

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

DATE: 07.07.2020

MAXIMUM MARKS: 100

TIMING: 3¼ Hours

**PAPER: FM + ECO****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)**

$$(a) \quad \text{G.P. ratio} = \frac{\text{Gross Profit}}{\text{Sales}} = 25\%$$

$$\text{Sales} = \frac{\text{Gross Profit}}{25} \times 100 = \frac{\text{₹ 8,00,000}}{25} \times 100 = \text{₹ 32,00,000} \quad \{1/2 \text{ M}\}$$

$$\begin{aligned} (b) \quad \text{Cost of Sales} &= \text{Sales} - \text{Gross profit} \\ &= \text{₹ 32,00,000} - \text{₹ 8,00,000} \\ &= \text{₹ 24,00,000} \quad \{1/2 \text{ M}\} \end{aligned}$$

$$\begin{aligned} (c) \quad \text{Receivable turnover} &= \frac{\text{Sales}}{\text{Receivables}} = 4 \\ &= \frac{\text{Sales}}{\text{Receivables}} = \frac{\text{₹ 32,00,000}}{4} = \text{₹ 8,00,000} \quad \{1/2 \text{ M}\} \end{aligned}$$

$$(d) \quad \text{Fixed assets turnover} = \frac{\text{Cost of Sales}}{\text{Fixed Assets}} = 8$$

$$\text{Fixed assets} = \frac{\text{Cost of Sales}}{8} = \frac{\text{₹ 24,00,000}}{8} = \text{₹ 3,00,000} \quad \{1/2 \text{ M}\}$$

$$(e) \text{ Inventory turnover} = \frac{\text{Cost of Sales}}{\text{Average Stock}} = 8$$

$$\text{Average Stock} = \frac{\text{Cost of Sales}}{8} = \frac{\text{₹}24,00,000}{8} = \text{₹}3,00,000$$

$$\text{Average Stock} = \frac{\text{Opening Stock} + \text{Closing Stock}}{2}$$

$$\text{Average Stock} = \frac{\text{Opening Stock} + \text{Opening Stock} + 20,000}{2}$$

$$\text{Average Stock} = \text{Opening Stock} + \text{₹}10,000$$

$$\text{Opening Stock} = \text{Average Stock} - \text{₹}10,000$$

$$= \text{₹}3,00,000 - \text{₹}10,000$$

$$= \text{₹}2,90,000$$

$$\text{Closing Stock} = \text{Opening Stock} + \text{₹}20,000$$

$$= \text{₹}2,90,000 + \text{₹}20,000$$

$$= \text{₹}3,10,000 \text{ \{1 M\}}$$

$$(f) \text{ Payable turnover} = \frac{\text{Purchases}}{\text{Payables}} = 6$$

$$\text{Purchases} = \text{Cost of Sales} + \text{Increase in Stock}$$

$$= \text{₹}24,00,000 + \text{₹}20,000$$

$$= \text{₹}24,20,000$$

$$\text{Payables} = \frac{\text{Purchase}}{6} = \frac{\text{₹}24,20,000}{6} = \text{₹}4,03,333 \text{ \{1 M\}}$$

$$(g) \text{ Capital turnover} = \frac{\text{Cost of Sales}}{\text{Capital Employed}} = 2$$

$$\text{Capital Employed} = \frac{\text{Cost of Sales}}{2} = \frac{\text{₹}24,00,000}{2} = \text{₹}12,00,000 \quad \{1 \text{ M}\}$$

$$\begin{aligned} \text{(h) Share Capital} &= \text{Capital Employed} - \text{Reserves \& Surplus} \\ &= \text{₹}12,00,000 - \text{₹}2,00,000 = \text{₹}10,00,000 \end{aligned}$$

Balance Sheet of Tirupati Ltd as on.....

