

MOCK TEST PAPER – 1
INTERMEDIATE: GROUP – II

PAPER – 8: FINANCIAL MANAGEMENT & ECONOMICS FOR FINANCE

Time Allowed – 3 Hours

Maximum Marks – 100

PAPER 8A : FINANCIAL MANAGEMENT

Answers are to be given only in English except in the case of the candidates who have opted for Hindi medium. If a candidate has not opted for Hindi medium his/ her answers in Hindi will not be valued.

Question No. 1 is compulsory.

Attempt any **four** questions from the remaining **five** questions.

Working notes should form part of the answer.

Maximum Marks – 60

1. Answer the following:

(a) With the help of following figures CALCULATE the market price of a share of a company by using:

- (i) Walter's formula
(ii) Dividend growth model (Gordon's formula)

Earnings per share (EPS)	Rs. 10
Dividend per share (DPS)	Rs. 6
Cost of capital (k)	20%
Internal rate of return on investment	25%
Retention Ratio	60%

(b) From the following details of X Ltd., PREPARE the Income Statement for the year ended 31st March, 20X8:

Financial Leverage	2
Interest	Rs. 5,000
Operating Leverage	3
Variable cost as a percentage of sales	75%
Income tax rate	30%

(c) Using the following information, PREPARE and complete the Balance Sheet given below:

- (i) Total debt to net worth : 1 : 2
(ii) Total assets turnover : 2
(iii) Gross profit on sales : 30%
(iv) Average collection period : 40 days
(Assume 360 days in a year)
(v) Inventory turnover ratio based on cost of goods sold and year-end inventory : 3
(vi) Acid test ratio : 0.75

**Balance Sheet
as on March 31, 20X8**

Liabilities	Rs.	Assets	Rs.
Equity Shares Capital	4,00,000	Plant and Machinery and other Fixed Assets	—
Reserves and Surplus	6,00,000		
Total Debt:		Current Assets:	
Current Liabilities	—	Inventory	—
		Debtors	—
	-	Cash	—

- (d) Determine the risk adjusted net present value of the following projects:

	X	Y	Z
Net cash outlays (Rs.)	2,10,000	1,20,000	1,00,000
Project life	5 years	5 years	5 years
Annual Cash inflow (Rs.)	70,000	42,000	30,000
Coefficient of variation	1.2	0.8	0.4

The Company selects the risk-adjusted rate of discount on the basis of the coefficient of variation:

Coefficient of Variation	Risk-Adjusted Rate of Return	P.V. Factor 1 to 5 years At risk adjusted rate of discount
0.0	10%	3.791
0.4	12%	3.605
0.8	14%	3.433
1.2	16%	3.274
1.6	18%	3.127
2.0	22%	2.864
More than 2.0	25%	2.689

[4 × 5 = 20 Marks]

2. (a) LIST the factors determining the dividend policy of a company. **[3 Marks]**
- (b) A bank is analysing the receivables of J Ltd. in order to identify acceptable collateral for a short-term loan. The company's credit policy is 2/10 net 30. The bank lends 80 percent on accounts where customers are not currently overdue and where the average payment period does not exceed 10 days past the net period. A schedule of J Ltd.'s receivables has been prepared. ANALYSE, how much will the bank lend on pledge of receivables, if the bank uses a 10 per cent allowance for cash discount and returns?

Account	Amount Rs.	Days Outstanding in days	Average Payment Period historically
74	25,000	15	20
91	9,000	45	60
107	11,500	22	24
108	2,300	9	10

114	18,000	50	45
116	29,000	16	10
123	14,000	27	48
	1,08,800		

[7 Marks]

3. X Ltd. is considering to select a machine out of two mutually exclusive machines. The company's cost of capital is 15 per cent and corporate tax rate is 30 per cent. Other information relating to both machines is as follows:

Machine – I	Machine – II
Cost of Machine	Rs. 30,00,000 Rs. 40,00,000
Expected Life	10 years. 10 years.
Annual Income (Before Tax and Depreciation)	Rs. 12,50,000 Rs. 17,50,000

Depreciation is to be charged on straight line basis:

You are required to CALCULATE:

- Discounted Pay Back Period
- Net Present Value
- Profitability Index

The present value factors of Re.1 @ 15% are as follows:

Year	01	02	03	04	05
PV factor @ 15%	0.870	0.756	0.658	0.572	0.497.

[10 Marks]

4. A Company earns a profit of Rs.6,00,000 per annum after meeting its interest liability of Rs.1,20,000 on 12% debentures. The Tax rate is 50%. The number of Equity Shares of Rs.10 each are 80,000 and the retained earnings amount to Rs.18,00,000. The company proposes to take up an expansion scheme for which a sum of Rs.8,00,000 is required. It is anticipated that after expansion, the company will be able to achieve the same return on investment as at present. The funds required for expansion can be raised either through debt at the rate of 12% or by issuing equity shares at par.

