

**(CA INTERMEDIATE MOCK TEST MAY 2021)**

**DATE: 01.05.2021**

**MAXIMUM MARKS: 100**

**TIMING: 3¼ Hours**

**FINANCIAL MANAGEMENT**

**SECTION - A**

**Q. No. 1 is compulsory.**

**Candidates are also required to answer any four questions from the remaining five questions.**

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

**Working Notes should form part of the respective answer.**

**Answer 1:**

**(a) Workings Notes:**

$$\begin{aligned}
 1. \quad \text{Net Working Capital} &= \text{Current Assets} - \text{Current Liabilities} \\
 &= 2.5 - 1 = 1.5 \\
 \text{Thus, Current Assets} &= \frac{\text{Net Working Capital} \times 2.5}{1.5} \\
 &= \frac{₹ 4,50,000 \times 2.5}{1.5} = ₹ 7,50,000 \quad \{1/2 \text{ M}\} \\
 2. \quad \text{Sales} &= \text{Total Assets Turnover} \times \text{Total Assets} \\
 &= 2 \times (\text{Fixed Assets} + \text{Current Assets}) \\
 &= 2 \times (\text{Rs. } 10,00,000 + \text{Rs. } 7,50,000) = \text{Rs. } 35,00,000 \\
 3. \quad \text{Cost of Goods Sold} &= 100\% - 20\% = 80\% \text{ of Sales} \\
 &= 80\% \text{ of Rs. } 35,00,000 = \text{Rs. } 28,00,000 \quad \{1/2 \text{ M}\} \\
 4. \quad \text{Average Stock} &= \frac{\text{Cost of Good Sold}}{\text{Stock Turnover Ratio}} \\
 &= \frac{₹ 28,00,000}{7} = ₹ 4,00,000 \\
 \text{Closing Stock} &= (\text{Average Stock} \times 2) - \text{Opening Stock} \\
 &= (\text{Rs. } 4,00,000 \times 2) - \text{Rs. } 3,80,000 = \text{Rs. } 4,20,000 \\
 \text{Quick Assets} &= \text{Current Assets} - \text{Closing Stock} \\
 &= \text{Rs. } 7,50,000 - \text{Rs. } 4,20,000 = \text{Rs. } 3,30,000 \quad \{1/2 \text{ M}\} \\
 \frac{\text{Debt}}{\text{Equity (here Proprietary fund)}} &= \frac{1}{1.5}, \text{ Or Proprietary fund} = 1.5 \text{ Debt.} \\
 \text{Total Asset} &= \text{Proprietary Fund (Equity)} + \text{Debt} \\
 \text{Or } 17,50,000 &= 1.5 \text{ Debt} + \text{Debt} \\
 \text{Or Debt} &= \frac{₹ 17,50,000}{2.5} = ₹ 7,00,000 \\
 \text{Proprietary fund} &= 7,00,000 \times 1.5 = ₹ 10,50,000 \\
 &= \frac{₹ 17,50,000 \times 1.5}{2.5} = ₹ 10,50,000 \quad \{1/2 \text{ M}\}
 \end{aligned}$$

5. Profit after tax (PAT) = Total Assets × Return on Total Assets  
 $= ₹ 17,50,000 \times 15\% = ₹ 2,62,500$

**(i) Calculation of Quick Ratio**

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}} = \frac{₹ 3,30,000}{₹ 3,00,000} = 1.1:1 \quad \{1 M\}$$

**(ii) Calculation of Fixed Assets Turnover Ratio**

$$\text{Fixed Assets Turnover Ratio} = \frac{\text{Sales}}{\text{Fixed Assets}} = \frac{₹ 35,00,000}{₹ 10,00,000} = 3.5 \quad \{1 M\}$$

**(iii) Calculation of Proprietary Ratio**

$$\begin{aligned} \text{Proprietary Ratio} &= \frac{\text{Proprietary fund}}{\text{Total Assets}} \\ &= \frac{₹ 10,50,000}{₹ 17,50,000} = 0.6 : 1 \quad \{1 M\} \end{aligned}$$

**(iv) Calculation of Earnings per Equity Share (EPS)**

$$\begin{aligned} \text{Earnings per Equity Share (EPS)} &= \frac{\text{PAT} - \text{Preference Share Dividend}}{\text{Number of Equity Shares}} \\ &= \frac{₹ 2,62,500 - ₹ 18,000 \text{ (9\% of 2,00,000)}}{60,000} \\ &= ₹ 4.075 \text{ per share} \quad \{1 M\} \end{aligned}$$

**(v) Calculation of Price-Earnings Ratio (P/E Ratio)**

$$\text{P/E Ratio} = \frac{\text{Market Price of Equity Share}}{\text{EPS}} = \frac{₹ 16}{₹ 4.075} = 3.926 \quad \{1 M\}$$

**Answer:**

**(b)**

**(i) Financial leverage**

$$\begin{aligned} \text{Combined Leverage} &= \text{Operating Leverage (OL)} \times \text{Financial Leverage (FL)} \\ 2.8 &= 1.4 \times \text{FL} \quad \text{Or, FL} = 2 \\ \text{Financial Leverage} &= 2 \quad \{2 M\} \end{aligned}$$

