(GI-11, GI-12+15, GI-13+14, SI-5)

DATE: 12.06.2020 **MAXIMUM MARKS: 100** **TIMING: 3¼ Hours**

FINANCIAL MANAGEMENT & ECONOMICS FOR FINANCE

SECTION - A

Answer 1:

(a) (a) Cash cycle = 45 days + 75 days – 30 days = 90 days (3 months) **(1M)**
Cash turnover = 12 months (360 days)/3 months (90 days) = 4. **(1M)**

(b) Minimum operating cash = Total operating annual outlay/cash turnover, that is, Rs. 120 lakhs/4 = Rs. 30 lakhs. **(1M)**

(c) Cash cycle = 45 days + 45 days – 30 days = 60 days (2 months).
Cash turnover = 12 months (360 days)/2 months (60 days) = 6.
Minimum operating cash = Rs. 120 lakhs/6 = Rs. 20 lakhs.
Reduction in investments = Rs. 30 lakhs – Rs. 20 lakhs = Rs. 10 lakhs.
Savings = 0.10 × Rs. 10 lakhs = Rs. 1 lakh. **2M**

Answer:

(b) Navya Ltd.

(i) Walter's model is given by –

$$P = \frac{D+(E-D)(r/K_e)}{K_e}$$

Where, P = Market price per share,
E = Earnings per share = Rs.20,00,000 ÷ 4,00,000 = Rs. 5
D = Dividend per share = 60% of 5 = Rs. 3
r = Return earned on investment = 15%
K_e = Cost of equity capital = 12% **2M**

$$\therefore P = \frac{3+(5-3)\times\frac{0.15}{0.12}}{0.12} = \frac{3+2\times\frac{0.15}{0.12}}{0.12} = \text{Rs. } 45.83$$

(ii) According to Walter's model when the return on investment is more than the cost of equity capital, the price per share increases as the dividend pay-out ratio decreases. Hence, the optimum dividend pay-out ratio in this case is Nil. So, at a payout ratio of zero, the market value of the company's share will be:- **2M**

$$\frac{0+(5-0)\times\frac{0.15}{0.12}}{0.12} = \text{Rs. } 52.08$$ **1M**

Answer:

(c) (a) Dividend yield on the equity shares

$$= \frac{\text{Dividend per share}}{\text{Market price per share}} \times 100 = \frac{\text{Rs.}2\ (=0.20\times\text{Rs.}10)}{\text{Rs.}40}\times 100 = 5 \text{ percent}$$ **1M**

(b) Dividend coverage ratio

(i) Preference $= \frac{\text{Profit after taxes}}{\text{Dividend payable to preference shareholders}}$

$$= \frac{\text{Rs.}2,70,000}{\text{Rs.}27,000\ (=0.09\times\text{Rs.}3,00,000)} = 10 \text{ times}$$ **1M**

(ii) Equity $= \dfrac{\text{Profit after taxes - Preference share dividend}}{\text{Dividend payable to equity shareholders at current rate of Rs. 2 per share}}$

$= \dfrac{\text{Rs. 2,70,000 - Rs. 27,000}}{\text{Rs. 1,60,000 (80,000 shares} \times \text{Rs. 2)}}$

= 1.52 times } **1M**

(c) Earnings per equity share

$= \dfrac{\text{Earnings available to equity shareholders}}{\text{Number of equity shares outstanding}}$

$= \dfrac{\text{Rs. 2,43,000}}{80,000}$ = Rs. 3.04 per share } **1M**

(d) Price-earning (P/E) ratio $= \dfrac{\text{Market price per share}}{\text{Equity per share}} = \dfrac{\text{Rs. 40}}{\text{Rs. 3.04}}$ = 13.2 times } **1M**

Answer:

(d) (i) Calculation of Leverages and Earnings per Share (EPS)

Income Statement

Particulars	(Rs.)
Sales Revenue	90,00,000
Less: Variable Cost @ 60%	54,00,000
Contribution	36,00,000
Less: Fixed cost other than interest	10,00,000
Earnings before interest and tax (EBIT)	26,00,000
Less: Interest (12% on Rs. 40,00,000)	4,80,000
Earnings before tax (EBT)	21,20,000
Less: Tax @ 30%	6,36,000
Earnings after tax (EAT)/Profit after tax (PAT)	14,84,000