Required:

- COMPUTE the Earnings per Share (EPS), if:
 - The additional funds were raised as debt
 - The additional funds were raised by issue of equity shares.
- ADVISE the company as to which source of finance is preferable. [10 Marks]

5. A company needs Rs.31,25,000 for the construction of a new plant. The following three plans are feasible:
- The company may issue 3,12,500 equity shares at Rs. 10 per share.
 - The company may issue 1,56,250 equity shares at Rs. 10 per share and 15,625 debentures of Rs. 100 denomination bearing a 8% rate of interest.
 - The company may issue 1,56,250 equity shares at Rs. 10 per share and 15,625 cumulative preference shares at Rs. 100 per share bearing a 8% rate of dividend.

- (i) if the company's earnings before interest and taxes are Rs. 62,500, Rs. 1,25,000, Rs. 2,50,000, Rs. 3,75,000 and Rs. 6,25,000, DETERMINE earnings per share under each of three financial plans? Assume a corporate income tax rate of 40%.
- (ii) IDENTIFY which alternative would you recommend and why?
- (iii) DETERMINE the EBIT-EPS indifference points by formulae between Financing Plan I and Plan II and Plan I and Plan III. **[10 Marks]**
6. (a) EXPLAIN the difference between Business risk and Financial risk
- (b) EXPLAIN as to how the wealth maximisation objective is superior to the profit maximisation objective What is the cost of these sources?
- (c) DISCUSS the dividend-price approach to estimate cost of equity capital **[4 + 4+ 2 =10 Marks]**

PAPER – 8 SECTION B : ECONOMICS FOR FINANCE

Answers are to be given only in English except in the case of the candidates who have opted for Hindi medium. If a candidate has not opted for Hindi medium his/ her answers in Hindi will not be valued.

Question 7 is **compulsory question**.

Attempt **any three** from the remaining four questions

In case, any candidate answers extra questions(s)/sub-question(s)/sub-question(s) over and above the required number, then only the requisite number of questions first answered will be the evaluated the rest answer shall be ignored

Working Notes should form part of the answer.

Maximum Marks - 40

7. (a) What do you understand by the term 'final good'?" **(2 Marks)**
- (b) How would each of the following affect money multiplier and money supply?
- (i) Fearing shortage of money in ATMs, people decides to hoard money.
- (ii) Banks open large number of ATMs all over country.
- (iii) During the festival season, people decide to use ATMs very often. **(3 Marks)**
- (c) The table below shows the number of labour hours required to produce wheat and cloth in two countries X and Y.

Commodity	Country X	Country Y
1 unit of cloth	4	1.0
1 unit of wheat	2	2.5

- (i) Compare the productivity of labour in both countries in respect of both commodities
- (ii) Which country has absolute advantage in the production of wheat?
- (iii) Which country has absolute advantage in the production of cloth? **(3 Marks)**
- (d) What is meant by Crowding out? **(2 Marks)**
8. (a) The equilibrium level of income of an economy is Rs. 2,000 crores. The autonomous consumption expenditure is equal to Rs.100 crores and investment expenditure is Rs.500 crores. Calculate.
- (i) Consumption expenditure level of National Income.
- (ii) Marginal propensity to save and Marginal propensity to consume
- (iii) Break-even level of Income. **(5 Marks)**
- (b) (i) Describe rationale for the stabilisation function of government policy. **(3 Marks)**
- (ii) Explain the concept of Demand for Money **(2 Marks)**
9. (a) (i) What is the crux of Heckscher-Ohlin theory of International Trade **(3 Marks)**
- (ii) Define common resources? Why are they over used? **(2 Marks)**
- (b) (i) Define Foreign Direct Investment (FDI). Mention two arguments made in favor of FDI to developing economies like India? **(3 Marks)**
- (ii) What is the nature of relationship between investment and income according to Keynes? **(2 Marks)**

10. (a) (i) Explain the term Contractionary Fiscal Policy. What are the measures under taken in a contractionary fiscal policy? **(3 Marks)**
(ii) Explain the functioning of SLR? **(2 Marks)**
(b) (i) Explain why government imposes price ceilings **(3 Marks)**
(ii) What is Arbitrage? What is the outcome of Arbitrage **(2 Marks)?**
11. (a) (i) Outline different components of monetary policy framework for India? **(3 Marks)**
(ii) Write a note on two major components of Reserve Money **(2 Marks)**
(b) (i) Define aggregate demand. How do you derive the Keynesian aggregate demand schedule? **(3 Marks)**
(ii) What is mean by Anti-dumping duties? **(2 Marks)**
- OR
- Explain the term on market failure **(2 Marks)**

MOCK TEST PAPER – 1
INTERMEDIATE (IPC): GROUP – II
PAPER – 8: FINANCIAL MANAGEMENT & ECONOMICS FOR FINANCE
8A : FINANCIAL MANAGEMENT

Suggested Answers/Hints

1. (a) Market price per share by

(i) **Walter's formula:**
$$P = \frac{D + \frac{r}{K_e}(E - D)}{K_e}$$

$$P = \frac{6 + \frac{0.25}{0.20}(10 - 6)}{0.20}$$

$P = \text{Rs.}55$

(ii) **Gordon's formula (Dividend Growth model):** When the growth is incorporated in earnings and dividend, the present value of market price per share (P_0) is determined as follows:

