

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

Time Allowed – 3 Hours

Maximum Marks – 100

PAPER 8A : FINANCIAL MANAGEMENT (60 Marks)

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.

1. Answer the following:

(a) From the following information, PREPARE a summarised Balance Sheet as at 31st March, 20X6:

Working Capital	Rs.2,40,000
Bank overdraft	Rs.40,000
Fixed Assets to Proprietary ratio	0.75
Reserves and Surplus	Rs.1,60,000
Current ratio	2.5
Liquid ratio	1.5

(b) An enterprise is investing Rs.100 lakhs in a project. The risk-free rate of return is 7%. Risk premium expected by the management is 7%. The life of the project is 5 years. Following are the cash flows that are estimated over the life of the project.

Year	Cash flows (Rs.)
1	25,00,000
2	60,00,000
3	75,00,000
4	80,00,000
5	65,00,000

CALCULATE Net Present Value of the project based on Risk free rate and also on the basis of Risks adjusted discount rate.

(c) M Ltd. belongs to a risk class for which the capitalization rate is 10%. It has 25,000 outstanding shares and the current market price is Rs. 100. It expects a net profit of Rs. 2,50,000 for the year and the Board is considering dividend of Rs. 5 per share.

M Ltd. requires to raise Rs. 5,00,000 for an approved investment expenditure. ANALYSE, how the MM approach affects the value of M Ltd. if dividends are paid or not paid.

(d) PQR Ltd. has the following capital structure on October 31, 20X8:

Sources of capital	(Rs.)
Equity Share Capital (2,00,000 Shares of Rs. 10 each)	20,00,000
Reserves & Surplus	20,00,000

12% Preference Shares	10,00,000
9% Debentures	30,00,000
	80,00,000

The market price of equity share is Rs. 30. It is expected that the company will pay next year a dividend of Rs. 3 per share, which will grow at 7% forever. Assume 40% income tax rate.

You are required to COMPUTE weighted average cost of capital using market value weights.

(4 × 5 = 20 Marks)

2. A newly formed company has applied to the commercial bank for the first time for financing its working capital requirements. The following information is available about the projections for the current year:

Estimated level of activity: 1,04,000 completed units of production plus 4,000 units of work-in progress. Based on the above activity, estimated cost per unit is:

Raw material	Rs. 80 per unit
Direct wages	Rs. 30 per unit
Overheads (exclusive of depreciation)	Rs. 60 per unit
Total cost	<u>Rs. 170 per unit</u>
Selling price	Rs. 200 per unit

Raw materials in stock: Average 4 weeks consumption, work-in-progress (assume 50% completion stage in respect of conversion cost) (materials issued at the start of the processing).

Finished goods in stock	8,000 units
Credit allowed by suppliers	Average 4 weeks
Credit allowed to debtors/receivables	Average 8 weeks
Lag in payment of wages	Average $1\frac{1}{2}$ weeks

Cash at banks (for smooth operation) is expected to be Rs.25,000

Assume that production is carried on evenly throughout the year (52 weeks) and wages and overheads accrue similarly. All sales are on credit basis only.

CALCULATE

- (i) Net Working Capital required;
- (ii) Maximum Permissible Bank finance under first and second methods of financing as per Tandon Committee Norms. **(10 Marks)**
3. A company has to make a choice between two projects namely A and B. The initial capital outlay of two Projects are Rs.1,35,00,000 and Rs.2,40,00,000 respectively for A and B. There will be no scrap value at the end of the life of both the projects. The opportunity cost of capital of the company is 16%. The annual incomes are as under:

Year	Project A	Project B	Discounting factor @ 16%
1	--	60,00,000	0.862
2	30,00,000	84,00,000	0.743
3	1,32,00,000	96,00,000	0.641
4	84,00,000	1,02,00,000	0.552
5	84,00,000	90,00,000	0.476

You are required to CALCULATE for each project:

- (i) Discounted payback period
- (ii) Profitability index
- (iii) Net present value

(10 Marks)

4. The Modern Chemicals Ltd. requires Rs.25,00,000 for a new plant. This plant is expected to yield earnings before interest and taxes of Rs. 5,00,000. While deciding about the financial plan, the company considers the objective of maximising earnings per share. It has three alternatives to finance the project by raising debt of Rs.2,50,000 or Rs.10,00,000 or Rs.15,00,000 and the balance, in each case, by issuing equity shares. The company's share is currently selling at Rs. 150, but is expected to decline to Rs.125 in case the funds are borrowed in excess of Rs.10,00,000. The funds can be borrowed at the rate of 10% upto Rs. 2,50,000, at 15% over Rs.2,50,000 and upto Rs.10,00,000 and at 20% over Rs.10,00,000. The tax rate applicable to the company is 50%.

DETERMINE, which form of financing should the company choose?

(10 Marks)

5. From the following, PREPARE Income Statement of Company A and B.

Company	A	B
Financial leverage	3:1	4:1
Interest	Rs.20,000	Rs.30,000
Operating leverage	4:1	5:1
Variable Cost as a Percentage to Sales	$66\frac{2}{3}\%$	75%
Income tax Rate	45%	45%

(10 Marks)

6. (a) STATE Agency Cost. DISCUSS the ways to reduce the effect of it.
 (b) EXPLAIN the importance of trade credit and accruals as source of short-term finance. DISCUSS the cost of these sources?
 (c) STATE two advantages of Walter Model of Dividend Decision.