**(ii) P/V Ratio and EPS**

$$\text{Operating leverage} = \frac{\text{Contribution (C)}}{\text{C} - \text{Fixed Cost (FC)}} \times 100$$

$$1.4 = \frac{C}{C - 2,04,000} \quad \text{Or, } 1.4 (C - 2,04,000) = C$$

$$\text{Or, } 1.4 C - 2,85,600 = C \quad \text{Or, } C = \frac{₹ 2,85,600}{0.4} = C = 7,14,000$$

$$\text{Now, P/V ratio} = \frac{\text{Contribution (C)}}{\text{Sales (S)}} \times 100 = \frac{₹ 7,14,000}{₹ 30,00,000} \times 100 = 23.8\%$$

$$\text{Therefore, P/V Ratio} = 23.8\% \quad \{2 M\}$$

$$\text{EPS} = \frac{\text{Profit after tax}}{\text{No. of equity shares}}$$

$$\begin{aligned} \text{EBT} &= \text{Sales} - \text{V} - \text{FC} - \text{Interest} \\ &= ₹ 30,00,000 - ₹ 22,86,000 - ₹ 2,04,000 - ₹ 2,55,000 \\ &= ₹ 2,55,000 \end{aligned}$$

$$\begin{aligned} \text{PAT} &= \text{EBT} - \text{Tax} \\ &= ₹ 2,55,000 - ₹ 76,500 = ₹ 1,78,500 \end{aligned}$$

$$\text{EPS} = \frac{₹ 1,78,500}{₹ 1,70,000} = 1.05$$

**(iii) Assets turnover**

$$\text{Assets turnover} = \frac{\text{Sales}}{\text{Total Assets}} = \frac{\text{₹ } 30,00,000}{\text{₹ } 38,25,000} = 0.784 \quad \{1 \text{ M}\}$$

0.784 < 1.5 means lower than industry turnover.  $\{1 \text{ M}\}$

- (iv) EBT zero means 100% reduction in EBT. Since combined leverage is 2.8, sales have to be dropped by  $100/2.8 = 35.71\%$ . Hence new sales will be  
 Rs.  $30,00,000 \times (100 - 35.71) = \text{Rs. } 19,28,700$ .  $\{2 \text{ M}\}$

Therefore, at Rs. 19,28,700 level of sales, the Earnings before Tax of the company will be equal to zero.

**Answer:**

**(c) Calculation of Value of Firms P and Q according to MM Hypothesis**

Market Value of Firm P (Unlevered)

$$V_u = \frac{\text{EBIT} (1 - t)}{K_e} = \frac{2,60,000 (1 - 0.30)}{10\%} = \frac{\text{₹ } 1,82,000}{10\%} = \text{₹ } 18,20,000 \quad \{2^{1/2} \text{ M}\}$$

Market Value of Firm Q (Levered)

$$V_g = V_u + TB$$

$$= \text{₹ } 18,20,000 + (\text{₹ } 8,00,000 \times 0.30) = \text{₹ } 18,20,000 + \text{₹ } 2,40,000 = \text{₹ } 20,60,000 \quad \{2^{1/2} \text{ M}\}$$

**Answer 2:**

**(i) Computation of Weighted Average Cost of Capital based on existing capital structure**

Source of Capital	Existing Capital structure (Rs.)	Weights (a)	After tax cost of capital (%) (b)	WACC (%) (a) × (b)
Equity share capital (W.N.1)	40,00,000	0.500	15.00	7.500
11.5% Preference share capital (W.N.2)	10,00,000	0.125	11.50	1.437
10% Debentures (W.N.3)	30,00,000	0.375	6.50	2.438
	80,00,000	1.000		11.375

$\{2 \text{ M}\}$

**Working Notes (W.N.):**

**1. Cost of equity capital:**

$$K_e = \frac{\text{Expected Dividend (D}_1\text{)}}{\text{Current Market Price per share (P}_0\text{)}} + \text{Growth (g)}$$

$$= \frac{2}{20} + 0.05 = 0.15 \text{ or } 15\% \quad \{1 \text{ M}\}$$

**2. Cost of preference share capital:**

$$= \frac{\text{Annual preference share dividend (PD)}}{\text{Net proceeds in the issue of preference share (NP)}}$$

$$= \frac{1,15,000}{10,00,000} = 0.115 \text{ or } 11.5\% \quad \{1 \text{ M}\}$$

**3. Cost of 10% Debentures:**

$$= \frac{I(1 - t)}{NP} = \frac{3,00,000(1 - 0.35)}{30,00,000} = 0.065 \text{ or } 6.5\% \quad \{1 \text{ M}\}$$

(ii) **Computation of Weighted Average Cost of Capital based on new capital structure**

Source of Capital	New Capital structure (Rs.)	Weights (b)	After tax cost of capital (%) (a)	WACC (%) (a) × (b)
Equity share capital (W.N. 4)	40,00,000	0.40	20.00	8.00
Preference share (W.N. 2) 10%	10,00,000	0.10	11.50	1.15
Debentures (W.N. 3)	30,00,000	0.30	6.50	1.95
12% Debentures (W.N.5)	20,00,000	0.20	7.80	1.56
	1,00,00,000	1.00		12.66

} {3 M}

**Working Notes (W.N.):**

4. **Cost of equity capital:**

$$K_e = \frac{\text{Expected Dividend (D}_1\text{)}}{\text{Current Market Price per share (P}_0\text{)}} + \text{Growth (g)} = \frac{2.40}{16} + 5\% = 20\% \quad \text{{1 M}}$$

5. **Cost of 12% Debentures**

$$K_d = \frac{2,40,000(1 - 0.35)}{20,00,000} = 0.078 \text{ or } 7.8\% \quad \text{{1 M}}$$

**Answer 3:**

**Recommendations regarding Two Alternative Proposals**

(i) **Net Present Value Method**

**Computation of Present Value**

Project A = Rs. 4,00,000 × 3.791 = Rs. 15,16,400

Project B = Rs. 5,80,000 × 3.791 = Rs. 21,98,780

**Computation of Net Present Value**

Project A = Rs. 15,16,400 – 12,00,000 = Rs. 3,16,400 {1 M}

Project B = Rs. 21,98,780 – 18,00,000 = Rs. 3,98,780 {1 M}

**Advise:** Since the net present value of Project B is higher than that of Project A, therefore, Project B should be selected. } {1 M}