Gordon's theory:

$$P_0 = \frac{E_1(1-b)}{K_e - br}$$

Where,

P_0 = Price per share

E_1 = Earnings per share

b = Retention ratio; $(1 - b = \text{Payout ratio})$

K_e = Cost of capital

r = IRR

br = Growth rate (g)

$$P_0 = \frac{10(1-0.60)}{0.20 - (0.60 \times 0.25)} = \text{Rs.} \frac{4}{0.05} = \text{Rs.}80$$

(b) **Workings:**

(i) Financial Leverage = $\frac{\text{EBIT}}{\text{EBIT} - \text{Interest}}$ Or, $2 = \frac{\text{EBIT}}{\text{EBIT} - \text{Rs.}5,000}$

Or, $\text{EBIT} = \text{Rs.}10,000$

(ii) Operating Leverage = $\frac{\text{Contribution}}{\text{EBIT}}$

Or, $3 = \frac{\text{Contribution}}{\text{Rs.}10,000}$

Or, Contribution = $\text{Rs.}30,000$

$$(iii) \text{ Sales} = \frac{\text{Contribution}}{\text{P/V Ratio}} = \frac{\text{Rs.30,000}}{25\%} = \text{Rs.1,20,000}$$

$$(iv) \text{ Fixed Cost} = \text{Contribution} - \text{Fixed cost} = \text{EBIT}$$

$$= \text{Rs.30,000} - \text{Fixed cost} = \text{Rs.10,000}$$

$$\text{Or, Fixed cost} = \text{Rs. 20,000}$$

Income Statement for the year ended 31st March, 20X8

Particulars	Amount (Rs.)
Sales	1,20,000
Less: Variable Cost (75% of Rs.1,20,000)	(90,000)
Contribution	30,000
Less: Fixed Cost (Contribution - EBIT)	(20,000)
Earnings Before Interest and Tax (EBIT)	10,000
Less: Interest	(5,000)
Earnings Before Tax (EBT)	5,000
Less: Income Tax @ 30%	(1,500)
Earnings After Tax (EAT or PAT)	3,500

(c) Net worth = Capital + Reserves and surplus
= 4,00,000 + 6,00,000 = Rs.10,00,000

$$\frac{\text{Total Debt}}{\text{Networth}} = \frac{1}{2}$$

∴ Total debt = Rs. 5,00,000

Total Liability side = Rs. 4,00,000 + Rs. 6,00,000 + Rs. 5,00,000
= Rs. 15,00,000

= Total Assets

Total Assets Turnover = $\frac{\text{Sales}}{\text{Total assets}}$

$$2 = \frac{\text{Sales}}{\text{Rs.15,00,000}}$$

∴ Sales = Rs. 30,00,000

Gross Profit on Sales: 30% i.e. Rs. 9,00,000

∴ Cost of Goods Sold (COGS) = Rs. 30,00,000 – Rs. 9,00,000
= Rs. 21,00,000

Inventory turnover = $\frac{\text{COGS}}{\text{Inventory}}$

$$3 = \frac{\text{Rs.21,00,000}}{\text{Inventory}}$$

∴ Inventory = Rs. 7,00,000

$$\text{Average collection period} = \frac{\text{Average debtors}}{\text{Sales / day}}$$

$$40 = \frac{\text{Debtors}}{\text{Rs.30,00,000 / 360}}$$

$$\therefore \text{Debtors} = \text{Rs.3,33,333.}$$

$$\text{Acid test ratio} = \frac{\text{Current Assets - Stock (Quick Asset)}}{\text{Current liabilities}}$$

$$0.75 = \frac{\text{Current Assets - Rs.7,00,000}}{\text{Rs.5,00,000}}$$

$$\therefore \text{Current Assets} = \text{Rs.10,75,000.}$$

$$\begin{aligned} \therefore \text{Fixed Assets} &= \text{Total Assets} - \text{Current Assets} \\ &= \text{Rs.15,00,000} - \text{Rs.10,75,000} = \text{Rs.4,25,000} \end{aligned}$$

$$\begin{aligned} \text{Cash and Bank balance} &= \text{Current Assets} - \text{Inventory} - \text{Debtors} \\ &= \text{Rs.10,75,000} - \text{Rs.7,00,000} - \text{Rs.3,33,333} = \text{Rs.41,667} \end{aligned}$$

Balance Sheet as on March 31, 20X8

Liabilities	Rs.	Assets	Rs.
Equity Share Capital	4,00,000	Plant and Machinery and other	
Reserves & Surplus	6,00,000	Fixed Assets	4,25,000
Total Debt:		Current Assets:	
Current liabilities	5,00,000	Inventory	7,00,000
		Debtors	3,33,333
		Cash	41,667
	15,00,000		15,00,000