(4 + 4 + 2 =10 Marks)

PAPER – 8B: ECONOMICS FOR FINANCE

Question No.7 is compulsory. Answer any **three** from rest.

In case, any candidate answers extra question(s) / Sub -question(s) over and above the required number, then only the requisite number of questions first answered in the answer book shall be valued and subsequent extra question(s) answered shall be ignored.

Working Notes should from part of the respective questions.

7. (a) The equilibrium level of real GDP is Rs 1,000 billion, the full employment level of real GDP is Rs 1,250 billion, and the marginal propensity to consume (MPC) is 0.60. How much government spending (ΔG) would be needed to raise income to full-employment level? **(2 Marks)**
- (b) Explain how Reserve Bank of India acts as a 'lender of last resort' to commercial banks? Or Explain the operation of Marginal Standing Facility? **(3 Marks)**
- (c) Classify each of the following goods based on their characteristics. Mention the rationale.
- (i) Open-access Wi-Fi networks
 - (ii) Roads with toll booths
 - (iii) Parks **(3 Marks)**
- (d) Define Real Effective Exchange Rate (REER)? **(2 Marks)**
8. (a) (i) Explain the Cambridge Version of Cash Balance Approach
 $M^d = k P Y$ **(3 Marks)**
- (ii) Distinguish between 'pump priming' and 'compensatory spending' **(3 Marks)**
- (b) (i) If an economy has a flat aggregate expenditure function, what would be the nature of the multiplier? **(2 Marks)**
- (ii) Distinguish between private cost and social cost **(2 Marks)**
9. (a) (i) What is meant by Liquidity Adjustment Facility (LAF)? How does it help commercial banks? **(3 Marks)**
- (ii) Define 'Moral Hazard' **(2 Marks)**
- (b) You are given the following data on an economy (Rs. in Cores):
- | | |
|---|-----|
| Investment expenditure (I): | 250 |
| Government expenditure on goods and services (G): | 800 |
| Exports (X): | 600 |
- All tax revenues are derived from a uniform rate of income tax of 30% of income.
Consumption expenditure is given by: $C = 0.75 Y_d$; Where: Y_d is disposable national income (i.e. income less taxes) and C is consumption expenditure
Import expenditure is given by: $M = 0.15 Y$ Where: Y is national income and M is import expenditure
- (i) Calculate the equilibrium value of National Income.
 - (ii) Calculate the Current Account Balance at the equilibrium value of National Income.
 - (ii) Calculate the Fiscal Surplus (+) or Deficit (-) at the equilibrium value of National Income.
- (5 Marks)**

10. (a) (i) What is meant by 'monetary policy instruments' **(3 Marks)**
(ii) Estimate national Income by (a) Expenditure Method (b) Income Method From Following data **(3 Marks)**

	Rs. in Crores
Private Final Consumption Expenditure	210
Govt. Final Consumption Expenditure	50
Net domestic capital Formation	40
Net Exports	(-) 5
Wages and Salaries	170
Employers Contribution	10
Profit	45
Interest	20
Indirect Taxes	30
Subsidies	05
Rent	10
Factor Income from abroad	03
Consumption of Fixed capital	25
Royalty	15

- (b) (i) What do you understand by the term 'Most-Favored-Nation' (MFN)? **(2 Marks)**
(ii) What's meant by free trade area? **(2 Marks)**
11. (a) (i) What is the rationale behind resource seeking foreign direct investments **(3 Marks)**
(ii) What is meant by 'safeguard measures' under WTO? **(2 Marks)**
- (b) (i) What is the major determinant of the economic functions of a government **(3 Marks)**
(ii) What 's Arbitrage? What is the outcome of Arbitrage? **(2 Marks)**

Or

Define Money Multiplier **(2 Marks)**

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PAPER 8A : FINANCIAL MANAGEMENT
SUGGESTED ANSWERS/HINTS

1. (a) Working notes:

(i) Current assets and Current liabilities computation:

$$\frac{\text{Current assets}}{\text{Current liabilities}} = \frac{2.5}{1}$$

$$\text{Or, } \frac{\text{Current Assets}}{2.5} = \frac{\text{Current Liabilities}}{1} = k \text{ (say)}$$

$$\text{Or, Current Assets} = 2.5 k \text{ and Current Liabilities} = k$$

$$\text{Or, Working capital} = (\text{Current Assets} - \text{Current Liabilities})$$

$$\text{Or, Rs.2,40,000} = k(2.5 - 1) = 1.5 k$$

$$\text{Or, } k = \text{Rs.1,60,000}$$

$$\therefore \text{Current Liabilities} = \text{Rs. 1,60,000}$$

$$\text{Current Assets} = \text{Rs.1,60,000} \times 2.5 = \text{Rs.4,00,000}$$

(ii) Computation of stock

$$\text{Liquid ratio} = \frac{\text{Liquid assets}}{\text{Current liabilities}}$$

