboration could be either in the form of joint participation between private firms, or between foreign firms and Indian Government, or between foreign governments and Indian Government.

2. Bilateral Government Funding Arrangement: Generally, advanced countries provide aid in the form of loans and advances, grants, subsidies to governments of under-developed and developing countries. The aid is provided usually for financing government and public sector projects. Funds are provided at concessional terms in respect of cost (interest), maturity, and repayment schedule.

3. NRI Deposits and Investments: Non-resident Indians have always been making a contribution in Indian economy. Government has been making efforts to encourage

their deposits and investments. Various schemes have been devised which ensure higher returns; procedures have been simplified to attract investments in primary and secondary market. Tax incentives are given on interest earned and dividends received by NRIs.

4. Loans from International Financial Institutions: International Bank for Reconstruction and Development (IBRD), International Monetary Fund (IMF), Asian Development Bank (ADB), and World Bank have been the major source of external finance to India.

5. External Commercial Borrowing (CEB): Our country has also been obtaining foreign capital in the form of external commercial borrowings from agencies like US EXIM Bank, Japanese EXIM Bank, ECGC of UK, etc.

(c) An Indian customer who has imported equipment from Germany has approached a bank for booking a forward Euro contract. The delivery is expected six months from now. The following rates are quoted:
($/Euro) spot 0.8453/0.8457
6m - Swap points 15/20
₹ / $ spot 46.47/46.57
6m - Swap points 20/30
What rate the bank will quote, if it needs a margin of 0.5%? [4]

Answer:
$/€ 6 month Forward rates:
Bid rate = 0.8453 + 0.0015 = 0.8468
Offer rate = 0.8457 +0.0020 = 0.8477
₹ / $ 6 month Forward Rates:
Bid rate = 46.47 + 0.20 = 46.67
Offer rate = 46.57+0.30 = 46.87

The customer needs € to pay for imports. He would purchase Euros. Therefore, he needs a quote of Euro in Rupee terms. We therefore, need to find only ask quote.
(₹ / €) = (₹ / $) × ($/€) = 46.87 × 0.8477 = ₹ 39.73

The Bank would quote ₹ 39.73+0.5% = ₹ 39.93/€

Question 4.

(a) Precision Instruments Limited manufactures ball bearings. The company plans to add some more product lines and so, it has decided to acquire a machine costing ₹ 50 lakhs having a useful life 5 years, with salvage value of ₹ 10 lakhs. Consider short-term capital loss/gain for income tax. The full purchase value of the machine can be financed by bank loan at the rate of 10% interest per annum repayable in five equal instalments falling due at the end of each year. Alternatively, the machine can be procured on a 5 year lease, year-end lease rentals being ₹ 12.50 lakhs per annum. The company follows the written down value method of depreciation at the rate of 25 per cent. The company is in 30% tax bracket.

Required:
(i) What is the present value (PV) of cash outflow for each of these financing alternatives using the after-tax cost of debt?
(ii) Which of the two alternatives is preferable?

Note:

Extracts from the PV Table:
(i) PVIF at 7% for 0 to 5 years are:
1.000, 0.9346, 0.8734, 0.8163, 0.7629, 0.7130
(ii) PVIF at 10% for 0 to 5 years are:
1.000, 0.9091, 0.8264, 0.7513, 0.6830, 0.6209
(iii) PVIFA for 5 years at 10% = 3.7908
(iv) PVIFA for 5 years at 7% = 4.1002. **[10]**

Answer:

Workings:

(1) Annual installment payment:

$$\frac{₹\ 50\ \text{Lakhs}}{\text{PVIFA for 5 years @ 10\%}} = \frac{₹\ 50\ \text{Lakhs}}{3.7908}$$

= ₹ 13,18,983

(2) Year-wise Depreciations:

Year	Opening WDV (₹)	Depredation (₹)	Closing WDV (₹)
1	50,00,000	12,50,000	37,50,000
2	37,50,000	9,37,500	28,12,500
3	28,12,500	7,03,125	21,09,375
4	21,09,375	5,27,344	15,82,031
5	15,82,031	3,95,508	11,86,523