(ii) **Present Value Index Method**

$$\text{Present Value Index} = \frac{\text{Present Value of Cash Inflow}}{\text{Initial Investment}}$$

$$\text{Project A} = \frac{15,16,400}{12,00,000} = 1.264 \quad \text{{1 M}}$$

$$\text{Project B} = \frac{21,98,780}{18,00,000} = 1.222 \quad \text{{1 M}}$$

**Advise:** Since the present value index of Project A is higher than that of Project B, therefore, Project A should be selected. } {1 M}

(iii) **Internal Rate of Return (IRR)**

**Project A**

$$\text{P.V. Factor} = \frac{\text{Initial Investment}}{\text{Annual Cash Inflow}} = \frac{12,00,000}{4,00,000} = 3$$

PV factor falls between 18% and 20%

Present Value of cash inflow at 18% and 20% will be:

Present Value at 18% = 3.127 × 4,00,000 = 12,50,800

Present Value at 20% = 2.991 × 4,00,000 = 11,96,400



$$\begin{aligned}
 \text{IRR} &= 18 + \frac{12,50,800 - 12,00,000}{12,50,800 - 11,96,400} \times (20 - 18) \\
 &= 18 + \frac{50,800}{54,400} \times 2 \\
 &= 18 + 1.8676 = 19.868 \% \{1^{1/2} \text{ M}\}
 \end{aligned}$$

**Project B**

$$\text{P.V. Factor} = \frac{18,00,000}{5,80,000} = 3.103$$

Present Value of cash inflow at 18% and 20% will be:

Present Value at 18% =  $3.127 \times 5,80,000 = 18,13,660$

Present Value at 20% =  $2.991 \times 5,80,000 = 17,34,780$

$$\begin{aligned}
 \text{IRR} &= 18 + \frac{18,13,660 - 18,00,000}{18,13,660 - 17,34,780} \times (20 - 18) \\
 &= 18 + \frac{13,660}{78,880} \times 2 \\
 &= 18 + 0.3463 = 18.346 \% \{1^{1/2} \text{ M}\}
 \end{aligned}$$

**Advise:** Since the internal rate of return of Project A is higher than that of Project B, } {1 M} therefore, Project A should be selected.

**Answer 4:**

- (a) (i) **Statement showing computation of expected net present value of Projects A and B:**

Project A			Project B		
NPV Estimate (Rs.)	Probability	Expected Value (Rs.)	NPV Estimate (Rs.)	Probability	Expected Value (Rs.)
15,000	0.2	3,000	15,000	0.1	1,500
12,000	0.3	3,600	12,000	0.4	4,800
6,000	0.3	1,800	6,000	0.4	2,400
3,000	0.2	600	3,000	0.1	300
	1.0	EV = 9,000 } {1 M}		1.0	EV = 9,000 } {1 M}

- (ii) **Computation of Standard deviation of each project**

**Project A**

P	X	(X - EV)	P (X - EV) <sup>2</sup>
0.2	15,000	6,000	72,00,000
0.3	12,000	3,000	27,00,000
0.3	6,000	- 3,000	27,00,000
0.2	3,000	- 6,000	72,00,000
			Variance = 1,98,00,000

$$\text{Standard Deviation of Project A} = \sqrt{1,98,00,000} = \text{Rs. } 4,450 \{1 \text{ M}\}$$

**Project B**

P	X	(X - EV)	P (X - EV) <sup>2</sup>
0.1	15,000	6,000	36,00,000
0.4	12,000	3,000	36,00,000
0.4	6,000	3,000	36,00,000
0.1	3,000	6,000	36,00,000
			Variance = 1,44,00,000

Standard Deviation of Project B =  $\sqrt{1,44,00,000} = \text{Rs. } 3,795 \text{ } \{1 \text{ M}\}$

**(iii) Computation of profitability of each project**

Profitability index = Discount cash inflow / Initial outlay

In case of Project A:  $PI = \frac{9,000 + 36,000}{36,000} = \frac{45,000}{36,000} = 1.25 \text{ } \{1/2 \text{ M}\}$

In case of Project B:  $PI = \frac{9,000 + 30,000}{30,000} = \frac{39,000}{30,000} = 1.30 \text{ } \{1/2 \text{ M}\}$

- (iv)** In the selection of one of the two projects A and B, Project B is preferable because the possible profit which may occur is subject to less variation (or dispersion). Much higher risk is lying with project A. } **{1 M}**

**Answer:**

**(b)** Given,

Cost of Equity (K <sub>e</sub> )	10%
Number of shares in the beginning (n)	25,000
Current Market Price (P <sub>0</sub> )	Rs. 100
Net Profit (E)	Rs. 2,50,000
Expected Dividend	Rs. 5 per share
Investment (I)	Rs. 5,00,000

