MOCK TEST PAPER – II

INTERMEDIATE: GROUP – II

PAPER – 8: FINANCIAL MANAGEMENT& ECONOMICS FOR FINANCE

PAPER 8A : FINANCIAL MANAGEMENT

SUGGESTED ANSWERS/HINTS

1. (a) Valuation of firms

Particulars	Levered Firm (₹)	Unlevered Firm (₹)
EBIT	60,000	60,000
Less: Interest on debt (10% × ₹ 2,00,000)	20,000	Nil
Earnings available to Equity shareholders	40,000	60,000
K_e	12.5%	12.5%
Value of Equity (S) (Earnings available to Equity shareholders/K_e)	3,20,000	4,80,000
Debt (D)	2,00,000	Nil
Value of Firm (V) = S + D	5,20,000	4,80,000

Value of Levered company is more than that of unlevered company. Therefore, investor will sell his shares in levered company and buy shares in unlevered company. To maintain the level of risk he will borrow proportionate amount and invest that amount also in shares of unlevered company.

Investment & Borrowings	**(₹)**
Sell shares in Levered company (₹ 3,20,000 x 15%)	48,000
Borrow money (₹ 2,00,000 x 15%)	30,000
Buy shares in Unlevered company	78,000
Change in Return	**(₹)**
Income from shares in Unlevered company (₹ 78,000 x 12.5%)	9,750
Less: Interest on loan (₹ 30,000 x 10%)	3,000
Net Income from unlevered firm	6,750
Less: Income from Levered firm (₹ 48,000 x 12.5%)	6,000
Incremental Income due to arbitrage	750

(b)

Particulars	Alpha Ltd. (₹)	Beta Ltd. (₹)	
Sales	25,00,000	18,00,000	
Less: Variable Cost	10,00,000	9,00,000	(Bal. fig.)
Contribution	15,00,000	9,00,000	

Less: Fixed Cost	7,00,000	4,00,000	(Bal. fig.)
EBIT	8,00,000	5,00,000	
Less: Interest	3,00,000	1,00,000	(Bal. fig.)
PBT	5,00,000	4,00,000	
Less: Tax (40%)	2,00,000	1,60,000	
PAT	3,00,000	2,40,000	

Working Note:

Particulars	Alpha Ltd.	Beta Ltd.
PAT	₹ 3,00,000	₹ 2,40,000
Tax Rate (t)	40%	40%
∴ PBT = PAT/(I-t)	$\frac{3,00,000}{1-0.4}$ = 5,00,000	$\frac{2,40,000}{1-0.4}$ = 4,00,000
Finance Leverage	1.60	1.25
∴ EBIT = PBT × FL	5,00,000 × 1.6 = 8,00,000	4,00,000 × 1.25 = 5,00,000
Operating Leverage	1.875	1.800
∴ Contribution = EBIT × OL	8,00,000 × 1.875 = 15,00,000	5,00,000 × 1.8 = 9,00,000
PV ratio	60%	50%
∴ Sales = $\frac{\text{Contribution}}{\text{PV ratio}}$	$\frac{15,00,000}{.60}$ = 25,00,000	$\frac{9,00,000}{.50}$ = 18,00,000

(c) 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 (₹ in lakhs)	Discounting Factor @7%	Present value of Cash Flows (₹ in Lakhs)
1	25	0.935	23.38
2	60	0.873	52.38
3	75	0.816	61.20
4	80	0.763	61.04
5	65	0.713	46.35
Total of present value of Cash flow			244.34
Less: Initial investment			100
Net Present Value (NPV)			**144.34**

Now, 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 (₹ in Lakhs)	Discounting Factor @14%	Present Value of Cash Flows (₹ in lakhs)
1	25	0.877	21.93
2	60	0.769	46.14

3	75	0.675	50.63
4	80	0.592	47.36
5	65	0.519	33.74
Total of present value of Cash flow			199.80
Initial investment			100
Net present value (NPV)			**99.80**

(d) **Balance Sheet of Rudra Ltd.**

Liabilities	**Amount (₹)**	**Assets**	**Amount (₹)**
Capital	10,00,000	Fixed Assets	30,00,000
Reserves	20,00,000	Current Assets:	
Long Term Loan @ 10%	30,00,000	Stock in Trade	20,00,000
Current Liabilities:		Debtors	20,00,000
Creditors	10,00,000	Cash	5,00,000
Other Short-term Current Liability (Other STCL)	2,00,000		
Outstanding Interest	3,00,000		
	75,00,000		**75,00,000**

Working Notes:

Let sales be ₹ x

Balance Sheet of Rudra Ltd.