(3) Year-wise Debt payments:

Year end	Opening Balance (₹)	Interest @10% (₹)	Repayment (₹)	Principal amount (₹)	Closing balance (₹)
1	50,00,000	5,00,000	13,18,983	8,18,983	41,81,017
2	41,81,017	4,18,102	13,18,983	9,00,881	32,80,136
3	32,80,136	3,28,014	13,18,983	9,90,969	22,89,167
4	22,89,167	2,28,917	13,18,983	10,90,066	11,99,101
5	11,99,101	* 1,19,882	13,18,983	11,99,101	----

* Balancing figure

Discounting factor:
Cost of finance 10% - Tax 30% = 7%

(i) Present Value (PV) of Cash Outflows under BUYING (Debt) Alternative:

Year end	Loan Installment (₹)	Tax Shield on Interest (₹)	Tax Shield on Depreciation (₹)	Net Cash Outflow (₹)	PVIF @7% (₹)	Total Present Value (₹)
1	13,18,983	1,50,000	3,75,000	7,93,983	0.9346	7,42,057
2	13,18,983	1,25,431	2,81,250	9,12,302	0.8734	7,96,805
3	13,18,983	98,404	2,10,938	10,09,641	0.8163	8,24,170
4	13,18,983	68,675	1,58,203	10,92,105	0.7629	8,33,167
5	13,18,983	35,965	1,18,652	11,64,366	0.7130	8,30,193
Total PV of outflows						40,26,392

Total PV of outflows	40,26,392
Less: PV of Salvage Value (₹ 10 Lakhs x 0.7130)	(-)7,13,000
	33,13,392
Less: PV of Tax Savings on Short-term Capital Loss {(11,86,523 - 10,00,000) x 30% x 0.7130}	(-)39,897

NPV of Cash Outflows:	32,73,495

(ii) Present Value (FV) of Cash Outflows under LEASING alternative:

Year end	Lease Rent after Taxes (₹)	PVIFA at 7%	Total Present Value (FV) (₹)
1-5	12,50,000		
Less: 30% tax	(-) 3,75,000		
	8,75,000	4.1002	35,87,675

Advise: Precision Instruments Ltd. is advised to borrow and buy. Not to go for Leasing as: NPV of Cash Outflows (BUYING) < PV of Cash Outflows (Leasing)

(b) Find the direct cross quote of French Francs in India, given that —
₹ / USD = 44.04/44.08
USD / AUD = 18.05/18.08
GBP / AUD = 0.4119/0.4127
GBP / FRF = 0.0996/0.0999 **[5]**

Answer:

$$\frac{₹}{FRF} = \frac{₹}{USD} \times \frac{USD}{AUD} \times \frac{AUD}{GBP} \times \frac{GBP}{FRF}$$

$$\left(\frac{₹}{FRF}\right)Bid = \left(\frac{₹}{USD}\right)Bid \times \left(\frac{USD}{AUD}\right)Bid \times \left(\frac{AUD}{GBP}\right)Bid \times \left(\frac{GBP}{FRF}\right)Bid$$

$$= \left(\frac{₹}{USD}\right)Bid \times \left(\frac{USD}{AUD}\right)Bid \times \left(\frac{1}{\frac{GBP}{AUD}}\right)Ask \times \left(\frac{GBP}{FRF}\right)Bid$$

= 44.04 x 18.05 x 2.4231 x 0.0996 = ₹ 191.85

$$\left(\frac{₹}{FRF}\right)Ask = \left(\frac{₹}{USD}\right)Ask \times \left(\frac{USD}{AUD}\right)Ask \times \left(\frac{1}{\frac{GBP}{AUD}}\right)Bid \times \left(\frac{GBP}{FRF}\right)Ask$$

= 44.08 x 18.08 x 2.4278 x 0.0999 = ₹ 193.29

Question 5.