1. Calculation of Operating Leverage (OL)

Operating Leverage $= \dfrac{Contribution}{EBIT} = \dfrac{Rs.\ 36,00,000}{Rs.\ 26,00,000} = 1.3846$ } **{1 M}**

2. Calculation of Financial Leverage (FL)

Financial Leverage $= \dfrac{EBIT}{EBT} = \dfrac{Rs.\ 26,00,000}{Rs.\ 21,20,000} = 1.2264$ } **{1 M}**

3. Calculation of Combined Leverage (CL)

Combined Leverage = OL x FL = 1.3846 x 1.2264 = 1.6981

Or, $\dfrac{Contribution}{EBT} = \dfrac{Rs.\ 36,00,000}{Rs.\ 21,20,000} = 1.6981$ } **{1/2 M}**

4. Calculation of Earnings per share (EPS)

EPS $= \dfrac{EAT\ /\ PAT}{Number\ of\ Equity\ Shares} = \dfrac{Rs.\ 14,84,000}{Rs.\ 4,00,000} = 3.71$ } **{1/2 M}**

(ii) Calculation of likely levels of EBIT at Different EPS

$$EPS = \frac{(EBIT - I)\,(1-T)}{Number\ of\ Equity\ Shares}$$

(1) If EPS is Rs. 4

$$4 = \frac{(EBIT - Rs.\ 4{,}80{,}000)\,(1-0.3)}{Rs.\ 4{,}00{,}000}\ Or,\ EBIT\ -\ Rs.\ 4{,}80{,}000 = \frac{Rs.\ 16{,}00{,}000}{0.70}$$ **{1 M}**

EBIT – Rs. 4,80,000 = Rs. 22,85,714 Or, EBIT = Rs. 27,65,714

(2) If EPS is Zero

$$0 = \frac{(EBIT - Rs.\ 4{,}80{,}000)\,(1-0.3)}{Rs.\ 4{,}00{,}000}\ Or,\ EBIT\ = Rs.\ 4{,}80{,}000$$ **{1 M}**

Answer 2:

Statement showing the requirements of Working Capital

Particulars	(Rs.)	(Rs.)
A. Current Assets:		
Inventory:		
Stock of Raw material (Rs.96,600 × 2/12)	**(½M)** 16,100	
Stock of Work-in-progress (As per Working Note)	**(½M)** 16,350	
Stock of Finished goods (Rs.1,46,500 × 10/100)	**(½M)** 14,650	
Receivables (Debtors) (Rs.1,27,080 × 2/12)	**(½M)** 21,180	
Cash in Hand	**(½M)** 8,000	
Prepaid Expenses:		
Wages & Mfg. Expenses (Rs.66,250 × 1/12)	**(½M)** 5,521	
Administrative expenses (Rs.14,000 × 1/12)	**(½M)** 1,167	
Selling & Distribution Expenses (Rs.13,000 × 1/12)	**(½M)** 1,083	
Advance taxes paid {(70% of Rs.10,000)× 3/12}	**(½M)** 1,750	
Gross Working Capital	85,801	85,801
B. Current Liabilities:		
Payables for Raw materials (Rs.1,12,700 × 1.5/12)	**(½M)** 14,088	
Provision for Taxation (Net of Advance Tax) (Rs.10,000 × 30/100)	**(½M)** 3,000	
Total Current Liabilities	17,088	17,088
C. Excess of CA over CL		68,713
Add: 10% for unforeseen contingencies		**(½M)** 6,871
Net Working Capital requirements		**(½M)** 75,584

Working Notes:

(i) Calculation of Stock of Work-in-progress

Particulars	(Rs.)
Raw Material (Rs. 84,000 × 15%)	12,600
Wages & Mfg. Expenses (Rs.62,500 × 15% × 40%)	3,750
Total	16,350

1M

(ii) Calculation of Stock of Finished Goods and Cost of Sales

Particulars	(Rs.)
Direct material Cost [Rs. 84,000 + Rs. 12,600]	96,600
Wages & Mfg. Expenses [Rs. 62,500 + Rs. 3,750]	66,250
Depreciation	0
Gross Factory Cost	1,62,850
Less: Closing W.I.P	(16,350)
Cost of goods produced	1,46,500
Add: Administrative Expenses	14,000
	1,60,500
Less: Closing stock	14,650
Cost of Goods Sold	1,45,850
Add: Selling and Distribution Expenses	13,000
Total Cash Cost of Sales	1,58,850
Debtors (80% of cash cost of sales)	1,27,080