Liabilities	**Amount (₹)**	**Assets**	**Amount (₹)**
Capital		Fixed Assets	x/4
Reserves		Current Assets:	
Net Worth	x/4	Stock in Trade	x/6
Long Term Loan @ 10%	x/4	Debtors	x/6
		Cash	5,00,000
Current liabilities:			
Creditors	x/12		
Other Short-term Current Liability			
Outstanding Interest			
Total Current Liabilities	x/9+5,00,000/3		
Total		**Total**	

1. Fixed Asset Turnover = 4 $= \frac{x}{\text{Fixed Assets}}$ **1**

Fixed Assets $= \frac{x}{4}$

2. Stock Turnover = 6 $= \frac{x}{\text{stock}}$

Stock $= \frac{x}{6}$

3. Sales to net worth = 4 $= \frac{x}{\text{net worth}}$

Net worth $= \frac{x}{4}$

4. Debt: Equity = 1 : 1

$\frac{\text{Long Term Loan}}{\text{Net worth}} = \frac{1}{1}$

Long term loan = Net worth = $\frac{x}{4}$

5. Gross Profit to Cost = 20%

$\frac{G P}{\text{Sales} - G P} = 20\%$

$\frac{G P}{x - G P} = 20\%$

GP = 0.2 x – 0.2 GP

1.2 GP = 0.2 x

$G P = \frac{0.2x}{1.2}$

G P = x/6

Cost of Goods Sold = x – x/6 = 5/6 x

6. COGS to creditors = 10:1

$\frac{COGS}{\text{Creditors}} = \frac{10}{1}$

$\frac{\frac{5}{6}x}{\text{creditors}} = \frac{10}{1}$

Creditors $= \frac{5x}{60} = \frac{x}{12}$

7. $\frac{\text{Stock}}{\text{Debtor}} = 1$

1

Debtor = Stock $= \frac{x}{6}$

8. Current Ratio = 3 : 1

$$\frac{\text{Stock+Debtors+Cash}}{\text{Current Liabilities}} = \frac{3}{1}$$

$$\frac{\frac{x}{6}+\frac{x}{6}+5,00,000}{\text{Current Liabilities}} = 3$$

$$\frac{\frac{x}{3}+5,00,000}{3} = CL$$

$$CL = \frac{x}{9}+\frac{5,00,000}{3}$$

9. $CA = 3CL$

$$= 3\left(\frac{x}{9}+\frac{5,00,000}{3}\right)$$

$$CA = \frac{x}{3}+5,00,000$$

10. Net worth + Long Term Loan + Current Liability = Fixed Asset + Current Assets

$$\frac{x}{4}+\frac{x}{4}+\frac{x}{9}+\frac{5,00,000}{3} = \frac{x}{4}+\frac{x}{3}+5,00,000$$

$$\frac{x}{4}+\frac{x}{9}-\frac{x}{3} = 5,00,000-\frac{5,00,000}{3}$$

$$\frac{9x+4x-12x}{36} = \frac{15,00,000-5,00,000}{3}$$

$$\frac{x}{36} = \frac{10,00,000}{3}$$

$x = 1,20,00,000$

11. Now, from above calculations, we get,

-> Fixed Asset $= \frac{x}{4} = \frac{1,20,00,000}{4}$ = 30,00,000

-> Stock $= \frac{x}{6} = \frac{1,20,00,000}{6}$ = 20,00,000

-> Debtor $= \frac{x}{6} = \frac{1,20,00,000}{6}$ = 20,00,000

-> Net Worth = x / 4 = 30,00,000

Now, Capital to Reserve is 1 : 2 **1**

$\therefore$ Capital = ₹ 10,00,000

and, Reserve = ₹ 20,00,000

-> Long Term Loan = $\frac{x}{4}$ = 30,00,000

-> Outstanding Interest = 30,00,000×10% = 3,00,000

-> Creditors = $\frac{x}{12} = \frac{1,20,00,000}{12}$ = 10,00,000

-> Current Liabilities = Creditors + Other STCL + Outstanding Interest

$\frac{x}{9} + \frac{5,00,000}{3}$ = 10,00,000+ Other STCL + 3,00,000

$\frac{1,20,00,000}{9} + \frac{5,00,000}{3}$ = 13,00,000+ Other STCL

15,00,000 = Other STCL + 13,00,000

Other STCL = 2,00,000

2. (a) Calculation of Earnings per share for three alternatives to finance the project