<p><b>Case 1 - When dividends are paid</b></p> <p><b>Step 1</b></p> $P_0 = \frac{P_1 + D_1}{1 + K_e}$ $100 = \frac{P_1 + 5}{1 + 0.10}$ $P_1 = 110 - 5 = 105 \text{ } \{1/2 \text{ M}\}$ <p><b>Step 2</b></p> <p>No. of shares required to be issued for balance fund</p> $\text{No. of shares} = \frac{\text{Funds required}}{\text{Price at end}(P_1)}$ $\Delta n = \frac{3,75,000}{105}$ $= 3,571.4285 \text{ } \{1/2 \text{ M}\}$ <p><b>Step 3</b></p> <p>Calculation of value of firm</p> $V_f = \frac{(n + \Delta n)P_1 - I + E}{(1 + K_e)}$ $V_f = \frac{\left(25,000 + \frac{3,75,000}{105}\right)105 - 5,00,000 + 2,50,000}{(1 + .10)}$ $= ₹ 25,00,000 \text{ } \{1 \text{ M}\}$	<p><b>Case 2 - When dividends are not paid</b></p> <p><b>Step 1</b></p> $P_0 = \frac{P_1 + D_1}{1 + K_e}$ $100 = \frac{P_1 + 0}{1 + 0.10}$ $P_1 = 110 - 0 = 110 \text{ } \{1/2 \text{ M}\}$ <p><b>Step 2</b></p> <p>No. of shares required to be issued for balance fund</p> $\text{No. of shares} = \frac{\text{Funds required}}{\text{Price at end}(P_1)}$ $\Delta n = \frac{2,50,000}{110}$ $= 2,272.73 \text{ } \{1/2 \text{ M}\}$ <p><b>Step 3</b></p> <p>Calculation of value of firm</p> $V_f = \frac{(n + \Delta n)P_1 - I + E}{(1 + K_e)}$ $V_f = \frac{\left(25,000 + \frac{2,50,000}{110}\right)110 - 5,00,000 + 2,50,000}{(1 + 0.10)}$ $= ₹ 25,00,000 \text{ } \{1 \text{ M}\}$
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**Answer 5:**

**Statement Showing Cost and Sales for the First Year**

Annual Production Capacity	60,000 units	
Production	40,000 units	
Sales	35,000 units	
<i>Particulars</i>		₹
Sales Revenue (₹ 80 × 35,000)		28,00,000
Cost of Production:		
Materials @ ₹ 20 per unit		8,00,000
Direct Labour @ ₹ 15 per unit		6,00,000
Manufacturing Overheads		
Variable @ ₹ 15 per unit		6,00,000
Fixed (based on production capacity 60,000 units × ₹ 10)		<u>6,00,000</u>
Cost of Production		26,00,000 }{1 M}
Less: Closing Stock (40,000 – 35,000 = 5,000 units)		
( ₹ $\frac{26,00,000}{40,000} \times 5,000 \text{ units}$ )		<u>3,25,000</u>
Cost of Goods Sold		22,75,000 }{1 M}
Add: Selling & Distribution Overheads		
Variable @ ₹ 3 × 35,000 units = 1,05,000		
Fixed (₹ 1 × 60,000 units) = 60,000		<u>1,65,000</u>
Cost of Sales		<u>24,40,000 }{1 M}</u>
Profit		<u>3,60,000</u>

**Statement Showing Working Capital Requirement**

<b>A. Current Assets</b>		₹
Stock of Raw Materials (₹ 8,00,000 × 3/12)		2,00,000 }{1/2 M}
Stock of Finished Goods		3,25,000 }{1 M}
Debtors at Cost (₹ 24,40,000 × 3/24)		3,05,000 }{1 M}
Cash and Bank		<u>60,000 }{1/2 M}</u>
<b>Total (A)</b>		<u>8,90,000</u>
<b>B. Current Liabilities</b>		
Creditors for Materials (₹ 10,00,000 × 4/12)		3,33,333 }{1 M}
Creditors for Expenses (₹ 13,65,000 × 1/24)		56,875 }{1/2 M}
Outstanding Wages (₹ 6,00,000 × 1/12)		<u>50,000 }{1/2 M}</u>
<b>Total (B)</b>		<u>4,40,208</u>
Working Capital Requirement before Contingencies (A – B)		4,49,792
Add: Provision for Contingencies (₹ 4,49,792 × 1/9)		<u>49,977 }{1/2 M}</u>
<b>Estimated Working Capital Requirement</b>		<u>4,99,769 }{1 M}</u>



**Workings Notes:**

<i>Purchase of Raw Material during the first year</i>	₹
Raw Material consumed during the year	8,00,000
Add: Closing Stock of Raw Materials (3 months consumption)	<u>2,00,000</u>
	10,00,000
Less: Opening Stock of Raw Material	<u>Nil</u>
Purchases during the year	<u>10,00,000</u> }{1/2 M}

**Answer 6:**

**(a) Functions of Finance Manager**

The Finance Manager's main objective is to manage funds in such a way so as to ensure their optimum utilisation and their procurement in a manner that the risk, cost and control considerations are properly balanced in a given situation. To achieve these objectives the Finance Manager performs the following functions:

- (i) *Estimating the requirement of Funds:* Both for long-term purposes i.e. investment in fixed assets and for short-term i.e. for working capital. Forecasting the requirements of funds involves the use of techniques of budgetary control and long-range planning.
- (ii) *Decision regarding Capital Structure:* Once the requirement of funds has been estimated, a decision regarding various sources from which these funds would be raised has to be taken. A proper balance has to be made between the loan funds and own funds. He has to ensure that he raises sufficient long term funds to finance fixed assets and other long term investments and to provide for the needs of working capital.
- (iii) *Investment Decision:* The investment of funds, in a project has to be made after careful assessment of various projects through capital budgeting. Assets management policies are to be laid down regarding various items of current assets. For e.g. receivable in coordination with sales manager, inventory in coordination with production manager.
- (iv) *Dividend decision:* The finance manager is concerned with the decision as to how much to retain and what portion to pay as dividend depending on the company's policy. Trend of earnings, trend of share market prices, requirement of funds for future growth, cash flow situation etc., are to be considered.
- (v) *Evaluating financial performance:* A finance manager has to constantly review the financial performance of the various units of organisation generally in terms of ROI. Such a review helps the management in seeing how the funds have been utilised in various divisions and what can be done to improve it.
- (vi) *Financial negotiation:* The finance manager plays a very important role in carrying out negotiations with the financial institutions, banks and public depositors for raising of funds on favourable terms.