1½M

(iii) Calculation of Credit Purchase

Particulars	(Rs.)
Raw material consumed	96,600
Add: Closing Stock	16,100
Less: Opening Stock	-
Purchases	1,12,700

1M

Answer 3:

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

	Existing Capital structure (Rs.)	Weights (a)	After tax cost of capital (%) (b)	WACC (%) (a) x (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

}2M

Working Notes (W.N.):

1. Cost of equity capital:

$$K_e = \frac{\text{Expected Dividend } (D_1)}{\text{Current Market Price per Share } (P_0)} + \text{Growth}(g)$$

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

2. Cost of preference share capital:

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

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

3. Cost of 10% Debentures:

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

(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) x (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	**}3M**

Working Notes (W.N.):

4. Cost of equity capital:

$$K_e = \frac{\text{Expected Dividend } (D_1)}{\text{Current Market Price per Share } (P_0)} + \text{Growth (g)}$$

$$= \frac{\text{Rs. } 2.40}{\text{Rs. } 16} + 5\% = 20\% \quad \textbf{\}1M}$$

5. Cost of 12% Debentures

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

Answer 4:

(Rs.'000)

Year	Sales	VC	FC	Dep.	Profit	Tax	PAT	Dep.	Cash inflow	
1	86.40	51.84	18	21.875	(5.315)	--	--	21.875	16.56	
2	129.60	77.76	18	21.875	11.965	1.995*	9.97	21.875	31.845	
3	312.00	187.20	18	21.875	84.925	25.4775	59.4475	21.875	81.3225	**4 M**
4-5	324.00	194.40	18	24.125	87.475	26.2425	61.2325	24.125	85.3575	
6-8	216.00	129.60	18	24.125	44.275	13.2825	30.9925	24.125	55.1175	

* (30% of 11.965 – 30% of 5.315) = 3.5895 – 1.5945 = 1.995)

	Rs.	
Cost of New Equipment	1,75,00,000	
Less: Subsidy	25,00,000	**1 M**
Add. : Working Capital	20,00,000	
Outflow	1,70,00,000	

Calculation of NPV

Year	Cash inflows (Rs.)	PV factor	NPV (Rs.)
1	16,56,000	.893	14,78,808
2	31,84,500	.797	25,38,047
3	81,32,250 - 12,50,000 = 68,82,250	.712	49,00,162
4	85,35,750	.636	54,28,737
5	85,35,750	.567	48,39,770
6	55,11,750	.507	27,94,457
7	55,11,750	.452	24,91,311
8	55,11,750 + 20,00,000 + 1,25,000 = 76,36,750	.404	30,85,247
	Net Present Value		2,75,56,539

4 M

NPV 2,75,56,539
Less: Out flow 1,70,00,000
Saving 1,05,56,539 **}1/2 M**
Advise: Since the project has a positive NPV, therefore, it should be accepted. **}1/2 M**

Answer 5:

1. Calculation of Net Cash Inflow per year

	Particulars	Amount (Rs.)
A	Selling Price Per Unit (A)	100
B	Variable Cost Per Unit (B)	50
C	Contribution Per Unit (C = A-B)	50
D	Number of Units Sold Per Year	5 Cr.
E	Total Contribution (E = C × D)	Rs. 250 Cr.
F	Fixed Cost Per Year	Rs. 50 Cr.
G	Net Cash Inflow Per Year (G = E - F)	Rs. 200 Cr.

3 M

Calculation of Net Present Value (NPV) of the Project:

Year	Year Cash Flow (Rs. in Cr.)	Discounting @ 6%	Present Value (PV) (Rs. in Cr.)
0	(400.00)	1.000	(400.00)
1	200.00	0.943	188.60
2	200.00	0.890	178.00
3	200.00	0.840	168.00
Net Present Value (188.60 + 178 + 168) - 400=			134.60

2 M

Here NPV represent the most likely outcomes and not the actual outcomes. The actual outcome can be lower or higher than the expected outcome.