Liabilities	Amount (₹)	Assets	Amount (₹)
Share Capital	10,00,000	Fixed Assets	3,00,000
Reserve & Surplus	2,00,000	Closing Inventories	3,10,000
Payables	4,03,333	Receivables	8,00,000
		Other Current Assets	1,93,333
	16,03,333		16,03,333

{2 M}

(Fixed Asset turnover, inventory turnover capital turnover is calculated on cost of sales)

**Answer:**

**(b)**

**Working Note**

Net income (NI) for equity - holders

$$\frac{\text{Net income (NI) for equity - holders}}{K_e} = \text{Market Value of Equity}$$

$$\frac{\text{Net income (NI) for equityholders}}{0.20} = \text{Rs. 1,140 lakhs} \quad \{2 \text{ M}\}$$

Therefore, Net Income to equity-holders = **Rs. 228 lakhs**

$$\text{EBIT} = \text{Rs. 228 lakhs} / 0.7 = \text{Rs. 325.70 lakhs} \quad \{1 \text{ M}\}$$

	All Equity (RS. In lakhs)	Debt of Equity (RS. In lakhs)
EBIT	325.70	325.70
Interest on <b>RS.200 lakhs @ 15%</b>	--	30.00
EBT	325.70	295.70
Tax @ 30 %	97.70	88.70
Income available to equity holders	228	207

**(i) Market value of levered firm = Value of unlevered firm + Tax Advantage**

$$= \text{Rs. 1,140 lakhs} + (\text{Rs. 200 lakhs} \times 0.3)$$

$$= \text{Rs. 1,200 lakhs} \quad \{2 \text{ M}\}$$

The impact is that the market value of the company has increased by **Rs. 60 lakhs** (**Rs. 1,200 lakhs – Rs. 1,140 lakhs**)

Calculation of Cost of Equity

$$\begin{aligned}
 K_e &= (\text{Net Income to equity holders} / \text{Equity Value}) \times 100 \\
 &= (207 \text{ lakhs} / 1200 \text{ lakhs} - 200 \text{ lakhs}) \times 100 \\
 &= (207 / 1000) \times 100 \\
 &= 20.7 \% \quad \{1 M\}
 \end{aligned}$$

(ii) Cost of Capital

Components	Amount (RS. In lakhs)	Cost of Capital %	Weight	WACC %
Equity	1000	20.7	83.33	17.25
Debt	200	$(15\% \times 0.7) = 10.5$	16.67	1.75
	1200			19.00 {1 M}

The impact is that the WACC has fallen by 1% (20% - 19%) due to the benefit of tax relief on debt interest payment.

(iii) Cost of Equity is 20.7% [As calculated in point (i)]

The impact is that cost of equity has risen by 0.7% i.e. 20.7% - 20% due to the presence of financial risk.

Further, Cost of Capital and Cost of equity can also be calculated with the help of formulas as below, though there will be no change in final answers.

$$\text{Cost of Capital (K}_o\text{)} = K_{eu}(1-tL)$$

Where,

$K_{eu}$  = Cost of equity in an unlevered company

$$T = \text{Tax rate}$$

$$L = \frac{\text{Debt}}{\text{Debt} + \text{Equity}}$$

$$K_2 = 0.2 \times \left( 1 - \frac{\text{Rs. 200 lakh}}{\text{Rs. 1,200 lakh}} \times 0.3 \right)$$

$$\text{So. Cost of capital} = 0.19 \text{ or } 19\%$$

$$\text{Cost of Equity (K}_e\text{)} = K_{eu} + (K_{ev} - K_d) \frac{\text{Debt (1-t)}}{\text{Equity}}$$

Where,

$$K_{eu} = \text{Cost of equity in an unlevered company}$$

$$K_d = \text{Cost of debt}$$

$$T = \text{Tax rate}$$

$$K_e = 0.20 + \left( 0.20 - 0.15 \times \frac{\text{Rs. 200 lakh} \times 0.7}{\text{Rs. 1,200 lakh}} \right)$$

$$K_e = 0.20 + 0.007 = 0.207 \text{ or } 20.7\%$$

$$\text{So. Cost of Equity} = 20.70\%$$

**Answer:****(c)**

Plan I = Raising Debt of Rs 5 lakh + Equity of Rs 45 lakh.

Plan II = Raising Debt of Rs. 20 lakh + Equity of Rs. 30 lakh.

**Calculation of Earnings per share (EPS)**

Particulars	Financial Plans	
	Plan I	Plan II
	Rs.	Rs.
Expected EBIT	10,00,000	10,00,000
Less: Interest (Working Note 1)	(60,000)	{1/2 M} (2,10,000) {1/2 M}
Earnings before taxes	9,40,000	7,90,000
Less: Taxes @ 25%	(2,35,000)	(1,97,500)
Earnings after taxes (EAT)	7,05,000	5,92,500
Number of shares (Working Note 2)	15,000	{1/2 M} 10,000 {1/2 M}
Earnings per share (EPS)	47	{1 <sup>1/2</sup> M} 59.25 {1 <sup>1/2</sup> M}

Financing Plan II (i.e. Raising debt of Rs. 20 lakh and issue of equity share capital of Rs. 30 lakh) is the {1 M} option which maximises the earnings per share.