(d) Statement showing the determination of the risk adjusted net present value

Projects	Net cash outlays	Coefficient of variation	Risk adjusted discount rate	Annual cash inflow	PV factor 1-5 years	Discounted cash inflow	Net present value
	(Rs.)			(Rs.)		(Rs.)	(Rs.)
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii) = (v) × (vi)	(viii) = (vii) – (ii)
X	2,10,000	1.20	16%	70,000	3.274	2,29,180	19,180
Y	1,20,000	0.80	14%	42,000	3.433	1,44,186	24,186
Z	1,00,000	0.40	12%	30,000	3.605	1,08,150	8,150

2. (a) Factors Determining the Dividend Policy of a Company

- (i) **Liquidity:** In order to pay dividends, a company will require access to cash. Even very profitable companies might sometimes have difficulty in paying dividends if resources are tied up in other forms of assets.
- (ii) **Repayment of debt:** Dividend payout may be made difficult if debt is scheduled for repayment.

- (iii) Stability of Profits: Other things being equal, a company with stable profits is more likely to pay out a higher percentage of earnings than a company with fluctuating profits.
 - (iv) Control: The use of retained earnings to finance new projects preserves the company's ownership and control. This can be advantageous in firms where the present disposition of shareholding is of importance.
 - (v) Legal consideration: The legal provisions lay down boundaries within which a company can declare dividends.
 - (vi) Likely effect of the declaration and quantum of dividend on market prices.
 - (vii) Tax considerations and
 - (viii) Others such as dividend policies adopted by units similarly placed in the industry, management attitude on dilution of existing control over the shares, fear of being branded as incompetent or inefficient, conservative policy Vs non-aggressive one.
 - (ix) Inflation: Inflation must be taken into account when a firm establishes its dividend policy.
- (b) Analysis of the receivables of J Ltd. by the bank in order to identify acceptable collateral for a short-term loan:

(i) **The J Ltd.'s credit policy is 2/10 net 30.**

The bank lends 80 per cent on accounts where customers are not currently overdue and where the average payment period does not exceed 10 days past the net period i.e. thirty days. From the schedule of receivables of J Ltd. Account No. 91 and Account No. 114 are currently overdue and for Account No. 123 the average payment period exceeds 40 days. Hence Account Nos. 91, 114 and 123 are eliminated. Therefore, the selected Accounts are Account Nos. 74, 107, 108 and 116.

(ii) Statement showing the calculation of the amount which the bank will lend on a pledge of receivables if the bank uses a 10 per cent allowances for cash discount and returns

Account No.	Amount (Rs.)	90 per cent of amount (Rs.)	80% of amount (Rs.)
	(a)	(b) = 90% of (a)	(c) = 80% of (b)
74	25,000	22,500	18,000
107	11,500	10,350	8,280
108	2,300	2,070	1,656
116	29,000	26,100	20,880
Total loan amount			48,816

3. Working Notes:

$$\text{Depreciation on Machine - I} = \frac{30,00,000}{10} = \text{Rs. } 3,00,000$$

$$\text{Depreciation on Machine - II} = \frac{40,00,000}{10} = \text{Rs. } 4,00,000$$

Particulars	Machine-I (Rs.)	Machine - II (Rs.)
Annual Income (before Tax and Depreciation)	12,50,000	17,50,000
Less: Depreciation	3,00,000	4,00,000
Annual Income (before Tax)	9,50,000	13,50,000
Less: Tax @ 30%	(2,85,000)	(4,05,000)

Annual Income (after Tax)	6,65,000	9,45,000
Add: Depreciation	3,00,000	4,00,000
Annual Cash Inflows	9,65,000	13,45,000

Year	Machine - I				Machine - II		
	PV of Re 1 @ 15%	Cash flow	PV	Cumulative PV	Cash flow	PV	Cumulative PV
1	0.870	9,65,000	8,39,550	8,39,550	13,45,000	11,70,150	11,70,150
2	0.756	9,65,000	7,29,540	15,69,090	13,45,000	10,16,820	21,86,970
3	0.658	9,65,000	6,34,970	22,04,060	13,45,000	8,85,010	30,71,980
4	0.572	9,65,000	5,51,980	27,56,040	13,45,000	7,69,340	38,41,320
5	0.497	9,65,000	4,79,605	32,35,645	13,45,000	6,68,465	45,09,785

(i) Discounted Payback Period

Machine - I

$$\text{Discounted Payback Period} = 4 + \frac{(30,00,000 - 27,56,040)}{4,79,605}$$

$$= 4 + \frac{2,43,960}{4,79,605} = 4 + 0.5087 = 4.5087 \text{ years or } 4 \text{ years } 6.10 \text{ months}$$

Machine - II

$$\text{Discounted Payback Period} = 4 + \frac{(40,00,000 - 38,41,320)}{6,68,465}$$

$$= 4 + \frac{1,58,680}{6,68,465} = 4 + 0.2374 = 4.2374 \text{ years or } 4 \text{ years } 2.85 \text{ months}$$

(ii) Net Present Value (NPV)