}{1/2 M  
for Each  
Point}



- (vi) *Cash management*: The finance manager lays down the cash management and cash disbursement policies with a view to supply adequate funds to all units of organisation and to ensure that there is no excessive cash.
- (vii) *Keeping touch with stock exchange*: Finance manager is required to analyse major trends in stock market and their impact on the price of the company share.

**Answer:**

**(b) Inter-relationship between Investment, Financing and Dividend Decisions**

The finance functions are divided into three major decisions, viz., investment, financing and dividend decisions. It is correct to say that these decisions are inter-related because the underlying objective of these three decisions is the same, i.e. maximisation of shareholders' wealth. Since investment, financing and dividend decisions are all interrelated, one has to consider the joint impact of these decisions on the market price of the company's shares and these decisions should also be solved jointly. The decision to invest in a new project needs the finance for the investment. The financing decision, in turn, is influenced by and influences dividend decision because retained earnings used in internal financing deprive shareholders of their dividends. An efficient financial management can ensure optimal joint decisions. This is possible by evaluating each decision in relation to its effect on the shareholders' wealth.

{1<sup>1/2</sup> M}

The above three decisions are briefly examined below in the light of their inter-relationship and to see how they can help in maximising the shareholders' wealth i.e. market price of the company's shares.

*Investment decision*: The investment of long term funds is made after a careful assessment of the various projects through capital budgeting and uncertainty analysis. However, only that investment proposal is to be accepted which is expected to yield at least so much return as is adequate to meet its cost of financing. This has an influence on the profitability of the company and ultimately on its wealth.

*Financing decision*: Funds can be raised from various sources. Each source of funds involves different issues. The finance manager has to maintain a proper balance between long-term and short-term funds. With the total volume of long-term funds, he has to ensure a proper mix of loan funds and owner's funds. The optimum financing mix will increase return to equity shareholders and thus maximise their wealth.

{1/2 M  
for Each  
Point}

*Dividend decision*: The finance manager is also concerned with the decision to pay or declare dividend. He assists the top management in deciding as to what portion of the profit should be paid to the shareholders by way of dividends and what portion should be retained in the business. An optimal dividend pay-out ratio maximises shareholders' wealth.

**Answer:**

- (c) **Debt Securitisation:** It is a method of recycling of funds. It is especially beneficial to financial intermediaries to support the lending volumes. Assets generating steady cash flows are packaged together and against this asset pool, market securities can be issued, e.g. housing finance, auto loans, and credit card receivables. } {3 M}

*Mittal Commerce Classes*

**ECONOMICS FOR FINANCE**

**SECTION - B**

**Q. No. 7 is compulsory.**

**Answer any three from the 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 form part of the respective answer.**

**Answer 7:**

- (a)** The principal objective of the WTO is to facilitate the flow of international trade smoothly, freely, fairly and predictably. To achieve this, the WTO endeavors:
- (i) to set and enforce rules for international trade,
  - (ii) to provide a forum for negotiating and monitoring further trade liberalization
  - (iii) to resolve trade disputes
  - (iv) to increase the transparency of decision-making processes
  - (v) to cooperate with other major international economic institutions involved in global economic management, and
  - (vi) to help developing countries benefit fully from the global trading system.
- When a country enjoys the best trade terms given by its trading partner it is said to enjoy the Most Favored 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.

**{1/2  
M for  
Each  
Point}**

**{2 M}**

**Answer:**

- (b)** Cash Reserve Ratio (CRR) refers to the fraction of the total net demand and time liabilities (NDTL) of a scheduled commercial bank in India which it should maintain as cash deposit with the Reserve Bank. The RBI may set the ratio in keeping with the broad objective of maintaining monetary stability in the economy. The credit creation capacity of commercial banks is inversely related the cash reserve ratio. Higher the CRR, lower will be the credit creation and vice versa.
- CRR has, in recent years, assumed significance as one of the important quantitative tools aiding in liquidity management. Higher the CRR with the RBI, lower will be the liquidity in the system and vice versa. During deflation, the RBI reduces the CRR in order to enable the banks to expand credit and increase the supply of money available in the economy. In order to contain credit expansion during periods of inflation, the RBI increases the CRR.

**{2 M}**

**{1 M}**

**Answer:**

- (c)** Dumping occurs when manufacturers sell goods in a foreign country below the sales prices in their domestic market or below their full average cost of the product. Dumping may be persistent, seasonal, or cyclical. Dumping may also be resorted to as a predatory pricing practice to drive out established domestic producers from the market and to establish monopoly position. Dumping is international price

**{1 M}**



discrimination favouring buyers of exports, but in fact, the exporters deliberately forego money in order to harm the domestic producers of the importing country and to gain market share. This is an unfair trade practice and constitutes a threat to domestic producers.

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).

{1 M}

**Answer 8:**

**(a)** 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. The reason for market failure lies in the fact that though perfectly competitive markets work efficiently, most often the prerequisites of competition are unlikely to be present in an economy. There are two aspects of market failures namely, demand-side market failures and supply side market failures. Demand-side market failures are said to occur when the demand curves do not take into account the full willingness of consumers to pay for a product. Supply-side market failures happen when supply curves do not incorporate the full cost of producing the product.

{1 M}

There are four major reasons for market failure. They are: market power, externalities, public goods, and incomplete information.

(1) Excess market power or monopoly power causes the single producer or small number of producers to produce and sell less output than would be produced in a competitive market and to charge higher prices that give them positive economic profits.

{1 M}

(2) Externalities, also referred to as 'spillover effects', 'neighbourhood effects' 'third - party effects' or 'side-effects', occur when the actions of either consumers or producers result in costs or benefits that do not reflect as part of the market price. 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.