**Working Notes:****1. Calculation of interest on Debt.**

Plan I	(Rs.5,00,000 @ 12%)		Rs. 60,000
Plan II	(Rs.5,00,000 @ 12%)	Rs.60,000	Rs. 2,10,000
	(Rs.15,00,000 @ 10%)	Rs.1,50,000	

**2. Number of equity shares to be issued**

$$\text{Plan I: } \frac{\text{Rs. 45,00,000}}{\text{Rs. 300 (Market Price of share)}} = 15,000 \text{ shares}$$

$$\text{Plan II: } \frac{\text{Rs. 30,00,000}}{\text{Rs. 300 (Market Price of share)}} = 10,000 \text{ shares}$$

(\*Alternatively, interest on Debt for Plan II can be 20,00,000 X 10% i.e. **Rs. 2,00,000**. accordingly, the EPS for the Plan II will be **Rs. 60**)

**Answer 2:****Computation of initial cash outlay(COF)**

	(RS.in lakhs)
Project Cost	240
Working Capital	30
	<u>270</u> {2 M}

**Calculation of Cash Inflows(CIF):**

Years	1	2	3-5	6-8
Sales in units	60,000	80,000	1,40,000	1,20,000
	Rs.	Rs.	Rs.	Rs.
Contribution (RS. 200 x 60% x No. of Unit)	<u>72,00,000</u>	<u>96,00,000</u>	<u>1,68,00,000</u>	<u>1,44,00,000</u>
Less: Fixed cost	30,00,000	30,00,000	30,00,000	30,00,000
Less: Advertisement	50,00,000	25,00,000	10,00,000	5,00,000
Less: Depreciation (24000000/8) = 30,00,000	<u>30,00,000</u>	<u>30,00,000</u>	<u>30,00,000</u>	<u>30,00,000</u>
Profit /(loss)	(38,00,000)	11,00,000	98,00,000	79,00,000

Less: Tax @ 25%	NIL	2,75,000	24,50,000	19,75,000
Profit/(Loss) after tax	(38,00,000)	8,25,000	73,50,000	59,25,000
Add: Depreciation	30,00,000	30,00,000	30,00,000	30,00,000
Cash inflow	(8,00,000)	38,25,000	1,03,50,000	89,25,000
	{1 M}	{1 M}	{1 M}	{1 M}

(Note: Since variable cost is 40%, Contribution shall be 60% of sales)

#### Computation of PV of CIF

Year	CIF	PV Factor	Rs.
	Rs.	@ 10%	
1	(8,00,000)	0.909	(7,27,200)
2	38,25,000	0.826	31,59,450
3	1,03,50,000	0.751	77,72,850
4	1,03,50,000	0.683	70,69,050
5	1,03,50,000	0.621	64,27,350
6	89,25,000	0.564	50,33,700
7	89,25,000	0.513	45,78,525
8	89,25,000	0.467	55,68,975
Working Capital	30,00,000		
			3,88,82,700
	PV of COF		2,70,00,000
		NPV	1,18,82,700 {3 M}

**Recommendation:** Accept the project in view of positive NPV. {1 M}

#### Answer 3:

#### Calculation of Expected Value for Project A and Project B

Project A				Project B		
Possible Event	Net Cash Flow (Rs.)	Probability	Expected Value (Rs.)	Cash Flow (Rs.)	Probability	Expected Value (Rs.)
A	80,000	0.10	8,000	2,40,000	0.10	24,000
B	1,00,000	0.20	20,000	2,00,000	0.15	30,000
C	1,20,000	0.40	48,000	1,60,000	0.50	80,000
D	1,40,000	0.20	28,000	1,20,000	0.15	18,000
E	1,60,000	0.10	16,000	80,000	0.10	8,000
ENCF			1,20,000	{2 M}		1,60,000 {2 M}