2. Sensitivity Analysis considering 2.5 % Adverse Variance in each variable

	Changes in variable	Base	Initial Cash Flow increased to Rs. 410 crore	Selling Price per Unit Reduced to Rs. 97.5	Variable Cost Per Unit increased to Rs. 51.25	Fixed Cost Per Unit increased to Rs. 51.25	Units sold per year reduced to 4.875 crore
	Particulars	**Amount Rs.**	**Amount Rs.**	**Amount Rs.**	**Amount Rs.**	**Amount Rs.**	**Amount Rs.**
A	Selling Price Per Unit (A)	100	100	97.5	100	100	100

B	Variable Cost Per Unit (B)	50	50	50	51.25	50	50
C	Contribution Per Unit (C = A-B)	50	50	47.5	48.75	50	50
D	Number of Units Sold Per Year (in Crores)	5	5	5	5	5	4.875
E	Total Contribution (E = C × D)	250	250	237.5	243.75	250	243.75
F	Fixed Cost Per Year (in Crores)	50	50	50	50	51.25	50
G	Net Cash Inflow Per Year (G = E - F)	200	200	187.5	193.75	198.75	193.75
H	(G × 2.673)	534.60	534.60	501.19	517.89	531.26	517.89
I	Initial Cash Flow	400	410	400	400	400	400
J	NPV	134.60	124.60	101.19	117.89	131.26	117.89
K	Percentage Changein NPV		-7.43%	-24.82%	-12.41%	-2.48%	-12.41%
			{1 M}	**{1 M}**	**{1 M}**	**{1 M}**	**{1 M}**

The above table shows that the by varying one variable at a time by 2.5% while keeping the others constant, the impact in percentage terms on the NPV of the project. Thus it can be seen that the change in selling price has the maximum effect on the NPV by 24.82%.

Answer 6:

(a) The differences between Factoring and Bills discounting are as follows:

(i) Factoring is called as 'Invoice factoring' whereas bills discounting is known as "Invoice discounting". **1M**

(ii) In factoring the parties are known as client, factor and debtor whereas in bills discounting they are known as Drawer, Drawee and Payee. **1M**

(iii) Factoring is a sort of management of book debts whereas bills discounting is a sort of borrowing from commercial banks. **1M**

(iv) For factoring there is no specific Act; whereas in the case of bills discounting, the Negotiable Instrument Act is applicable. **1M**

Answer:

(b) **Global Depository Receipts (GDRs):** These are negotiable certificate held in the bank of one country representing a specific number of shares of a stock traded on the exchange of another country. These financial instruments are used by companies to raise capital in either dollars or Euros. These are mainly traded in European countries and particularly in London. **3 M**

Answer:

(c) Features of Commercial Paper (CP)

A commercial paper is an unsecured money market instrument issued in the form of a promissory note. Since the CP represents an unsecured borrowing in the money market, the regulation of CP comes under the purview of the Reserve Bank of India which issued guidelines in 1990 on the basis of the recommendations of the Vaghul Working Group. These guidelines were aimed at:

(i) Enabling the highly rated corporate borrowers to diversify their sources of short term borrowings, and

(ii) To provide an additional instrument to the short term investors.

It can be issued for maturities between 7 days and a maximum upto one year from the date of issue. These can be issued in denominations of Rs. 5 lakh or multiples therefore. All eligible issuers are required to get the credit rating from credit rating agencies. **3 M**

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 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 7:

(a) (i) GDP_{MP}= C + I + G + (X – Z)

110 + 20 + (70 – 20) + (20 – 50) = 150 million **{1 M}**

(ii) GNP_{MP}= GDP at market prices + net property income from abroad **{1 M}**

150 + 10 = 160 million

(iii) GDP at factor cost = GDP market prices – indirect taxes **{1 M}**

150 – 30 = 120 million

(iv) Per Capita Income = $= \frac{GNP\ at\ Factor\ Cost}{Population} = (160m - 30m)\ /\ 0.5\ million$ **{2 M}**

= 130 / 0.5 = 260

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. **{1 M}**

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}**

Answer 8:

(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.

{1/2 M for Each Point}

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. **{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. **{2 M}**

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. **{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 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. **{1 M}**

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 9:

(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 in the economy is determined by the joint behaviour of the central bank, the commercial banks and the public. **{2 M}**

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. **{1 M}**

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

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. **{2 M}**

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. **{1 M}**
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: **{1 M}**

(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. **{1 M}**

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 10:

(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 potential for future earnings is indirectly influenced by the nation's fiscal policy choices. **{1 M}**

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.
  - (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. **{2 M}**

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 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. **{1 M}**

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.

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. **{1 M}**

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 11:

(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 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. **{1 M}**

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}**

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