Particulars	Alternatives		
	I To raise debt of ₹2,50,000 and equity of ₹ 22,50,000 (₹)	II To raise debt of ₹ 10,00,000 and equity of ₹ 15,00,000 (₹)	III To raise debt of ₹ 15,00,000 and equity of ₹ 10,00,000 (₹)
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 ₹ 2,50,000)	1,37,500 (10% on ₹ 2,50,000) (15% on ₹ 7,50,000)	2,37,500 (10% on ₹ 2,50,000) (15% on ₹ 7,50,000) (20% on ₹ 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) (Refer to working note)	15,000	10,000	8,000
Earnings per share: (A)/(B)	15.833	18.125	16.406

So, the earning per share (EPS) is higher in alternative II i.e. if the company finance the project by raising debt of ₹ 10,00,000 and issue equity shares of ₹ 15,00,000. Therefore, the company should choose this alternative to finance the project. 1

Working Note:

	Alternatives		
	I	II	III
Equity financing : (A)	₹ 22,50,000	₹ 15,00,000	₹ 10,00,000
Market price per share : (B)	₹ 150	₹ 150	₹ 125
Number of equity share: (A)/(B)	15,000	10,000	8,000

(b) "Operating risk is associated with cost structure whereas financial risk is associated with capital structure of a business concern".

Operating risk refers to the risk associated with the firm's operations. It is represented by the variability of earnings before interest and tax (EBIT). The variability in turn is influenced by revenues and expenses, which are affected by demand of firm's products, variations in prices and proportion of fixed cost in total cost. If there is no fixed cost, there would be no operating risk. Whereas financial risk refers to the additional risk placed on firm's shareholders as a result of debt and preference shares used in the capital structure of the concern. Companies that issue more debt instruments would have higher financial risk than companies financed mostly by equity.

3. Statement of working capital Requirement

Particular	**(₹)**	**(₹)**
A. Current Assets		
Stock of Raw Material (W.N. 2)	81,975	
Stock of finished Goods $\left(65,40,000\times\frac{1}{12}\right)$	5,45,000	
Average Receivables (at Cost) $\left(67,80,000\times\frac{1}{12}\right)$	5,65,000	
Bank Balance	12,00,000	
Cash Balance (W.N. 3)	15,232	
Gross Working Capital		24,07,207
B. Current Liabilities		
Average Creditor for materials $\left(50,40,000\times\frac{3}{12}\right)$	12,60,000	
Outstanding Wages $\left(12,00,000\times\frac{0.5}{12}\right)$	50,000	
Outstanding Cash Manufacturing Expenses $\left(3,00,000\times\frac{1}{12}\right)$	25,000	
Outstanding administrative Expenses $\left(2,40,000\times\frac{1}{12}\right)$	20,000 1	
		13,55,000
Net Working Capital (A-B)		10,52,207

Add: Safety Margin @ 20%		2,10,441
Total Working Capital Requirement		**12,62,648**

Working Notes:

1. Computation of annual cash Cost of Production & Sales

Material Consumed (84,00,000 × 60%)	50,40,000
Wages	12,00,000
Manufacturing expenses	3,00,000
Cash Cost of production	**65,40,000**
(+) Administrative Expenses	2,40,000
Cash Cost of Sales	**67,80,000**

2. Computation of stock of Raw Material

A = 50,40,000

B = 100

C = 0.15

$$\therefore \text{EOQ} = \sqrt{\frac{2AB}{C}} = \sqrt{\frac{2\times 50,40,000\times 100}{0.15}} = ₹\ 81,975$$

3. Calculation of Cash Balance

A = 12,00,000+3,00,000+2,40,000

A = 17,40,000

B = 10

C = 0.15

$$\text{Optimal Cash Balance} = \sqrt{\frac{2AB}{C}} = \sqrt{\frac{2\times 17,40,000\times 10}{0.15}} = ₹\ 15,232$$