$$\text{Or, } 1.5 = \frac{\text{Current Assets} - \text{Stock}}{\text{Rs.1,60,000}}$$

$$\text{Or, } 1.5 \times \text{Rs.1,60,000} = \text{Rs.4,00,000} - \text{Stock}$$

$$\text{Or, Stock} = \text{Rs.1,60,000}$$

(iii) Computation of Proprietary fund; Fixed assets; Capital and Sundry payables (creditors)

$$\text{Proprietary ratio} = \frac{\text{Fixed assets}}{\text{Proprietary fund}} = 0.75$$

$$\therefore \text{Fixed assets} = 0.75 \text{ Proprietary fund}$$

$$\text{and Net working capital} = 0.25 \text{ Proprietary fund}$$

$$\text{Or, } \text{Rs.2,40,000}/0.25 = \text{Proprietary fund}$$

$$\text{Or, Proprietary fund} = \text{Rs.9,60,000}$$

$$\text{and Fixed assets} = 0.75 \text{ proprietary fund}$$

$$= 0.75 \times \text{Rs.9,60,000}$$

$$= \text{Rs.7,20,000}$$

$$\text{Equity Capital} = \text{Proprietary fund} - \text{Reserves \& Surplus}$$

$$= \text{Rs.9,60,000} - \text{Rs.1,60,000}$$

$$= \text{Rs.}8,00,000$$

$$\text{Sundry payables (creditors)} = (\text{Current liabilities} - \text{Bank overdraft})$$

$$= (\text{Rs.}1,60,000 - \text{Rs.}40,000) = \text{Rs.}1,20,000$$

Balance Sheet

Liabilities	(Rs.)	Assets	(Rs.)
Equity Capital	8,00,000	Fixed assets	7,20,000
Reserves & Surplus	1,60,000	Stock	1,60,000
Bank overdraft	40,000	Current assets	2,40,000
Sundry payables	1,20,000		
	11,20,000		11,20,000

- (b) The Present Value of the Cash Flows for all the years by discounting the cash flow at 7% is calculated as below:

Year	Cash flows Rs. in lakhs	Discounting factor @ 7%	Present value of cash flows Rs. in lakhs
1	25,00,000	0.935	23,37,500
2	60,00,000	0.873	52,38,000
3	75,00,000	0.816	61,20,000
4	80,00,000	0.763	61,04,000
5	65,00,000	0.713	46,34,500
Total of present value of Cash flow			2,44,34,000
Less: Initial investment			1,00,00,000
Net Present Value (NPV)			1,44,34,000

When the risk-free rate is 7% and the risk premium expected by the management is 7%. So the risk adjusted discount rate is 7% + 7% = 14%.

Discounting the above cash flows using the Risk Adjusted Discount Rate would be as below:

Year	Cash flows Rs. in lakhs	Discounting factor @14%	Present Value of cash flows Rs. in lakhs
1	25,00,000	0.877	21,92,500
2	60,00,000	0.769	46,14,000
3	75,00,000	0.675	50,62,500
4	80,00,000	0.592	47,36,000
5	65,00,000	0.519	33,73,500
Total of present value of Cash flow			1,99,78,500
Initial investment			1,00,00,000
Net present value (NPV)			99,78,500

- (c)

A When dividend is paid

- (a) Price per share at the end of year 1

$$100 = \frac{1}{1.10} (\text{Rs. } 5 + P_1)$$

$$110 = \text{Rs. } 5 + P_1$$

$$P_1 = 105$$

- (b) Amount required to be raised from issue of new shares

$$\text{Rs. } 5,00,000 - (\text{Rs. } 2,50,000 - \text{Rs. } 1,25,000)$$

$$\text{Rs. } 5,00,000 - \text{Rs. } 1,25,000 = \text{Rs. } 3,75,000$$

- (c) Number of additional shares to be issued

$$\frac{3,75,000}{105} = \frac{75,000}{21} \text{ shares or say } 3,572 \text{ shares}$$

- (d) Value of M Ltd.

$$(\text{Number of shares} \times \text{Expected Price per share})$$

$$\text{i.e., } (25,000 + 3,572) \times \text{Rs. } 105 = \text{Rs. } 30,00,060$$

B When dividend is not paid

- (a) Price per share at the end of year 1

$$100 = \frac{P_1}{1.10}$$

$$P_1 = 110$$

- (b) Amount required to be raised from issue of new shares

$$\text{Rs. } 5,00,000 - 2,50,000 = 2,50,000$$

- (c) Number of additional shares to be issued

$$\frac{2,50,000}{110} = \frac{25,000}{11} \text{ shares or say } 2,273 \text{ shares.}$$

- (d) Value of M Ltd.,

$$(25,000 + 2273) \times \text{Rs. } 110$$

$$= \text{Rs. } 30,00,030$$

Whether dividend is paid or not, the value remains the same.