{1 M}

(3) Public goods (also referred to as a collective consumption good or a social good) are indivisible goods which all individuals enjoy in common and are non-excludable and non-rival in consumption. Each individual's consumption of such a good leads to no subtraction from any other individual's consumption and consumers cannot (at least at less than prohibitive cost) be excluded from consumption benefits of that good. 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 under produced.

{1 M}

(4) Incomplete information: The assumption of complete information which is a feature of competitive markets is not fully satisfied in real markets due to highly complex nature of products and services, inability of consumers to quickly / cheaply find sufficient information, inaccurate or incomplete data, ignorance, lack of alertness and uncertainty about true costs and benefits. Misallocation of scarce resources occurs due to information failure and equilibrium price and quantity is not established through price mechanism. Asymmetric information also referred to as the 'lemons problem' which occurs when there is an imbalance in information between buyer and seller i.e. when the buyer knows more than the seller or the seller knows more than the buyer also distort choices and cause market failure. Adverse selection, another

{1 M}

source of market failure, is a situation in which asymmetric information about quality eliminates high-quality goods from a market. Moral hazard i.e. opportunism characterized by an informed person's taking advantage of a less-informed person through an unobserved action arises from lack of information about someone's future behavior also causes market failure. In short, asymmetric information, adverse selection and moral hazard affect the ability of markets to efficiently allocate resources and therefore lead to market failure because the party with better information has a competitive advantage.

**Answer:**

- (b) A recession is said to occur when overall economic activity declines, or in other words, when the economy 'contracts'. A recession sets in with a period of declining real income, as measured by real GDP, simultaneously with a situation of rising unemployment. If an economy experiences a fall in aggregate demand during a recession, it is said to be in a demand-deficient recession. Economic depression is a condition of the economy resulting from an extended period of negative economic activity as measured by GDP. It is an extremely severe form of recession that leads to extended unemployment, increased credit defaults, extensive decline in output and income and a deflationary economy. {1 M}
- Taxation, though less effective compared to public expenditure, is a powerful instrument of fiscal policy in the hands of governments to combat recession and depression. Reduction in corporate and personal income taxation is a useful measure to overcome contractionary tendencies in the economy. A tax cut increases disposable incomes of households. Their inclination to spend a portion of the additional disposable income determined by their marginal propensity to consume and the multiplier effect of spending would set out a chain reaction of spending, increased incomes, and consequent increased output. Reduction in the rates of commodity taxes like excise duties, sales tax and import duty promote consumption and ultimately boost investments. Moreover, tax measures can provide incentives, or reduce disincentives, for firms and households to engage in investment and consumer spending. {2 M}

**Answer:**

- (c) Market Stabilization scheme (MSS), introduced in April 2004, is a monetary policy intervention by the RBI to withdraw excess liquidity (or money supply) by selling government securities in the economy. Under the Market Stabilization Scheme (MSS) the Government of India borrows from the RBI (such borrowing being additional to its normal borrowing requirements) and issues treasury-bills/dated securities that are utilized for absorbing from the market excess liquidity of a more enduring nature arising from large capital inflows. {1 M}
- The bills/bonds issued under MSS would have all the attributes of the existing treasury bills and dated securities. The bills and securities will be issued by way of auctions to be conducted by the Reserve Bank. These bonds are issued by RBI on the behalf of Government in order to mop out excess liquidity from the market (Banks) and not for raising capital for government. {1 M}

**Answer 9:**

- (a) Many developed and developing economies are facing the challenge of rising inequality in incomes and opportunities. Redistribution of income to ensure distributive justice is essentially a fiscal function. Fiscal policy is a chief instrument available for governments to influence income distribution and plays a significant role in reducing inequality and achieving equity and social justice. The distribution of income in the society is influenced by fiscal policy both directly and indirectly. While current disposable incomes of individuals and corporates are dependent on direct taxes, the {1 M}

potential for future earnings is indirectly influenced by the nation's fiscal policy choices.

Government revenues and expenditure have traditionally been regarded as important instruments for carrying out desired redistribution of income. Each of these can be manipulated to achieve desired distributional effects.

- A progressive direct tax system appropriately designed to protect incentives ensures that those who have greater ability to pay contribute more towards defraying the expenses of government and that the tax burden is distributed fairly among the population.
- Indirect taxes can be differential: for example, the commodities which are primarily consumed by the richer income group, such as luxuries, are taxed heavily and the commodities the expenditure on which form a larger proportion of the income of the lower income group, such as necessities, are taxed light. Property taxes act both as a source of revenue and as an efficient redistributive instrument. { 2 M }
- A carefully planned policy of public expenditure helps in redistributing income from the rich to the poorer sections of the society. This is done through spending programmes targeted on welfare measures for the disadvantaged, such as:
  - (i) poverty alleviation programmes
  - (ii) free or subsidized medical care, education, housing, essential commodities etc. to improve the quality of living of poor
  - (iii) infrastructure provision on a selective basis
  - (iv) various social security schemes and more efficient social transfers under which people are entitled to noncontributory, means-tested social pensions, conditional cash transfer programs, unemployment relief, sickness allowance etc. { 2 M }
  - (v) subsidized production of products of mass consumption
  - (vi) public production and/ or grant of subsidies to ensure sufficient supply of essential goods, and
  - (vii) strengthening of human capital for enhancing employability etc.

The design of redistribution policies should justify both redistributive and efficiency objectives. Choice of a progressive tax system with high marginal taxes may act as a strong deterrent to work, save and invest. Therefore, the tax structure has to be carefully framed to mitigate possible adverse impacts on production and efficiency. Additionally, the redistributive fiscal policy and the extent of spending on redistribution should be consistent with the macroeconomic policy objectives, especially macroeconomic stability of the nation.