4. A. Computation of CFAT (Year 1 to 5)

Particulars		**Amount (₹)**
(a) Savings in existing Tea & Coffee charges	(120 × 10 ×3) + (40 ×15 × 3) + (40 ×10 × 1) x 200 days	11,60,000
(b) AMC of machine		(75,000)
(c) Electricity charges	500 ×12 ×12	(72,000)
(d) Coffee Beans	(W.N.) 144 × 90	(12,960)
(e) Tea Powder	(W.N.) 480 × 70	(33,600)
(f) Sugar	(W.N.) 1248 × 50	(62,400)
(g) Milk	(W.N.) 12480 × 50	(6,24,000)
(h) Paper Cup	(W.N.) 1,37,280 × 0.2	(27,456)
(i) Depreciation	10,00,000/5	(2,00,000)
Profit before Tax		**52,584**

(-) Tax @ 25%	(13,146)
Profit after Tax	**39,438**
Depreciation	2,00,000
CFAT	**2,39,438**

B. Computation of NPV

Year	Particulars	CF	PVF @ 12%	PV
0	Cost of machine	(10,00,00)	1	(10,00,000)
1-5	CFAT	2,39,438	3.6048	8,63,126
Net Present Value				**(1,36,874)**

Since NPV of the machine is negative, it should not be purchased.

Working Note:

Computation of Qty of consumable

No. of Tea Cups = [(120 × 3 × 200 days) + (40 × 1 × 200 days) × 1.2 = 96,000

No. of Coffee cups = 40 × 3 × 200 days × 1.2 = 28,800

No. of coffee beans packet $= \frac{28,800}{200}$ = 144

No. of Tea Powder Packets $= \frac{96,000}{200}$ = 480

Qty of Sugar $= \frac{(96,000 + 28,800) \times 10\ g}{1,000\ g}$ = 1248 kgs

Qty of Milk $= \frac{(96,000 + 28,800) \times 100\ ml}{1,000\ ml}$ = 12,480 litres

No. of paper cups = (96,000 + 28,800) × 1.1 = 1,37,280

5. Working Notes:

(i) Cost of Equity (K_e)

$$\frac{D_1}{P} + g = \frac{Rs.\ 3}{Rs.\ 50} + 0.08 = 0.14 \text{ i.e. } 14\%$$

(ii) Cost of preference shares (K_p)

$$\frac{D + \frac{RV - NP}{n}}{\frac{RV + NP}{2}} = \frac{10 + \frac{(100 - 80)}{8}}{\frac{100 + 80}{2}} = \frac{12.5}{90} = 0.1389 = 13.89\%$$

(iii) Cost of debenture (K_d)

$$\frac{I(1-t) + \frac{RV - NP}{n}}{\frac{RV + NP}{2}} = \frac{13(1 - 0.35) + \frac{(100 - 90)}{5}}{\frac{100 + 90}{2}} = \frac{8.45 + 2}{95} = 0.11 \text{ i.e. } 11\%$$

Or,

$$\left[\frac{I+\frac{RV-NP}{n}}{\frac{RV+NP}{2}}\right](1-t) = \left[\frac{13+\frac{(100-90)}{5}}{\frac{100+90}{2}}\right](1-0.35) = 0.1026 \text{ i.e. } 10.26\%$$

Weighted Average cost of capital (Book Value)

	Amount (₹)	Weight (W)	Cost (K)	W x K
Equity shares	25,00,000	0.4546	0.14	0.0636
Preference shares	5,00,000	0.0909	0.1389	0.0126
Retained Earnings	5,00,000	0.0909	0.14	0.0127
Debentures	20,00,000	0.3636	0.1026	0.0373
	55,00,000			0.1262

Or (if K_d is 11%) the WACC = 0.1289

Thus, WACC (Book value based) = 12.62% or 12.89%

Weighted Average cost of capital (Market Value)

	Amount (₹)	Weight (W)	Cost (K)	W x K
Equity shares	1,25,00,000	0.85	0.14	0.119
Preference shares	4,00,000	0.028	0.1389	0.0039
Debentures	18,00,000	0.122	0.1026	0.0125
	1,47,00,000			0.1354

Or (if K_d is 11%) the WACC = 0.1363

Thus, WACC (Market value based) = 13.54% or 13.63%

6. (a) The two sources of long-term finance for a partnership firm are as follows:

Loans from Commercial Banks: Commercial banks provide long term loans for the purpose of expansion or setting up of new units. Their repayment is usually scheduled over a long period of time. The liquidity of such loans is said to depend on the anticipated income of the borrowers.