Machine - I

$$\text{NPV} = 32,35,645 - 30,00,000 = \text{Rs. } 2,35,645$$

Machine - II

$$\text{NPV} = 45,09,785 - 40,00,000 = \text{Rs. } 5,09,785$$

(iii) Profitability Index

Machine - I

$$\text{Profitability Index} = \frac{32,35,645}{30,00,000} = 1.08$$

Machine - II

$$\text{Profitability Index} = \frac{45,09,785}{40,00,000} = 1.13$$

Conclusion:

Method	Machine - I	Machine - II	Rank
Discounted Payback Period	4.51 years	4.24 years	II
Net Present Value	Rs. 2,35,645	Rs. 5,09,785	II
Profitability Index	1.08	1.13	II

4. Working Notes:**1. Capital employed before expansion plan:**

	(Rs.)
Equity shares (Rs.10 × 80,000 shares)	8,00,000
Debentures {(Rs.1,20,000/12) × 100}	10,00,000
Retained earnings	18,00,000
Total capital employed	36,00,000

2. Earnings before the payment of interest and tax (EBIT):

	(Rs.)
Profit (EBT)	6,00,000
Add: Interest	1,20,000
EBIT	7,20,000

3. Return on Capital Employed (ROCE):

$$\text{ROCE} = \frac{\text{EBIT}}{\text{Capital employed}} \times 100 = \frac{\text{Rs.7,20,000}}{\text{Rs.36,00,000}} \times 100 = 20\%$$

4. Earnings before interest and tax (EBIT) after expansion scheme:

$$\begin{aligned} \text{After expansion, capital employed} &= \text{Rs.36,00,000} + \text{Rs.8,00,000} \\ &= \text{Rs.44,00,000} \end{aligned}$$

$$\text{Desired EBIT} = 20\% \times \text{Rs.44,00,000} = \text{Rs.8,80,000}$$

(i) Computation of Earnings Per Share (EPS) under the following options:

	Present situation	Expansion scheme Additional funds raised as	
		Debt	Equity
	(Rs.)	(Rs.)	(Rs.)
Earnings before Interest and Tax (EBIT)	7,20,000	8,80,000	8,80,000
Less: Interest - Old capital	1,20,000	1,20,000	1,20,000
- New capital	--	96,000 (Rs.8,00,000 × 12%)	--
Earnings before Tax (EBT)	6,00,000	6,64,000	7,60,000
Less: Tax (50% of EBT)	3,00,000	3,32,000	3,80,000
PAT	3,00,000	3,32,000	3,80,000
No. of shares outstanding	80,000	80,000	1,60,000

Earnings per Share (EPS)	3.75	4.15	2.38
	$\left(\frac{\text{Rs.}3,00,000}{80,000} \right)$	$\left(\frac{\text{Rs.}3,32,000}{80,000} \right)$	$\left(\frac{\text{Rs.}3,80,000}{1,60,000} \right)$

(ii) **Advise to the Company:** When the expansion scheme is financed by additional debt, the EPS is higher. Hence, the company should finance the expansion scheme by raising debt.

5. (i) **Computation of EPS under three-financial plans.**

Plan I: Equity Financing

	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)
EBIT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Interest	0	0	0	0	0
EBT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less: Tax @ 40%	25,000	50,000	1,00,000	1,50,000	2,50,000
PAT	37,500	75,000	1,50,000	2,25,000	3,75,000
No. of equity shares	3,12,500	3,12,500	3,12,500	3,12,500	3,12,500
EPS	0.12	0.24	0.48	0.72	1.20

Plan II: Debt – Equity Mix

	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)
EBIT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less: Interest	1,25,000	1,25,000	1,25,000	1,25,000	1,25,000
EBT	(62,500)	0	1,25,000	2,50,000	5,00,000
Less: Tax @ 40%	25,000*	0	50,000	1,00,000	2,00,000
PAT	(37,500)	0	75,000	1,50,000	3,00,000
No. of equity shares	1,56,250	1,56,250	1,56,250	1,56,250	1,56,250
EPS	(Rs. 0.24)	0	0.48	0.96	1.92

* The Company can set off losses against the overall business profit or may carry forward it to next financial years.

Plan III: Preference Shares – Equity Mix

	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)
EBIT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less: Interest	0	0	0	0	0
EBT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less: Tax @ 40%	25,000	50,000	1,00,000	1,50,000	2,50,000
PAT	37,500	75,000	1,50,000	2,25,000	3,75,000
Less: Pref. dividend	1,25,000*	1,25,000*	1,25,000	1,25,000	1,25,000
PAT after Pref. dividend.	(87,500)	(50,000)	25,000	1,00,000	2,50,000
No. of Equity shares	1,56,250	1,56,250	1,56,250	1,56,250	1,56,250
EPS	(0.56)	(0.32)	0.16	0.64	1.60

* In case of cumulative preference shares, the company has to pay cumulative dividend to preference shareholders, when company earns sufficient profits.