(a) The following quotes are available:

Spot ($/Euro)	**0.8385 / 0.8391**
3 –m swap points	**20/30**
Spot ($ / Pound)	**1.4548 / 1.4554**
3-m swap points	**35/25**

Find the 3-m (€/£) outright forward rates. **[5]**

Answer:
Given $/€ = 0.8385 / 0.8391
3M forward = 0.8405 / 0.8421
(Swap points ascending order add to find forward rates)
$/£= 1.4548/1.4554
3M forward = 1.4513 / 1.4529

(Swap points descending order deduct to find forward rates)

To find € /£ (3M outright forward rates)
Bid (€/£) = Bid (€ /$) x Bid ($/£)
We do not have a quote of € /$, instead we have $/ €.
Bid (€ /£) = l/Ask ($/€) x Bid ($/£)

Substituting the values,
Bid rate for € /£= 1/0.8421 x 1.4513 = 1.7234
Similarly Ask (€/£) = 1/Bid($/€) x Ask($/£)= 1/0.8405x1.4529 = 1.7286

3M outright forward rates (€ /£) = 1.7234 / 1.7286

(b) Indicate the important accounting ratios that would be used by each of the following:

(i) A long–term creditor interested in determining whether his claim is adequately secured.

(ii) A bank who has been approached by a company for short-term loan / overdraft.

(iii) A Shareholder who is examining his portfolio and who is to decide whether he should hold or sell his shares in a company. [3]

Answer:

(i) Debt-Service Coverage Ratio and Interest Coverage Ratio.
(ii) Current Ratio and Quick Ratio.
(i) Return on Equity, Earning per share, Dividend per share.

(c) State the ratios which are commonly used in hotel industry. [2]

Answer:

The variety of ratios used by hotel industry which are:

1. Room Occupancy Ratio
2. Bed Occupancy Ratio
3. Double Occupancy Ratio
4. Seat Occupancy Ratios etc.

(d) From the following data, Using MM Approach, find out (i) the value of each firm and also (ii) Equity Capitalisation rate for each firm.

Particulars	Firm A	Firm B	Firm C
EBIT (₹)	12,00,000	12,00,000	12,00,000
No. of Equity Shares	3,00,000	2,50,000	2,00,000
10% debentures (₹)	—	9,00,000	10,00,000

Every firm expects 12% return on Investment. [5]

Answer:

Statement showing the computation of value of firm and equity capitalization rate

	A	B	C
Net operating income	12,00,000	12,00,000	12,00,000
(-) Interest	—	90,000	1,00,000
Earnings for equity shareholders (NI)	12,00,000	11,10,000	11,00,000
Total value of firm (EBIT/K_0)	12,00,000 / 0.12	12,00,000 / 0.12	12,00,000 / 0.12

	=1,00,00,000	=1,00,00,000	=1,00,00,000
(-) Market value of Debt (D)	—	9,00,000	10,00,000
Market value of Equity (S)	1,00,00,000	91,00,000	90,00,000
Equity capitalization rate (Ke = NI/S)	$\frac{12,00,000}{1,00,00,000}$ =0.12	$\frac{11,10,000}{91,00,000}$ =0.12198	$\frac{11,00,000}{90,00,000}$ =0.12222

Question 6.

(a) M/s Circuit Manufacturing Corporation (CMC) furnishes the following information:

Total Sales: 1,45,000 units
Selling price per unit: ₹ 23
Fixed Cost: ₹ 2,80,000
Variable Cost: ₹ 17 per unit
Debt: ₹ 10,00,000 @11% interest rate
Equity: ₹ 20,00,000
Face Value of each share: ₹ 10
Tax rate applicable: 45%

You are required to work out the following:

(i) By what amount the firm's sales have to come down, so that the Earnings before Taxes (EBT) is equal to zero?
(ii) If Earnings before Interest & Taxes (EBIT) double, what is the new level of Earnings before Taxes (EBT)?
(iii) What will be the degree of operating, financial and combined leverage?
(iv) If the asset turnover of the industry is 0.75, does the firm have a high or low degree of asset turnover? [3+2+3+2]