**Answer:**

- (b)** Changes in exchange rates portray depreciation or appreciation of one currency against another. The terms, 'currency appreciation' and 'currency depreciation' describe the movements of the exchange rate. Currency appreciates when its value increases with respect to the value of another currency or a basket of other currencies. On the contrary, currency depreciates when its value falls with respect to the value of another currency or a basket of other currencies. If the Rupee dollar exchange rate changes from \$1 = Rs. 65 to \$1 = Rs. 68, the value of the Indian Rupee has diminished or Indian Rupee has depreciated and the US dollar has appreciated. On the contrary, home-currency appreciation or foreign- currency depreciation takes place when there is a decrease in the home currency price of foreign currency (or alternatively, an increase in the foreign currency price of home currency). The home currency thus becomes relatively more valuable. Under a { 1 M }



floating rate system, if for any reason, the demand curve for foreign currency shifts to the right representing increased demand for foreign currency, and supply curve remains unchanged, then the exchange value of foreign currency rises and the domestic currency depreciates in value.

Following are the impact of exchange rate changes on the real economy:

The developments in the foreign exchange markets affect the domestic economy both directly and indirectly. All else equal, an appreciation(depreciation) of a country's currency raises (decreases) the relative price of its exports and lowers (increases) the relative price of its imports leading to changes in import and export volumes and consequently on import spending and export revenue. Depreciation adversely affects importers as they have to pay more domestic currency on the same quantity of imports and benefits exporters as forex earnings will fetch more in terms of domestic currency.

For an economy where exports are significantly high, a depreciated currency would mean a lot of gain. Depreciation of domestic currency primarily decreases the relative price of domestically produced goods and diverts spending from foreign goods to domestic goods. Increased demand, both for domestic import-competing goods and for exports encourages economic activity and creates output expansion. Overall, the outcome of exchange rate depreciation is an expansionary impact on the economy at an aggregate level.

As a result of depreciation or devaluation, the terms of trade of the nation can rise, fall or remain unchanged, depending on whether price of exports rises by more than, less than or same percentages as price of imports. Depreciation also can have a positive impact on country's trade deficit as it makes imports more expensive for domestic consumers and exports cheaper for foreigners. However, the fiscal health of a country whose currency depreciates is likely to be affected with rising import payments and consequent rising current account deficit (CAD) and diminished growth prospects of overall economy.

{1 M}

Depreciation is also likely to fuel consumer price inflation, directly through its effect on prices of imported consumer goods and also due to increased demand for domestic goods. The impact will be greater if the composition of domestic consumption baskets consists more of imported goods. Indirectly, cost push inflation may result through possible escalation in the cost of imported components and intermediaries used in production.

When a country's currency depreciates, production of export goods and import substitutes becomes more profitable. Therefore, factors of production will be induced to move into the tradable goods sectors and out of the non-tradable goods sectors. By lowering export prices, currency depreciation helps increase the international competitiveness of domestic industries, increases the volume of exports, augments windfall profits in export oriented sectors and import-competing industries and promotes trade balance. If exports originate from labour-intensive industries, increased export prices will have spiraling effects on wages, employment and income. If inputs and components for manufacturing are mostly imported and cannot be domestically produced, increased import prices will increase firms' cost of production, push domestic prices up and decrease real output.

{1 M}

Foreign capital inflows are characteristically vulnerable to exchange rate fluctuations. Depreciating currency hits investor sentiments and has radical impact on patterns of international capital flows. Foreign investors are likely to be indecisive or highly cautious before investing in a country which has high exchange rate volatility. Foreign direct investment flows are likely to shrink and foreign portfolio investments are likely to flow into debt and equity. This may shoot up capital account deficits affecting the country's fiscal health. Reduced foreign investments also widen the gap between

investments required for growth and actual investments. Over a period of time, unemployment is likely to mount in the economy.

If investor sentiments are such that they anticipate further depreciation, there may be large scale withdrawal of portfolio investments and huge redemptions through global exchange traded funds leading to further depreciation of domestic currency. This may result in a highly volatile domestic equity market affecting the confidence of domestic investors.

Companies that have borrowed in foreign exchange through external commercial borrowings (ECBs) but have not sufficiently hedged against foreign exchange risks would also be negatively impacted as they would require more domestic currency to repay their loans. A depreciated domestic currency would also increase their debt burden and lower their profits and impact their balance sheets adversely. Exchange rate fluctuations make financial forecasting more difficult for firms and larger amounts will have to be earmarked for insuring against exchange rate risks through hedging.

Investors who have purchased a foreign asset, or the corporation which floats a foreign debt, will find themselves facing foreign exchange risk. However, remittances to homeland by non-residents and businesses abroad fetch more in terms of domestic currency.

In case of foreign currency denominated government debts, currency depreciation will increase the interest burden and cause strain to the exchequer for repaying and servicing foreign debt.

Depreciation would enhance government revenues from import related taxes, especially if the country imports more of essential goods. Depreciation would also result in higher amount of local currency for a given amount of foreign currency borrowings of government.

**Answer:**

- (c) 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. {1 M}
- Since price mechanism does not apply to common resources, producers and consumers do not pay for these resources and therefore, they overuse them and cause their depletion and degradation. This creates threat to the sustainability of these resources and, therefore, the availability of common access resources for future generations. {1 M}
- Economists use the term 'tragedy of the commons' to describe the problem which occurs when rivalrous but non excludable goods are overused, to the disadvantage of the entire world.

**Answer 10:**

- (a) 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. This approach holds that total supply of nominal money {2 M}

in the economy is determined by the joint behaviour of the central bank, the commercial banks and the public.  
The money supply is defined as

$$M = m \times MB$$

Where M is the money supply, *m* is money multiplier and MB is the monetary base or high powered money.