(ii) From the above EPS computations tables under the three financial plans we can see that when EBIT is Rs. 2,50,000 or more, Plan II: Debt-Equity mix is preferable over the Plan I and Plan III, as rate of EPS is more under this plan. On the other hand an EBIT of less than Rs.2,50,000, Plan I:

Equity Financing has higher EPS than Plan II and Plan III. Plan III Preference share-Equity mix is not acceptable at any level of EBIT, as EPS under this plan is lower.

The choice of the financing plan will depend on the performance of the company and other macro-economic conditions. If the company is expected to have higher operating profit Plan II: Debt – Equity Mix is preferable. Moreover, debt financing gives more benefit due to availability of tax shield.

(iii) EBIT – EPS Indifference point : Plan I and Plan II

$$\frac{\text{EBIT}_1 \times (1-t)}{\text{No. of equity shares}(N_1)} = \frac{(\text{EBIT}_2 - \text{Interest}) \times (1-t)}{\text{No. of equity shares}(N_2)}$$

$$\frac{\text{EBIT}(1-0.40)}{3,12,500 \text{ shares}} = \frac{(\text{EBIT} - \text{Rs. } 1,25,000) \times (1-0.40)}{1,56,250 \text{ shares}}$$

$$0.6 \text{ EBIT} = 1.2 \text{ EBIT} - \text{Rs. } 1,50,000$$

$$\text{EBIT} = \frac{\text{Rs. } 1,50,000}{0.6} = \text{Rs. } 2,50,000$$

Indifference points between Plan I and Plan II is Rs. 2,50,000

EBIT – EPS Indifference Point: Plan I and Plan III

$$\frac{\text{EBIT}_1 \times (1-t)}{\text{No. of equity shares}(N_1)} = \frac{\text{EBIT}_3 \times (1-t) - \text{Pr ef. dividend}}{\text{No. of equity shares}(N_3)}$$

$$\frac{\text{EBIT}_1(1-0.40)}{3,12,500 \text{ shares}} = \frac{\text{EBIT}_3(1-0.40) - \text{Rs. } 1,25,000}{1,56,250 \text{ shares}}$$

$$0.6 \text{ EBIT} = 1.2 \text{ EBIT} - \text{Rs. } 2,50,000$$

$$\text{EBIT} = \frac{\text{Rs. } 2,50,000}{0.6} = \text{Rs. } 4,16,667$$

Indifference points between Plan I and Plan III is Rs. 4,16,667.

6. (a) Business Risk and Financial Risk

Business risk refers to the risk associated with the firm's operations. It is an unavoidable risk because of the environment in which the firm has to operate and the business risk is represented by the variability of earnings before interest and tax (EBIT). The variability in turn is influenced by revenues and expenses. Revenues and expenses are affected by demand of firm's products, variations in prices and proportion of fixed cost in total cost.

Whereas, Financial risk refers to the additional risk placed on firm's shareholders as a result of debt use in financing. Companies that issue more debt instruments would have higher financial risk than companies financed mostly by equity. Financial risk can be measured by ratios such as firm's financial leverage multiplier, total debt to assets ratio etc.

(b) A firm's financial management may often have the following as their objectives:

- (i) The maximisation of firm's profit.
- (ii) The maximisation of firm's value / wealth.

The maximisation of profit is often considered as an implied objective of a firm. To achieve the aforesaid objective various type of financing decisions may be taken. Options resulting into maximisation of profit may be selected by the firm's decision makers. They even sometime may adopt policies yielding exorbitant profits in short run which may prove to be unhealthy for the

growth, survival and overall interests of the firm. The profit of the firm in this case is measured in terms of its total accounting profit available to its shareholders.

The value/wealth of a firm is defined as the market price of the firm's stock. The market price of a firm's stock represents the focal judgment of all market participants as to what the value of the particular firm is. It takes into account present and prospective future earnings per share, the timing and risk of these earnings, the dividend policy of the firm and many other factors that bear upon the market price of the stock.

The value maximisation objective of a firm is superior to its profit maximisation objective due to following reasons.

1. The value maximisation objective of a firm considers all future cash flows, dividends, earning per share, risk of a decision etc. whereas profit maximisation objective does not consider the effect of EPS, dividend paid or any other returns to shareholders or the wealth of the shareholder.
2. A firm that wishes to maximise the shareholders wealth may pay regular dividends whereas a firm with the objective of profit maximisation may refrain from dividend payment to its shareholders.
3. Shareholders would prefer an increase in the firm's wealth against its generation of increasing flow of profits.
4. The market price of a share reflects the shareholders expected return, considering the long-term prospects of the firm, reflects the differences in timings of the returns, considers risk and recognizes the importance of distribution of returns.

The maximisation of a firm's value as reflected in the market price of a share is viewed as a proper goal of a firm. The profit maximisation can be considered as a part of the wealth maximisation strategy.

- (c) In dividend price approach, cost of equity capital is computed by dividing the expected dividend by market price per share. This ratio expresses the cost of equity capital in relation to what yield the company should pay to attract investors. It is computed as:

$$K_e = \frac{D_1}{P_0}$$

Where,

D_1 = Dividend per share in period 1

P_0 = Market price per share today.