As part of the long term funding for a partnership firm, the banks also fund the long term working capital requirement (it is also called WCTL i.e. working capital term loan).

Lease financing: Leasing is a general contract between the owner and user of the asset over a specified period of time. The asset is purchased initially by the lessor (leasing company) and thereafter leased to the user (lessee firm) which pays a specified rent at periodical intervals. Thus, leasing is an alternative to the purchase of an asset out of own or borrowed funds. Moreover, lease finance can be arranged much faster as compared to term loans from financial institutions. 1

(b) The limitations of financial ratios are listed below:

(i) Diversified product lines: Many businesses operate a large number of divisions in quite different industries. In such cases ratios calculated on the basis of aggregate data cannot be used for inter-firm comparisons.

(ii) Financial data are badly distorted by inflation: Historical cost values may be substantially different from true values. Such distortions of financial data are also carried in the financial ratios.

(iii) Seasonal factors may also influence financial data.

(iv) To give a good shape to the popularly used financial ratios (like current ratio, debt- equity ratios, etc.): The business may make some year-end adjustments. Such window dressing can change the character of financial ratios which would be different had there been no such change.

(v) Differences in accounting policies and accounting period: It can make the accounting data of two firms non-comparable as also the accounting ratios.

(vi) There is no standard set of ratios against which a firm's ratios can be compared: Sometimes a firm's ratios are compared with the industry average. But if a firm desires to be above the average, then industry average becomes a low standard. On the other hand, for a below average firm, industry averages become too high a standard to achieve.

(vii) Financial ratios are inter-related, not independent: Viewed in isolation one ratio may highlight efficiency. But when considered as a set of ratios they may speak differently. Such interdependence among the ratios can be taken care of through multivariate analysis.

(c) Financial ratios provide clues but not conclusions. These are tools only in the hands of experts because there is no standard ready-made interpretation of financial ratios

As the name indicates it is the **reciprocal of payback period**. A major drawback of the payback period method of capital budgeting is that it does not indicate any cut off period for the purpose of investment decision. It is, however, argued that the reciprocal of the payback would be a close approximation of the Internal Rate of Return (later discussed in detail) if the life of the project is at least twice the payback period and the project generates equal amount of the annual cash inflows. In practice, the payback reciprocal is a helpful tool for quickly estimating the rate of return of a project provided its life is at least twice the payback period.

The payback reciprocal can be calculated as follows:

$$\text{Payback Reciprocal} = \frac{\text{Average annual cash in flow}}{\text{Initial investment}}$$

1

PAPER 8B: ECONOMICS FOR FINANCE

Time Allowed – 1:15 Hours **Maximum Marks - 40**

ANSWERS

1. (a) Regional accounts provide an integrated database on the innumerable transactions taking place in the regional economy and help decision making at the regional level. At present, practically all the states and union territories of India compute state income estimates and district level estimates. State Income or Net State Domestic Product (NSDP) is a measure in monetary terms of the volume of all goods and services produced in the state within a given period of time (generally a year) accounted without duplication. Per Capita State Income is obtained by dividing the NSDP (State Income) by the midyear projected population of the state.

The state level estimates are prepared by the State Income Units of the respective State Directorates of Economics and Statistics (DESs). The Central Statistical Organization assists the States in the preparation of these estimates by rendering advice on conceptual and methodological problems

(b) Production taxes are paid or received in relation to production and are independent of the volume of actual production. Examples of production taxes are land revenues, stamps and registration fees and tax on profession, factory license fee, taxes to be paid to the local authorities, pollution tax etc.

Product taxes are paid or received on per unit of product. Examples of product taxes are excise duties, sales tax, service tax and import-export duties.

(c) $C = 100+0.60\ Y_d$

$Y_d = Y – T + \text{Transfer Payment}$

$C = 100+0.60\ (Y – 30 + 0.5\ Y + 50)$

$= 100+0.60Y – 18 + 0.3Y + 30$

$C = 112+0.90Y$

$Y = C + I + G + X – M$

$= 112+0.90Y + 125+150+ [40 – (25+0.1Y)]$

$Y = 387+ 0.90Y+15 – 0.1Y$

$= 402+1.10Y$

$Y – 0.80\ Y = 402$

$0.20\ Y = 402$

$Y = 402/.20$

$= ₹\ 2010$ Cr.