(d) Workings:

(i) Cost of Equity (K_e) = $\frac{D_1}{P_0} + g = \frac{\text{₹ } 3}{\text{₹ } 30} + 0.07 = 0.1 + 0.07 = 0.17 = 17\%$

(ii) Cost of Debentures (K_d) = $l(1 - t) = 0.09(1 - 0.4) = 0.054$ or 5.4%

Computation of Weighted Average Cost of Capital (WACC using market value weights)

Source of capital	Market Value of capital (Rs.)	Weight	Cost of capital (%)	WACC (%)
9% Debentures	30,00,000	0.30	5.40	1.62
12% Preference Shares	10,00,000	0.10	12.00	1.20
Equity Share Capital (Rs. 30 × 2,00,000 shares)	60,00,000	0.60	17.00	10.20
Total	1,00,00,000	1.00		13.02

2. (i) Estimate of the Requirement of Working Capital

	(Rs.)	(Rs.)
A. Current Assets:		
Raw material stock (Refer to Working note 3)	6,64,615	
Work in progress stock (Refer to Working note 2)	5,00,000	
Finished goods stock (Refer to Working note 4)	13,60,000	
Debtors/ Receivables (Refer to Working note 5)	29,53,846	
Cash and Bank balance	<u>25,000</u>	55,03,461
B. Current Liabilities:		
Creditors for raw materials (Refer to Working note 6)	7,15,740	
Creditors for wages (Refer to Working note 7)	<u>91,731</u>	(8,07,471)
Net Working Capital (A-B)		<u>46,95,990</u>

(ii) The maximum permissible bank finance as per Tandon Committee Norms

First Method:

75% of the net working capital financed by bank i.e. 75% of Rs.46,95,990

(Refer to (i) above)

= Rs. 35,21,993

Second Method:

(75% of Current Assets) - Current liabilities

= 75% of Rs. 55,03,461 - Rs. 8,07,471

(Refer to (i) above)

= Rs. 41,27,596 – Rs. 8,07,471

= Rs. 33,20,125

Working Notes:

1. Annual cost of production

	Rs.
Raw material requirements (1,04,000 units × Rs. 80)	83,20,000
Direct wages (1,04,000 units × Rs. 30)	31,20,000
Overheads (exclusive of depreciation) (1,04,000 × Rs. 60)	<u>62,40,000</u>
	<u>1,76,80,000</u>

2. Work in progress stock

	Rs.
Raw material requirements (4,000 units × Rs. 80)	3,20,000

Direct wages (50% × 4,000 units × Rs. 30)	60,000
Overheads (50% × 4,000 units × Rs.60)	<u>1,20,000</u>
	<u>5,00,000</u>

3. Raw material stock

It is given that raw material in stock is average 4 weeks consumption. Since, the company is newly formed, the raw material requirement for production and work in progress will be issued and consumed during the year.

Hence, the raw material consumption for the year (52 weeks) is as follows:

	Rs.
For Finished goods	83,20,000
For Work in progress	<u>3,20,000</u>
	<u>86,40,000</u>
Raw material stock	$\frac{\text{Rs. } 86,40,000}{52 \text{ weeks}} \times 4 \text{ weeks}$ i.e. Rs. 6,64,615

4. Finished goods stock

8,000 units @ Rs. 170 per unit = Rs. 13,60,000

5. Debtors for sale

Credit allowed to debtors	Average 8 weeks
Credit sales for year (52 weeks) i.e. (1,04,000 units-8,000 units)	96,000 units
Selling price per unit	Rs.200
Credit sales for the year (96,000 units ×Rs. 200)	Rs. 1,92,00,000
Debtors	$\frac{\text{Rs. } 1,92,00,000}{52 \text{ weeks}} \times 8 \text{ weeks}$ i.e. Rs. 29,53,846

(Debtor can also be calculated based on Cost of goods sold)

6. Creditors for raw material:

Credit allowed by suppliers	Average 4 weeks
Purchases during the year (52 weeks) i.e. (Rs. 83,20,000 + Rs. 3,20,000 + Rs. 6,64,615) (Refer to Working notes 1,2 and 3 above)	Rs. 93,04,615
Creditors	$\frac{\text{Rs. } 93,04,615}{52 \text{ weeks}} \times 4 \text{ weeks}$ i.e. Rs. 7,15,740

7. Creditors for wages

Lag in payment of wages	Average $1 \frac{1}{2}$ weeks
Direct wages for the year (52 weeks) i.e. (Rs. 31,20,000 + Rs. 60,000) (Refer to Working notes 1 and 2 above)	Rs. 31,80,000
Creditors	$\frac{\text{Rs. } 31,80,000}{52 \text{ weeks}} \times 1 \frac{1}{2} \text{ weeks}$ i.e. Rs. 91,731

3. (1) Computation of Net Present Values of Projects (Amount in Rs. '000)

Year	Cash flows		Discount factor @ 16 %	Discounted Cash flow	
	Project A (Rs.)	Project B (Rs.)		Project A (Rs.)	Project B (Rs.)
	(1)	(2)	(3)	(3) × (1)	(3) × (2)
0	(13,500)	(24,000)	1.000	(13,500)	(24,000)
1	--	6,000	0.862	--	5,172
2	3,000	8,400	0.743	2,229	6,241.2
3	13,200	9,600	0.641	8,461.2	6,153.6
4	8,400	10,200	0.552	4,636.8	5,630.4
5	8,400	9,000	0.476	3,998.4	4,284
Net present value				5,825.4	3,481.2