Answer:

(i) Turnover of the firm = ₹ 23 x 145000 = ₹ 33,35,000
Total cost = ₹ 17 x 145000 + ₹ 280000 = ₹ 27,45,000
Earnings before Interest & Tax (EBIT) = ₹ (33,35000 – 27,45,000) = ₹ 5,90,000
Interest Charges = ₹ 10,00,000 x 0.11 = ₹ 1,10,000
If the earning before taxes is equal to Zero,
EBIT should be equal to interest charges.
Let this happen at a sales level of X units.
Profit function (EBIT) = (SP – VC)X – FC;
Then, ₹ (23 - 17) X - ₹ 2,80,000 = ₹ 1,10,000

$$\text{or, } X = \frac{₹\ 3,90,000}{6} = 65,000 \text{ units}$$

$$\text{Alternatively, Sales required } = \frac{\text{Required EBIT} + \text{Fixed cost}}{\text{Contribution per unit}}$$

$$= \frac{1,10,000 + 2,80,000}{6} = 65,000 \text{ Units}$$

Therefore, the sales should come down by (1,45,000 – 65,000) or 80,000 units, or by (₹ 80,000 x ₹ 23) or ₹ 18,40,000, so that EBT is equal to Zero.

(ii) If EBIT doubles, the new level of EBIT would be equal to ₹ (2 x 5,90,000) = ₹ 11,80,000
New level of EBT = EBIT –I = ₹ 11,80,000 - ₹ 1,10,000 = ₹ 10,70,000

(iii) Degree of operating leverage –

$$= \frac{\text{Quantity (Selling Price} - \text{Variable Cost)}}{\text{Quantity (Selling Price} - \text{Variable Cost)} - \text{Fixed Cost}}$$

$$= \frac{1,45,000(23-17)}{1,45,000(23-17)-2,80,000} = 1.475$$

$$\text{Degree of financial leverage is } \frac{EBIT}{EBIT-I}$$

$$\text{Hence, DFL } = \frac{5,90,000}{5,90,000-1,10,000} = 1.23$$

Combined leverage = DOL x DFL = 1.475 x 1.23 = 1.814

(iv) Turnover of the firm = ₹ 23 x 1,45,000 = ₹ 33,35,000

$$\text{The asset turnover of the firm is } \frac{\text{Total sales}}{\text{Total assets}}$$

$$= \frac{33,35,000}{(10,00,000+20,00,000)} = 1.11$$

Since, the asset turnover of the industry is 0.75, the firm is considered to have a high degree of asset turnover. (It is assumed that the firm has no other liabilities. Therefore, Total Asset = debt + Equity)

(b) Describe the features of Venture Capital. [5]

Answer:
The main features of venture can be summarised as follows:

1. High Degree of risk: Venture capital financing is, invariably, an investment in a highly risky project with the objective of earning a high rate of return.
2. Equity Participation: Venture capital financing is, invariably, an actual or potential equity participation wherein the object of venture capital is to make capital gain by selling the share once the project become profitable.
3. Long term Investment: Venture capital financing is a long term investment. It generally takes a long period to encash the investment in securities made by the venture capitalists.
4. Participation in Management: In addition to provide capital, venture capital funds take an active interest in the management of the form that of a traditional lender or banker.
5. Achieve Social Objectives: It is different from the development capital provided by several central and state level government bodies in that the profit objective is the motive behind the financing. But venture capital profits generate employment, and balanced regional growth indirectly due to setting up successful new business.
6. Investment is Illiquid: A venture capital is not subject to repayment on demand as with an overdraft or following a loan repayment schedule.

Question 7.