PAPER – 8B: ECONOMICS FOR FINANCE

SUGGESTED ANSWERS/HINTS

7. (a) Final good is a good sold to final purchasers and is consumed by the end user in its present state. It does not require any further processing and therefore will not undergo any further transformation at the hands of producer. Once a final good has been sold, it passes out of the active economic flow. The value of the final goods already includes the value of the intermediate goods that have entered into their production as inputs.
- (b) (i) When people hold more money, it increases the currency-deposit ratio; reduces money multiplier; money supply declines.
- (ii) ATMs let people to withdraw cash from the bank as and when needed, reduces cost of conversion of deposits to cash and makes deposits relatively more convenient. People hold less cash and more deposits, thus reducing the currency-deposit ratio; increasing the money multiplier causing the money supply to increase.
- (iii) If people, for any reason, are expected to withdraw money from ATMs with more frequency, then banks will want to keep more reserves. This will raise the reserve ratio, and lower the money multiplier. As a result, money supply will decline.
- (c) (i) Productivity of labour (output per labour hour = the volume of output produced per unit of labour input)

$$= \text{output} / \text{input of labour hours}$$

Output of commodity	Units in Country X	Units in Country Y
Cloth	0.25	1.0
Wheat	0.50	0.4

- (ii) A country has an absolute advantage in producing a good over another country if it requires fewer resources to produce that good. Since one hour of labour time produces 0.5 units of wheat in country X against 0.4 units in country Y. Therefore, Country X has absolute advantage in production of wheat.
- (iii) Since one hour of labour time produces 1.0 units of rice in country Y against 0.25 units in country X. Therefore, Country Y has absolute advantage in production of cloth.
- (d) A decline in private spending may be partially or completely offset the expansion of demand resulting from an increase in government expenditure. Crowding out effect is the negative effect fiscal policy may generate when money from the private sector is 'crowded out' to the public sector. Private investments, especially the ones which are interest –sensitive, will be reduced if interest rates rise due to increased spending by government.
8. (a) (i) Consumption expenditure at equilibrium level of National Income
 $Y = C + I$ [$AD = C + I$]
 Putting the value of Investment Expenditure (I) = Rs.500 Crores and Income (Y) = Rs. 2000 crores, we get $C = 2,000 - 500$
 $C = \text{Rs.1500 Crores}$
- (ii) Marginal Propensity to Save (MPS)
 Consumption function is given by
 $C = a + bY$
 $1500 = 100 + 2000b$
 $2000b = 1400$

$$\text{MPC} = 0.7$$

$$\text{MPS} = 1 - \text{MPC} = 1 - 0.7 = 0.3$$

- (iii) Break-even level of Income attained at break-even point = $C = Y$

Putting $Y = C$

$$Y = 100 + 0.7Y$$

$$0.3Y = 100$$

$$Y = 333.33$$

- (b) (i) Stabilization function is one of the key functions of fiscal policy and aims at eliminating macroeconomic fluctuations arising from suboptimal allocation. The stabilization function is concerned with the performance of the aggregate economy in terms of labour employment and capital utilization, overall output and income, general price levels, economic growth and balance of international payments. Government's stabilization intervention may be through monetary policy as well as fiscal policy. Monetary policy has a singular objective of controlling the size of money supply and interest rate in the economy, while fiscal policy aims at changing aggregate demand by suitable changes in government spending and taxes.
- (ii) The demand for money is a decision about how much of one's given stock of wealth should be held in the form of money rather than as other assets such as bonds. Demand for money is actually demand for liquidity and a demand to store value.
9. (a) (i) The Heckscher-Ohlin theory of trade, also referred to as Factor-Endowment Theory of Trade or Modern Theory of Trade, states that comparative advantage in cost of production is explained exclusively by the differences in factor endowments.
- A country tends to specialize in the export of a commodity whose production requires intensive use of its abundant resources and imports a commodity whose production requires intensive use of its scarce resources.
- Accordingly, a capital abundant country will produce and export capital intensive goods relatively more cheaply and a labour-abundant country will produce and export labour intensive goods relatively more cheaply than another country.
- (ii) Common access resources or common pool resources are a special class of impure public goods which are non-excludable as people cannot be excluded from using them. These are rival in nature and their consumption lessens the benefits available for others. This rival nature of common resources is what distinguishes them from pure public goods, which exhibit both non-excludability and non-rivalry in consumption. They are generally available free of charge. Some important natural resources fall into this category.
- Examples of common access resources are fisheries, common pastures, rivers, sea, backwaters biodiversity etc. The earth's atmosphere is perhaps the best example. Emissions of carbon dioxide and other greenhouse gases have led to the depletion of the ozone layer endangering environmental sustainability. Although nations are aware of the fact that reduced global warming would benefit everyone, they have an incentive to free ride, with the result that nothing positive is likely to be done to correct the problem.
- (b) (i) Foreign direct investment is defined as a process whereby the resident of one country (i.e. home country) acquires ownership of an asset in another country (i.e. the host country) and such movement of capital involves ownership, control as well as management of the asset in the host country. Direct investments are real investments in factories, assets, land, inventories etc. and have three components, viz., equity capital, reinvested earnings and other direct capital in the form of intra-company loans. Foreign direct investment also includes all subsequent investment transactions between the investor and the enterprise and among affiliated enterprises, both incorporated and unincorporated. FDI involves long term

relationship and reflects a lasting interest and control. According to the IMF and OECD definitions, the acquisition of at least ten percent of the ordinary shares or voting power in a public or private enterprise by non-resident investors makes it eligible to be categorized as FDI. FDI may be categorized as horizontal, vertical, conglomerate and two-way direct foreign investments which are reciprocal investments.