$C = 100+0.6\ Y$

$= 100+0.6\ (2010)$

$= 1306$ Cr.

Net Export $= X – M$

$= 40-25-0.1\ Y$ **1**

$= 15 – 0.1\ (2010)$

$= 15 – 201$

$= ₹\ (-)\ 186$ Cr.

2. **(a)** As aggregate expenditures exceed aggregate output then excess demand makes businesses to sell more than what they currently produce. The unexpected sales would draw down inventories and result in less inventory investment than business firms planned. They will react by hiring more workers and expanding production. This will increase the nation's aggregate income. It also follows that with demand outstripping production, desired investment will exceed actual investment.

(b) Multiplier refers to the phenomenon whereby a change in an injection of expenditure will lead to a proportionately larger change (or multiple changes) in the equilibrium level of national income. The multiplier concept is central to Keynes's theory because it explains how shifts in investment caused by changes in business expectations set off a process that causes not only investment but also consumption to vary. The multiplier shows how shocks to one sector are transmitted throughout the economy.

(c) By expenditure Method.

= Private final Consumption Expenditure + Government Final consumption Expenditure + Gross domestic Capital formation (Net domestic Capital formation + depreciation) + Net Export

= 800+900+700+120+20 = ₹ 2540 Cr.

NNP_{FC} or NI = GDP_{MP} – depreciation + Net factor Income from abroad – Net Indirect tax

= 2540 – 120+50 – 80

₹ 2390 Cr.

Income Method:

Compensation of employee NNP_{FC} or NI = Operating Surplus + Mixed Income of self employed + NFIA

= 1000+1400+600+50 = ₹ 3050 Cr.

3. **(a)** During recession, in order to ensure income protection, the government increases its expenditure or cut down taxes or adopts a combination of both so that aggregate demand is kept stable or even boosted up with more money put into the hands of the people. On the other hand, to control high inflation the government cuts down its expenditure or raises taxes. In other words, an expansionary fiscal policy is adopted to alleviate recession and a contractionary fiscal policy is resorted to for controlling high inflation. The nature of the budget also has important implications on a country's economic activity. While deficit budgets are expected to stimulate economic activity, surplus budget tend to slow down economic activity. Generally, government's fiscal policy has a strong influence on the performance of the macro economy in terms of employment, price stability, economic growth, and external balance.

(b) Government intervention in resource allocation is necessary and justified to ensure social welfare through optimal allocation of resources. Government should perform the allocation function in an economy because it is the responsibility of the governments to initiate suitable corrective action when private markets fail to provide the right and desirable combination of goods and services. Government intervention in resource allocation is also warranted in the case of goods which we cannot produce on our own, or buy at a price from the market and in the case of merit goods and goods which involve externalities

(c) Inequality and the resulting loss of social welfare is sought to be tackled by government through an appropriately framed tax and transfer policy. This involves progressive taxation combined with provision of subsidy to low- income households. Proceeds from progressive taxes may be used to finance public services, especially those such as public housing, which particularly benefit low-income households. Few examples are supply of essential food grains at highly subsidized prices to BPL households, free or subsidised education, healthcare, housing, rations and basic goods etc to the deserving people.

(d) The bank rate once used to be the policy rate in India i.e., the key interest rate based on which all other short term interest rates moved. Discounting/rediscounting of bills of exchange by the Reserve Bank has been discontinued on introduction of Liquidity Adjustment Facility (LAF). As a result, the bank rate has become dormant as an instrument of monetary management.

The bank rate has been aligned to the Marginal Standing Facility (MSF) rate and, therefore, as, and when the MSF rate changes alongside policy repo rate changes, the bank rate also changes automatically. Briefly put, MSF assumed the role of bank rate and currently the bank rate is purely a signalling rate, and most interest rates are delinked from the bank rate. Now, bank rate is used only for calculating penalty on default in the maintenance of Cash Reserve Ratio (CRR) and the Statutory Liquidity Ratio (SLR).

4. (a) The 'Factor-Price Equalization' Theorem states that international trade tends to equalize the factor prices between the trading nations. In the absence of foreign trade, it is quite likely that factor prices are different in different countries. International trade equalizes the absolute and relative returns to homogenous factors of production and their prices. In other words, the wages of homogeneous labour and returns to homogeneous capital will be the same in all those nations which engage in trading.