(2) Computation of Cumulative Present Values of Projects Cash inflows

(Amount in Rs. '000)

Year	Project A		Project B	
	PV of cash inflows (Rs.)	Cumulative PV (Rs.)	PV of cash inflows (Rs.)	Cumulative PV (Rs.)
1	--	--	5,172	51,72
2	2,229	22,29	6,241.2	11,413.2
3	8,461.2	10,690.2	6,153.6	17,566.8
4	4,636.8	15,327	5,630.4	23,197.2
5	3,998.4	19,325.4	4,284	27,481.2

(i) Discounted payback period: (Refer to Working note 2)

Cost of Project A = Rs.1,35,00,000

Cost of Project B = Rs.2,40,00,000

Cumulative PV of cash inflows of Project A after 4 years = Rs.1,53,27,000

Cumulative PV of cash inflows of Project B after 5 years = Rs.2,74,81,200

A comparison of projects cost with their cumulative PV clearly shows that the project A's cost will be recovered in less than 4 years and that of project B in less than 5 years. The exact duration of discounted payback period can be computed as follows:

	Project A	Project B
Excess PV of cash inflows over the project cost (Rs.)	18,27,000 (Rs.1,53,27,000 – Rs.1,35,00,000)	34,81,200 (Rs. 2,74,81,200 – Rs.2,40,00,000)
Computation of period required to recover excess amount of cumulative PV over project cost (Refer to Working note 2)	0.39 year (Rs. 18,27,000 ÷ Rs.46,36,800)	0.81 years (Rs.34,81,200 ÷ Rs. 42,84,000)
Discounted payback period	3.61 year (4 – 0.39) years	4.19 years (5 – 0.81) years

$$(ii) \text{ Profitability Index: } = \frac{\text{Sum of discounted cash inflows}}{\text{Initian cash outlay}}$$

$$\text{Profitability Index (for Project A)} = \frac{\text{Rs.1,93,25,400}}{\text{Rs.1,35,00,000}} = 1.43$$

$$\text{Profitability Index (for Project B)} = \frac{\text{Rs.2,74,81,200}}{\text{Rs.2,40,00,000}} = 1.15$$

(iii) **Net present value** (for Project A) = Rs.58,25,400 (Refer to Working note 1)

Net present value (for Project B) = Rs.34,81,200

4. Calculation of Earnings per share for three alternatives to finance the project

Particulars	Alternatives		
	I To raise debt of Rs. 2,50,000 and equity of Rs. 22,50,000	II To raise debt of Rs.10,00,000 and equity of Rs.15,00,000	III To raise debt of Rs.15,00,000 and equity of Rs. 10,00,000
	(Rs.)	(Rs.)	(Rs.)
Earnings before interest and tax	5,00,000	5,00,000	5,00,000
Less: Interest on debt at the rate of	25,000 (10% on Rs.2,50,000)	1,37,500 (10% on Rs.2,50,000) (15% on Rs. 7,50,000)	2,37,500 (10% on Rs. 2,50,000) (15% on Rs.7,50,000) (20% on Rs.5,00,000)
Earnings before tax	4,75,000	3,62,500	2,62,500
Less: Tax @ 50%	2,37,500	1,81,250	1,31,250
Earnings after tax: (A)	2,37,500	1,81,250	1,31,250
Number of shares: (B) (Equity/ Market price of Share)	15,000 (Rs.22,50,000/Rs.150)	10,000 (Rs.15,00,000/Rs.150)	8,000 (Rs.10,00,000/Rs.125)
Earnings per share: [(A)/(B)]	15.833	18.125	16.406

The company should raise Rs.10,00,000 from debt and Rs.15,00,000 by issuing equity shares, as it gives highest EPS.

5. Working Notes:

Company A

$$\text{Financial leverage} = \frac{\text{EBIT}}{\text{EBT}} = \frac{3}{1} = \text{Or, EBIT} = 3 \times \text{EBT} \quad (1)$$

$$\begin{aligned} \text{Again EBIT} - \text{Interest} &= \text{EBT} \\ \text{Or, EBIT} - 20,000 &= \text{EBT} \end{aligned} \quad (2)$$

Taking (1) and (2) we get

$$\begin{aligned} 3 \text{ EBT} - 20,000 &= \text{EBT} \\ \text{Or, } 2 \text{ EBT} &= 20,000 \text{ or EBT} = \text{Rs.10,000} \\ \text{Hence EBIT} = 3 \text{ EBT} &= \text{Rs.30,000} \end{aligned}$$

$$\text{Again, we have operating leverage} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{4}{1}$$

$$\begin{aligned} \text{EBIT} &= \text{Rs. } 30,000, \text{ hence we get} \\ \text{Contribution} &= 4 \times \text{EBIT} = \text{Rs. } 1,20,000 \\ \text{Now variable cost} &= 66\frac{2}{3}\% \text{ on sales} \\ \text{Contribution} &= 100 - 66\frac{2}{3}\% \text{ i.e. } 33\frac{1}{3}\% \text{ on sales} \\ \text{Hence, sales} &= \frac{1,20,000}{33\frac{1}{3}\%} = \text{Rs. } 3,60,000 \end{aligned}$$

Same way EBIT, EBT, contribution and sales for company B can be worked out.