(a) The selected financial data for Companies — A,B and C for the year ended March 31, 2014 are as follows:

Company	A	B	C
Financial leverage	3:1	4:1	2:1
Interest	₹ 200	₹ 300	₹ 1,000

Operating leverage	**4:1**	**5:1**	**3:1**
Variable cost as a % to sales	**66.67%**	**75%**	**50%**
Income tax rate	**45%**	**45%**	**45%**

(i) Prepare Income statement for the year ended 31st March, 2014 for each company.
(ii) Comment on the financial position and capital structure of these companies. [7+3]

Answer:

Company A: Financial Leverage = 3 $\frac{EBIT}{EBIT-200}=3$ 3(EBIT-200) = EBIT 3EBIT-EBIT=600 EBIT= 300	Operating Leverage = 4 $\frac{Contribution}{EBIT}=4$ $\frac{Sales-V.Cost}{300}=4$ Sales – 66.67% sales = 1,200 33.33% of Sales =1,200 Sales = 1,200x3 = 3,600
Company B: $\frac{EBIT}{EBIT-300}=4$ 4(EBIT-300) = EBIT 3EBIT=1,200 EBIT = 400	$\frac{Sales-V.Cost}{400}=5$ Sales-75% of Sales = 2,000 25% of Sales = 2,000 Sales = 2000x4 =8,000
Company C: $\frac{EBIT}{EBIT-1,000}=2$ 2(EBIT- 1,000) = EBIT EBIT = 2,000	$\frac{Sales-V.Cost}{2000}=3$ Sales- 50% of Sales = 6,000 50% of Sales = 6,000 Sales = 12,000

Income Statement of Companies

	A	B	C
Sales	3600	8000	12000
(-) Variable Cost	2400	6000	6000
Contribution	1200	2000	6000
(-) Fixed Cost (Contribution-EBIT)	900	1600	4000
EBIT	300	400	2000
(-) Interest	200	300	1000
EBT (Earnings before Taxes)	100	100	1000
(-) Tax @ 45%	45	45	450
EAT (Earnings after Taxes)	55	55	550

Comment on the financial position - Company C is better than that of the other companies A and B because of the following reasons:

- Company C has the least financial risk
- Total risk (business and financial) complexion of company is the lowest (DCL: A-12, B-20, C-6)
- Capacity of Company C to meet interest liability is better than that of companies A and C (from EBIT/ Interest ratio)
  [A = 300/200 = 1.5, B = 400/300 = 1.33, C = 2000/1000= 2]

(b) State the factors which affect the flow of foreign capital. [5]

Answer:

The following are some of the factors that may affect the flow of capital into any country:

1. The expected rates of return or rates of interest on investments;
2. Attitude of investors for investment in overseas capital market;
3. The credit standing of the country where the investment is to be made;
4. The internal economic, social and political stability of a country;
5. The relative stability in rates of exchange of currencies of the two countries;
6. The business cycle phase whether passing through depression or boom of a country.
7. The gap between savings and investment resulting in current account gaps of the country.
8. The policies of globalisation, liberalization and that of international integration adopted by the country;
9. Flexible legal and institutional structure of the country which can be easily understood by the investors; and
10. Availability of innovative financial products in the financial markets etc.

Question 8.

Write Short Notes on any three of the following: [5×3]

(a) Sensitivity Analysis (SA)
(b) Stock Splits
(c) Foreign Currency Convertible Bonds (FCCBs)
(d) Economic Ordering Quantity (EOQ)

Answer:

(a) Sensitivity Analysis (SA): It refers to studying the impact of changes on one or more variables on the results, which can either be NPV or IRR or EPS etc. It means that value of NPV/IRR/EPS is sensitive to all these variables. This will help in understanding the critical variables on which the results depend. It is also one way of understanding the risks related to a project or policy. The SA deals with the consideration of sensitivity of NPV in relation to different variables contributing to the NPV. The sensitivity analysis can be performed a model of projected cash flows for capital budgeting. It helps to decision making to the management. When a project proves to be very sensitive to certain aspects such as raw material price, power cost, selling price etc. the management has to provide adequate weightage to these aspects before the investment decision is frozen. The sensitivity of a capital budgeting proposal, in general, may be analyzed with reference to; (i) level of revenues; (ii) the expected growth rate in revenues; (iii) the operating margin; (iv) the working capital requirements as a percentage of revenue, etc., with each such variables, the NPV and IRR of a proposal may be ascertained by keeping the other variables unchanged.