The factor price equalization theorem is in fact a corollary to the Heckscher-Ohlin trade theory. It holds true only as long as Heckscher-Ohlin Theorem holds true.

(b) Dumping is unfair and constitutes a threat to domestic producers and therefore when dumping is found, anti-dumping measures may be initiated as a safeguard instrument by imposing additional import duties/tariffs so as 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). For example: In January 2017, India imposed anti-dumping duties on colour-coated or pre-painted flat steel products imported into the country from China and European nations for a period not exceeding six months and for jute and jute products from Bangladesh and Nepal

(c) Technical Barriers to Trade (TBT) are 'Standards and Technical Regulations' that define the specific characteristics that a product should have, such as its size, shape, design, labelling / marking / packaging, functionality or performance and production methods, excluding measures covered by the SPS Agreement.

TBT measures are standards-based measures that countries use to protect their consumers and preserve natural resources, but these can also be used effectively as obstacles to imports or to discriminate against imports and protect domestic products. Altering products and production processes to comply with the diverse requirements in export markets may be either impossible for the exporting country or would obviously raise costs, hurting the competitiveness of the exporting country. Some examples of TBT are: food laws, quality standards, industrial standards, organic certification, eco-labelling, and marketing and label requirements.

(d) **Free-trade area** is a group of countries that eliminate all tariff and quota barriers on trade with the objective of increasing exchange of goods with each other. The trade among the member states flows tariff free, but the member states maintain their own distinct external tariff with respect to imports from the rest of the world. In other words, the members retain independence in determining their tariffs with non-members.

Trading Bloc has a group of countries that have a free trade agreement between themselves and may apply a common external tariff to other countries. Example: Arab League (AL), European Free Trade Association (EFTA).

5. (a) The Salient feature of the theory is:

- It explains the causes of differences in comparative costs as differences in factor endowments
- Based on money cost which is more realistic.
- Widened the scope to include labour and capital as important factors of production. This is 2-factor model and can be extended to more factors.
- International trade is only a special case of inter-regional trade.
- Considers the relative prices of the factors which influence the comparative costs of the goods
- Attributes the differences in comparative advantage to the differences in factor endowments.
- Considers factor price differences as the main cause of commodity price differences
- Explains the differences in comparative advantage in terms of differences in factor endowments.
- Positive; concentrates based on trade

(b) There are four major reasons for market failure. They are:

- Market power: Excessive market power causes the single producer or small number of producers to produce and sell less output than would be produced and charge a higher price in a competitive market
- Externalities: Externalities cause market inefficiencies because they hinder the ability of market prices to convey accurate information about how much to produce and how much to buy. Since externalities are not reflected in market prices, they can be a source of economic inefficiency.
- Public goods: Public goods do not conform to the settings of market exchange and left to the market, they will not be produced at all or will be underproduced. This is because the price becomes zero.
- Incomplete information: Complete information is an important element of competitive market. Perfect information implies that both buyers and sellers have complete information about anything that may influence their decision making.

(c) The functions of money are acting as a medium of exchange to facilitate easy exchanges of goods and services, providing a 'common measure of value' or 'common denominator of value', serving as a unit or standard of deferred payments and facilitating storing of value both as a temporary abode of purchasing power and as a permanent store of value.

Money should be generally acceptable, durable, difficult to counterfeit, relatively scarce, easily transported, divisible without losing value and effortlessly recognizable

(d) There are two alternate theories in respect of determination of money supply. According to the first view, money supply is determined *exogenously* by the central bank. The second view holds that the money supply is determined endogenously by changes in the economic activities which affect people's desire to hold currency relative to deposits, rate of interest, etc. The current practice is to explain the determinants of money supply based on 'money multiplier approach' which focuses on the relation between the money stock and money supply in terms of the monetary base or high-powered money. The monetary base is the sum of currency in circulation and bank reserves. This approach holds that total supply of nominal money in the economy is determined by the joint behavior of the central bank, the commercial banks and the public.

Or

The main forms of direct investments are: the opening of overseas companies, including the establishment of subsidiaries or branches, creation of joint ventures on a contract basis, joint development of natural resources and purchase or annexation of companies in the country receiving foreign capital.

1