Company B

$$\text{Financial leverage} = \frac{\text{EBIT}}{\text{EBT}} = \frac{4}{1} \text{ or EBIT} = 4 \text{ EBT} \quad (3)$$

$$\text{Again EBIT} - \text{Interest} = \text{EBT or EBIT} - 30,000 = \text{EBT} \quad (4)$$

Taking (3) and (4) we get, $4\text{EBT} - 30,000 = \text{EBT}$

$$\text{Or, } 3\text{EBT} = 30,000 \quad \text{Or, } \text{EBT} = 10,000$$

$$\text{Hence, EBIT} = 4 \times \text{EBT} = 40,000$$

$$\text{Again, we have operating leverage} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{5}{1}$$

$$\text{EBIT} = 40,000; \text{ Hence we get contribution} = 5 \times \text{EBIT} = 2,00,000$$

Now variable cost = 75% on sales

$$\text{Contribution} = 100 - 75\% \text{ i.e. } 25\% \text{ on sales}$$

$$\text{Hence Sales} = \frac{2,00,000}{25\%} = \text{Rs. } 8,00,000$$

Income Statement

	A (Rs.)	B (Rs.)
Sales	3,60,000	8,00,000
Less: Variable Cost	2,40,000	6,00,000
Contribution	1,20,000	2,00,000
Less: Fixed Cost (bal. Fig)	90,000	1,60,000
EBIT	30,000	40,000
Less: Interest	20,000	30,000
EBT	10,000	10,000
Less: Tax 45%	4,500	4,500
EAT	5,500	5,500

6. (a) **Agency Cost:** In a sole proprietorship firm, partnership etc., owners participate in management but in corporate, owners are not active in management so, there is a separation between owner/ shareholders and managers. In theory managers should act in the best interest of shareholders however in reality, managers may try to maximise their individual goal like salary, perks etc., so there is a principal-agent relationship between managers and owners, which is known as Agency

Problem. In a nutshell, Agency Problem is the chances that managers may place personal goals ahead of the goal of owners. Agency Problem leads to Agency Cost. Agency cost is the additional cost borne by the shareholders to monitor the manager and control their behaviour so as to maximise shareholders wealth. Generally, Agency Costs are of four types (i) monitoring (ii) bonding (iii) opportunity (iv) structuring

However, following efforts can be made to address Agency Cost:

Managerial compensation to be linked to profit of the company to some extent with the long term objectives of the company.

Employees' Stock option plan (ESOP) is also designed to address the issue with the underlying assumption that maximisation of the stock price is the objective of the investors.

Effective monitoring through corporate governance can be done.

- (b)** Trade credit and accruals as source of short-term finance like working capital refers to credit facility given by suppliers of goods during the normal course of trade. It is a short term source of finance. Micro small and medium enterprises (MSMEs) in particular are heavily dependent on this source for financing their working capital needs. The major advantages of trade credit are – easy availability, flexibility and informality.

There can be an argument that trade credit is a cost free source of finance. But it is not. It involves implicit cost. The supplier extending trade credit incurs cost in the form of opportunity cost of funds invested in trade receivables. Generally, the supplier passes on these costs to the buyer by increasing the price of the goods or alternatively by not extending cash discount facility.

- (c)** Advantages of Walter Model

1. The formula is simple to understand and easy to compute.
2. It can envisage different possible market prices in different situations and considers internal rate of return, market capitalisation rate and dividend payout ratio in the determination of market value of shares.

PAPER – 8B: ECONOMICS FOR FINANCE

SUGGESTED ANSWERS/ HINTS

7. (a) k. $\Delta I = \Delta Y$; $k = 1/0.4$

$$= (1250 - 1000) \cdot 0.4$$

$$= 100 \text{ billion}$$

(b) The Marginal Standing Facility (MSF) is the last resort for banks to obtain funds once they exhaust all borrowing options including the liquidity adjustment facility on which the rates are lower compared to the MSF. Under this facility, the scheduled commercial banks can borrow additional amount of overnight money from the central bank over and above what is available to them through the LAF window by dipping into their Statutory Liquidity Ratio (SLR) portfolio up to a limit (a fixed per cent of their net demand and time liabilities deposits (NDTL) liable to change) at a penal rate of interest. The scheme has been introduced by RBI with the main aim of reducing volatility in the overnight lending rates in the inter-bank market and to enable smooth monetary transmission in the financial system. This provides a safety valve against unexpected liquidity shocks to the banking system.

(c) All the goods mentioned above can be classified as impure public good. There are many hybrid goods that possess some features of both public and private goods. These goods are called impure public goods and are partially rivalrous or congestible. Because of the possibility of congestion, the benefit that an individual gets from an impure public good depends on the number of users. Consumption of these goods by another person reduces, but does not eliminate, the benefits that other people receive from their consumption of the same good. Impure public goods also differ from pure public goods in that they are often excludable.

Since free riding can be eliminated, the impure public good may be provided either by the market or by the government at a price or fee. If the consumption of a good can be excluded, then the market would provide a price mechanism for it. The provider of an impure public good may be able to control the degree of congestion either by regulating the number of people who may use it, or the frequency with which it may be used or both.