(b) Stock Splits: A stock split is a change in the number of outstanding shares of stock achieved through a proportional reduction of increase in the par value of the stock. The management employs this device to make a major adjustment in the market price of the firm's stock and consequently in its earnings and dividends per share. In stock split only the par value and number of outstanding shares are affected. The amounts in the common stock, premium and retained earnings remain unchanged.

Reasons for stock splits:
A number of reasons may be offered for splitting of the firm's common stock. These are:

i) Broader Marketability of the stock: The basic reason of stock split is to provide broader and more stable market for the stock. It is agreed that when stock prices of a company tend to rise sharply due to economic prosperity of the company and its improved profitability and it is believed that the price of the sock has moved out of the price range of any investors narrowing the market of stock, the management may, in a bid to promote wider distribution of shares, resort to stock split.
ii) Need for Garnering External Resources: A company contemplating to garner funds from the market may use stock split to prepare ground for new issues.
iii) Merger or Acquisition of Companies: A firm contemplating merger or acquisition through exchange of stock will often split its stock to make the transactions more attractive to stockholders of the firm it is taking over.

(c) Foreign Currency Convertible Bonds (FCCBs): They mean bonds issued in accordance with relevant scheme and subscribed by a non-resident in foreign currency and convertible into depository receipts or ordinary shares of the issuing company in any manner, either in whole or in part, on the basis of any equity-related warrants attached to debt instruments. A company seeking to issue FCCBs should have consistent track record of good performance for 3 years. FCCBs are unsecured; carry a fixed rate of interest and an option for conversion into as fixed number of equity shares of the issuer company. Interest on redemption price (if conversion option is not exercised) is payable in Dollars. Interest rates are very low by Indian domestic standards.

FCCB has been popular with issuers. Local debt markets can be restrictive with comparatively short maturities and high interest rates. On the other hand, a straight equity may cause a dilution in earnings, and certainly dilutions in control, which many shareholders, especially major family shareholders, would find unacceptable. Foreign investors also prefer FCCBs because of dollar-denominated servicing, the conversion option and the arbitrage opportunities presented by conversion of FCCBs into equity at discount on prevailing market - price in India. The major drawbacks are that the issuing company cannot plan capital structure as it is not assured of conversion of FCCBs. In addition, FCCBs would result in creation of external debt for the country, as there would be foreign exchange outflow from the country, if conversion option is not exercised by the investors.

Some other regulations are: (i) Interest payment on bond, until the conversion option is exercised, shall be subjected to TDS; (ii) Conversion of FCCBs into shares shall not give rise to capital gain in India; and (iii) Transfer of FCCBs shall not give rise to capital gain in India.

(d) Economic Ordering Quantity (EOQ): It is important to note that only the correct quantity of materials is to be purchased. For this purpose, the factors such as maximum level, minimum level, danger level, re-ordering level, quantity already on order, quantity reserved, availability of funds, quantity discount, interest on capital, average consumption and availability of storage accommodation are to be kept in view. There should not be any over stock vis-à-vis no question of non-stock. Balance should be made between the cost of carrying and cost of non-carrying i.e. cost of stock-out. Cost of carrying includes the cost of storage, insurance, obsolescence, interest on capital invested. Cost of not carrying includes the costly purchase, loss of production and sales and loss of customer's goodwill. Economic Ordering Quantity (EOQ) is the quantity fixed at the point where the total cost of ordering and the cost of carrying the inventory will be the minimum. If the quantity of purchases is increased, the cost of ordering decreases while the cost of carrying increases. If the quantity of purchases is decreased, the cost of ordering increases while the cost of carrying decreases. But in this case, the total of both the costs should be kept at minimum.

Economic Ordering Quantity may also be worked out mathematically by using the following formula:

$$EOQ = \sqrt{\frac{2 \times \text{Annual usage} \times \text{Buying cost}}{\text{Cost of Carrying of one unit expressed as perecentage}}}$$