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

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.

If some portion of the increase in high-powered money finds its way into currency, this portion does not undergo multiple deposit expansion. In other words, as a rule, an increase in the monetary base that goes into currency is not multiplied, whereas an increase in monetary base that goes into supporting deposits is multiplied.

**Answer:**

**(b)** According to Keynes' theory of liquidity preference, speculative motive for holding cash is related to market interest. The market value of bonds and the market rate of interest are inversely related. A rise in the market rate of interest leads to a decrease in the market value of the bond, and vice versa. Investors have a relatively fixed conception of the 'normal' or 'critical' interest rate and compare the current rate of interest with such 'normal' or 'critical' rate of interest.

If wealth-holders consider that the current rate of interest is high compared to the 'normal or critical rate of interest', they expect a fall in the interest rate (rise in bond prices). At the high current rate of interest, they will convert their cash balances into bonds because:

- (i) they can earn high rate of return on bonds
- (ii) they expect capital gains resulting from a rise in bond prices consequent upon an expected fall in the market rate of interest in future.

Conversely, if the wealth-holders consider the current interest rate as low, compared to the 'normal or critical rate of interest', i.e., if they expect the rate of interest to rise in future (fall in bond prices), they would have an incentive to hold their wealth in the form of liquid cash rather than bonds because:

- (i) the loss suffered by way of interest income forgone is small,
- (ii) they can avoid the capital losses that would result from the anticipated increase in interest rates, and
- (iii) the return on money balances will be greater than the return on alternative assets
- (iv) If the interest rate does increase in future, the bond prices will fall and the idle cash balances held can be used to buy bonds at lower price and can thereby make a capital-gain.

Summing up, so long as the current rate of interest is higher than the critical rate of interest, a typical wealth-holder would hold in his asset portfolio only government bonds while if the current rate of interest is lower than the critical rate of interest, his asset portfolio would consist wholly of cash. When the current rate of interest is equal to the critical rate of interest, a wealth-holder is indifferent to holding either cash or bonds. The inference from the above is that the speculative demand for money and interest are inversely related.



**Answer:**

- (c) The market outcomes of different situations are given below;
- (i) Negative consumption externality; social cost not accounted for; market failure; overproduction } {1 M}
  - (ii) Negative consumption externality; environmental externality; wear and tear of roads; increased fuel consumption; added insecurity imposed on others; social cost not accounted for; overproduction. } {1 M}

**Answer 11:**

- (a) (i)  $GDPMP = C + I + G + (X - Z)$   
 $110 + 20 + (70 - 20) + (20 - 50) = 150 \text{ million}$  } {1 M}
- (ii)  $GNPMP = \text{GDP at market prices} + \text{net property income from abroad}$   
 $150 + 10 = 160 \text{ million}$  } {1 M}
- (iii)  $\text{GDP at factor cost} = \text{GDP market prices} - \text{indirect taxes}$   
 $150 - 30 = 120 \text{ million}$  } {1 M}
- (iv)  $\text{Per Capita Income} = \frac{GNP \text{ at Factor Cost}}{\text{Population}} = \frac{(160m - 30m)}{0.5 \text{ million}}$   
 $= 130 / 0.5 = 260$  } {2 M}

**Answer:**

- (b) National Income is defined as the net value of all economic goods and services produced within the domestic territory of a country in an accounting year plus the net factor income from abroad. According to the Central Statistical Organization (CSO) 'National income is the sum total of factor incomes generated by the normal residents of a country in the form of wages, rent, interest and profit in an accounting year'. } {1 M}
- National income may be measured at current prices or at constant prices. If goods and services produced in a year are valued at current prices, i.e., market price prevailing in the year in which goods and services are produced, we get national income at current prices or nominal national income. If goods and services produced in a year are valued at 'fixed' prices, i.e., prices that prevailed during a previous year chosen as base year, we get national income at constant prices or real national income. Thus GDP at constant prices is the value of domestic product in terms of constant prices of a chosen base year. A base year is a carefully chosen year which is a normal year free from price fluctuations. } {1 M}
- The GDP market prices is sensitive to changes in average price level. The same physical output will correspond to a different GDP level if the average level of market prices changes. That is, if prices rise, GDP measured at market prices will also rise without any real increase in physical output. This is misleading because it does not reflect changes in the actual volume of output. GDP at current prices makes no adjustment for inflation or deflation. GDP at constant prices is inflation /deflation corrected and can be used to measure true growth of GDP. For example, the GDP of 2015-16 may be expressed either at prices of that year or at prices that prevailed in 2011-12. In the former case, GDP will be affected by price changes, but in the latter case GDP will change only when there has been a change in physical output. Since real national income accurately reflects the real change in physical output of a country, it can be used to make a year to year comparison of changes in the volume of output of goods and services. } {1 M}

**Answer:**

- (c) Quasi-public goods or services, also called a near public good (for e.g. education, health services) possess nearly all the qualities of private goods and some of the benefits of public good. These goods are, in some measure excludable for example, it is possible to exclude non paying consumers from the use of a highway by incurring the cost of building and maintaining a toll booth. Similarly beaches, parks and wifi networks become partially rival and partially diminishable at times of peak demand. These are rejectable to some extent. It is possible to keep people away from them by charging a price or fee. However, it is undesirable to keep people away from such goods because the society would be better off if more people consume them. This particular characteristic namely, the combination of virtually infinite benefits and the ability to charge a price results in some quasi-public goods being sold through markets and others being provided by government. As such, people argue that these should not be left to the market alone. Markets for the quasi-public goods are considered to be incomplete markets and their lack of provision by free markets would be considered as inefficiency and market failure.
- {1 M}
- {1 M}

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*Mittal Commerce Classes*