(d) The 'real exchange rate' incorporates changes in prices and describes 'how many' of a good or service in one country can be traded for 'one' of that good or service in a foreign country.

$$\text{Real exchange rate} = \text{Nominal exchange rate} \times \frac{\text{Domestic price Index}}{\text{Foreign price Index}}$$

8. (a) (i) In the early 1900s, Cambridge Economists Alfred Marshall, A.C. Pigou, D.H. Robertson and John Maynard Keynes (then associated with Cambridge) put forward a fundamentally different approach to quantity theory, known neoclassical theory or cash balance approach. The Cambridge version holds that money increases utility in the following two ways:

1. enabling the possibility of split-up of sale and purchase to two different points of time rather than being simultaneous, and
2. being a hedge against uncertainty.

While the first above represents transaction motive, just as Fisher envisaged, the second points to money's role as a temporary store of wealth. Since sale and purchase of commodities by individuals do not take place simultaneously, they need a 'temporary abode' of purchasing power as a hedge against uncertainty. As such, demand for money also involves a precautionary motive in Cambridge approach. Since money gives utility in its store of wealth and precautionary modes, one can say that money is demanded for itself.

Now, the question is how much money will be demanded? The answer is: it depends partly on income and partly on other factors of which important ones are wealth and interest rates. The former determinant of demand i.e. income, points to transactions demand such that

higher the income, the greater the quantity of purchases and as a consequence greater will be the need for money as a temporary abode of value to overcome transactions costs. The Cambridge equation is stated as:

$M_d = k PY$, Where M_d = is the demand for money

Y = real national income

P = average price level of currently produced goods and services

PY = nominal income

k = proportion of nominal income (PY) that people want to hold as cash balances

The term 'k' in the above equation is called 'Cambridge k'. The equation above explains that the demand for money (M) equals k proportion of the total money income.

Thus we see that the neoclassical theory changed the focus of the quantity theory of money to money demand and hypothesized that demand for money is a function of money income. Both these versions are chiefly concerned with money as a means of transactions or exchange, and therefore, they present models of the transaction demand for money.

- (ii) A distinction is made between the two concepts of public spending during depression, namely, the concept of 'pump priming' and the concept of 'compensatory spending'. Pump priming involves a one-shot injection of government expenditure into a depressed economy with the aim of boosting business confidence and encouraging larger private investment. It is a temporary fiscal stimulus in order to set off the multiplier process. The argument is that with a temporary injection of purchasing power into the economy through a rise in government spending financed by borrowing rather than taxes, it is possible for government to bring about permanent recovery from a slump. Pump priming was widely used by governments in the post-war era in order to maintain full employment; however, it became discredited later when it failed to halt rising unemployment and was held responsible for inflation. Compensatory spending is said to be resorted to when the government spending is deliberately carried out with the obvious intention to compensate for the deficiency in private investment.
 - (b) (i) The marginal propensity to consume (MPC) is the determinant of the value of the multiplier and that there exists a direct relationship between MPC and the value of multiplier. Higher the MPC, more will be the value of the multiplier and vice-versa. A flat aggregate expenditure function implies lower MPC and higher MPS for all levels of income. Therefore, the value of multiplier will be small.
 - (ii) Private cost is the cost faced by the producer or consumer directly involved in a transaction. If we take the case of a producer, his private cost includes direct cost of labour, materials, energy and other indirect overheads. These are usually added up to determine market price. The actions of consumers or producers result in costs or benefits to others and the relevant costs and benefits are not reflected as part of market prices. In other words, market prices do not incorporate externalities. Social costs refer to the total costs to the society on account of a production or consumption activity. Social costs are private costs borne by individuals directly involved in a transaction together with the external costs borne by third parties not directly involved in the transaction. Social costs represent the true burdens carried by society in monetary and non-monetary terms.
9. (a) (i) The Liquidity Adjustment Facility(LAF) is a facility extended by the Reserve Bank of India to the scheduled commercial banks (excluding RRBs) and primary dealers to avail of liquidity in case of requirement (or park excess funds with the RBI in case of excess liquidity) on an overnight basis against the collateral of government securities including state government securities. The objective is to provide liquidity to commercial banks to adjust their day to day mismatches in liquidity. Under this facility, financial accommodation is provided through repos/reverse repos.

(ii) Moral hazard is associated with information failure and refers to a situation that increases the probability of occurrence of a loss or a larger than normal loss, because of a change in the unobservable or hard to observe behaviour of one of the parties in the transaction after the transaction has been made. Moral hazard is opportunism characterized by an informed person's taking advantage of a less-informed person through an unobserved action. It arises from lack of information about someone's future behavior. Moral hazard occurs due to asymmetric information i.e., an individual knows more about his or her own actions than other people do. This leads to a distortion of incentives to take care or to exert effort when someone else bears the costs of the lack of care or effort. For example, in the insurance market, the expected loss from an adverse event increases as insurance coverage increases.