Benefits of Foreign Direct Investment

Following are the benefits ascribed to foreign investments:

- (i) Entry of foreign enterprises usually fosters competition and generates a competitive environment in the host country.
 - (ii) International capital allows countries to finance more investment than can be supported by domestic savings resulting in higher productivity and enhanced output.
- (ii) Keynes argued that, in the short run, investment is best viewed as an autonomous expenditure, that is, it is independent of people's income. The Keynesian model assumes that the planned level of investment expenditure is constant with respect to current income. Investment is determined by factors other than income such as business expectations and economic policy.
- 10. (a) (i)** When aggregate demand rises beyond what the economy can potentially produce by fully employing its given resources; it gives rise to inflationary pressures in the economy. The aggregate demand may rise due to large increase in consumption demand by households or investment expenditure by entrepreneurs, or government expenditure. In these circumstances inflationary gap occurs which tends to bring about rise in prices. Under such circumstances, a contractionary fiscal policy will have to be used.

Contractionary fiscal policy refers to the deliberate policy of government applied to curtail aggregate demand and consequently the level of economic activity. In other words, it is fiscal policy aimed at eliminating an inflationary gap. This is achieved by adopting policy measures that would result in the aggregate demand curve (AD) shift to the left so the equilibrium may be established at the full employment level of real GDP.

This can be achieved either by:

- Decrease in government spending.
 - Increase in personal income taxes and/or business taxes.
 - A combination of decrease in government spending and increase in personal income taxes and/or business taxes.
- (ii) Changes in SLR chiefly influence the availability of resources in the banking system for lending. A rise in SLR -during periods of high liquidity - to lock up a rising fraction of a bank's assets in the form of eligible instruments – reduces the credit creation capacity of banks. A reduction in SLR during periods of economic downturn has the opposite effect.
- (b) (i)** When prices of certain essential commodities rise excessively, government may resort to controls in the form of price ceilings (also called maximum price) for making a resource or commodity available to all at reasonable prices. For example: maximum prices of food grains and essential items are set by government during times of scarcity. A price ceiling which is set below the prevailing market clearing price will generate excess demand over supply.

With the objective of ensuring stability in prices and distribution, governments often intervene in grain markets through building and maintenance of buffer stocks. It involves purchases from the market during good harvest and releasing stocks during periods when production is below average.

- (ii) Arbitrage refers to the practice of making risk-less profits by intelligently exploiting price differences of an asset at different dealing places. On account of arbitrage, regardless of physical location, at any given moment, all markets tend to have the same exchange rate for a given currency
11. (a) (i) The central bank in its execution of monetary policy, functions within an articulated monetary policy framework which comprises of:
- **the objectives of monetary policy**, such as maintenance of price stability (or controlling inflation) and achievement of economic growth
 - **the analytics of monetary policy** which focus on the transmission mechanisms, or the ways in which monetary policy actions get transmitted to the real economy and
 - **the operating procedure** which relates to all aspects of implementation of monetary policy namely, choosing the operating target, choosing the intermediate target, and choosing the policy instruments.
- (ii) Reserve money has two major components – currency in circulation and reserves. Currency in circulation comprises currency with the public and cash in hand with banks. Reserves are bank deposits with the central bank
- (b) (i) Aggregate demand is the total quantity of finished goods and services that all sectors (consumers, firms, government and the rest of the world) together wish to buy under different conditions. The components of aggregate demand are consumption demand, investment demand, government spending and net exports at each level of income. While consumption demand is a function of the level of disposable income, the demand for investment, government spending and net exports are autonomous, i.e. these are determined outside the model and are specifically assumed to be independent of income.

The Keynesian aggregate demand schedule is obtained by vertically adding the demand for consumption, investment demand, government spending and net exports at each level of income.

$$AD = C + I + G + NX$$

- (ii) Anti-dumping measures consist of imposition of additional import duties to offset the effects of dumping. These measures are initiated as safeguards to offset the foreign firm's unfair price advantage. This is justified only if the domestic industry is seriously injured by import competition, and protection is in the national interest (that is, the associated costs to consumers would be less than the benefits that would accrue to producers).

OR

- (ii) Market failure is a situation in which the free market fails to allocate resources efficiently in the sense that there is either overproduction or underproduction of particular goods and services leading to less than optimal market outcomes.