(b) (i) $Y = C + I + G + (X - M)$

$$Y = 0.75 \times \{(1 - 0.30) \times Y\} + 250 + 800 + 600 - 0.15 \times Y$$

$$Y = 0.375Y + 1650$$

$$0.625Y = 1650$$

$$Y = \frac{1650}{0.625}$$

Hence $Y = \text{Rs.}2640$ Crores

(ii) Exports (X) = Rs.600 Crores

Imports = $0.15(2640) = \text{Rs.}396$ Crores

Hence current account is in surplus of Rs. 204 Crores

(iii) Tax revenue = $0.3(2640) = \text{Rs.}792$ Crores

Government expenditure = Rs.800 Crores

Hence budget is in deficit of Rs. 8 crores i.e. -8

10. (a) (i) The monetary policy instruments are the various direct and indirect instruments or tools that a central bank can use to influence money market and credit conditions and pursue its monetary policy objectives. In general, the direct instruments comprise of:

- (a) the required cash reserve ratios and liquidity reserve ratios prescribed from time to time.
- (b) directed credit which takes the form of prescribed targets for allocation of credit to preferred sectors (for e.g. Credit to priority sectors), and
- (c) administered interest rates wherein the deposit and lending rates are prescribed by the central bank.

The indirect instruments mainly consist of:

- (a) Repos
- (b) Open market operations
- (c) Standing facilities, and
- (d) Market-based discount window.

(ii) **National Income (NNP_{FC})**

Expenditure Method:

$$= \text{Private Final Consumption Expenditure} + \text{Govt. Final Consumption Expenditure} + \text{Net domestic capital Formation} + \text{Net Exports} = 210 + 50 + 40 + (-5) = 295$$

$$\text{NNP (FC)} = \text{NDP}_{MP} + \text{Factor Income from abroad} - \text{Net Indirect Tax (Indirect Tax - Subsidy)} \\ = 295 + 3 - (30 - 5)$$

$$= 295 + 3 - 25 = 273$$

$$= 298 - 25 = 273$$

$$\text{NNP}_{\text{FC}} = 273 \text{ Crores}$$

Income Method: Wages and Salaries+ Employers Contribution+ Profit + Interest + Rent + Royalty

$$= 170 + 10 + 45 + 20 + 10 + 15 = 270 (\text{NDP}_{\text{FC}})$$

$$\text{NNP}_{\text{FC}} = \text{NDP}_{\text{FC}} + \text{FIFA}$$

$$270+3 = 273 \text{ Crores}$$

- (b) (i) When a country enjoys the best trade terms given by its trading partner it is said to enjoy the Most Favoured Nation (MFN) status. Originally formulated as Article 1 of GATT, this principle of non-discrimination states that any advantage, favour, privilege or immunity granted by any contracting party to any product originating in or destined for any other country shall be extended immediately and unconditionally to the like product originating or destined for the territories of all other contracting parties. Under the WTO agreements, countries cannot normally discriminate between their trading partners. If a country improves the benefits that it gives to one trading partner, (such as a lower a trade barrier, or opens up a market), it has to give the same best treatment to all the other WTO members too in respect of the same goods or services so that they all remain 'most-favoured'. As per the WTO agreements, each member treats all the other members equally as "most-favoured" trading partners.
- (ii) Free trade policy is based on the principle of non-interference by government in foreign trade. The distinction between domestic trade and international trade disappears and goods and services are freely imported from and exported to the rest of the world. Buyers and sellers from separate economies voluntarily trade without the domestic government helping or hindering movements of goods and services between countries by applying tariffs, quotas, subsidies or prohibitions on their goods and services. The theoretical case for free trade is based on Adam Smith's argument that the division of labour among countries leads to specialization, greater efficiency, and higher aggregate production.
11. (a) (i) The foreign-based multinational companies invest abroad to gain access to resources, that are either unobtainable or available only at a much higher cost in the home country. The firm may find it cheaper to produce in a foreign facility due to the availability of superior or less costly access to the inputs of production than at home. The resources generally sought for are:
- (i) physical resources such as oil, minerals, raw materials, or agricultural products.
 - (ii) human resources such as skilled labor and low-cost unskilled labour, organizational skills, management, consultancy or marketing expertise,
 - (iii) technological resources such as innovative, and other created assets (e.g., brand names)
 - (iv) physical infrastructure
 - (v) financial infrastructure such as safe efficient and integrated financial market, set of market institutions, networks and financial intermediaries
- (ii) A safeguard measures is an action taken to protect a specific domestic industry from an unexpected build-up of imports. Safeguard measures are initiated by countries to restrict imports of a product temporarily if its domestic industry is injured or threatened with serious injury caused by a surge in imports.

- (b) (i) The nature of the economic system determines the size and scope of the economic functions of the government. In a centrally planned socialistic economy, the state owns all productive resources and makes all important economic decisions. On the contrary, in a market economy, all important economic decisions are made by individuals and firms who want to maximise self-interest and there is only limited role for the government. In a mixed economic system, both markets and government contribute towards resource allocation decisions.
- (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

or

(ii) Money Multiplier (m) = $\frac{\text{Money Supply}}{\text{Monetary Base}}$

Money multiplier m is defined as a ratio that relates the change in the money supply to a given change in the monetary base. It denotes by how much the money supply will change for a given change in high-powered money. The multiplier indicates what multiple of the monetary base is transformed into money supply.