#### Project A:

$$\begin{aligned}
 \text{Variance } (\sigma^2) &= (80,000 - 1,20,000)^2 \times (0.1) + (1,00,000 - 1,20,000)^2 \times (0.2) + (1,20,000 - 1,20,000)^2 \\
 &\times (0.4) + (1,40,000 - 1,20,000)^2 \times (0.2) + (1,60,000 - 1,20,000)^2 \times (0.1) \\
 &= 16,00,00,000 + 8,00,00,000 + 0 + 8,00,00,000 + 16,00,00,000 \\
 &= 48,00,00,000 \text{ {1}^{1/2} M}
 \end{aligned}$$

$$\text{Standard Deviation } (\sigma) = \sqrt{\text{Variance } (\sigma^2)} = \sqrt{48,00,00,000} = 21,908.90 \text{ {1}^{1/2} M}$$

**Project B:**

$$\begin{aligned}\text{Variance}(\sigma^2) &= (2,40,000 - 1,60,000)^2 \times (0.1) + (2,00,000 - 1,60,000)^2 \times (0.15) + (1,60,000 - 1,60,000)^2 \times (0.5) \\ &+ (1,20,000 - 1,60,000)^2 \times (0.15) + (80,000 - 1,60,000)^2 \times (0.1) \\ &= 64,00,00,000 + 24,00,00,000 + 0 + 24,00,00,000 + 64,00,00,000 \\ &= 1,76,00,00,000 \quad \{1^{1/2} \text{ M}\}\end{aligned}$$

$$\text{Standard Deviation } (\sigma) = \sqrt{1,76,00,00,000} = 41,952.35 \quad \{1^{1/2} \text{ M}\}$$

**Answer 4:****(a)**

	₹ in lakhs
Net Profit	30
Less: Preference dividend	12
Earning for equity shareholders	18
Therefore earning per share	18/3 = ₹ 6.00 {1 M}

Price per share according to Gordon's Model is calculated as follows:

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

Here,  $E_1 = 6$ ,  $K_e = 16\%$

(i) When dividend pay-out is 25%

$$P_0 = \frac{6 \times 0.25}{0.16 - (0.75 \times 0.2)} = \frac{1.5}{0.16 - 0.15} = 150 \quad \{2 \text{ M}\}$$

(ii) When dividend pay-out is 50%

$$P_0 = \frac{6 \times 0.5}{0.16 - (0.5 \times 0.2)} = \frac{3}{0.16 - 0.10} = 50 \quad \{2 \text{ M}\}$$

(iii) When dividend pay-out is 100%

$$P_0 = \frac{6 \times 1}{0.16 - (0 \times 0.2)} = \frac{6}{0.16} = 37.50 \quad \{2 \text{ M}\}$$

**Answer:****(b)**

$$\text{The optimum cash balance } C = \sqrt{\frac{2 \times \text{Rs. } 1,26,00,000 \times \text{Rs. } 20}{0.08}} = \text{Rs. } 79,372.54$$

**Answer 5:****1. Raw Material Storage Period (R)**

$$\begin{aligned}&= \frac{\text{Average Stock of Raw Material}}{\text{Annual Consumption of Raw Material}} \times 365 \\ &= \frac{\frac{\text{₹ } 45,000 + \text{₹ } 65,356}{2}}{\text{₹ } 3,79,644} \times 365 \\ &= 53 \text{ days. } \{1 \text{ M}\}\end{aligned}$$

Annual Consumption of Raw Material = Opening Stock + Purchases - Closing Stock

$$\begin{aligned}&= \text{₹ } 45,000 + \text{₹ } 4,00,000 - \text{₹ } 65,356 \\ &= \text{₹ } 3,79,644 \quad \{1 \text{ M}\}\end{aligned}$$



## 2. Work-in-Progress (WIP) Conversion Period (W)

$$\begin{aligned} \text{WIP Conversion Period} &= \frac{\text{Average Stock of WIP}}{\text{Annual Cost of Production}} \times 365 \\ &= \frac{\frac{₹ 35,000 + ₹ 51,300}{2}}{₹ 7,50,000} \times 365 \\ &= 21 \text{ days } \{1 \text{ M}\} \end{aligned}$$

## 3. Finished Stock Storage Period (F)

$$\begin{aligned} &= \frac{\text{Average Stock of Finished Goods}}{\text{Cost of Goods Sold}} \times 365 \\ &= \frac{₹ 65,178}{₹ 9,15,000} \times 365 = 26 \text{ days. } \{1 \text{ M}\} \\ \text{Average Stock} &= \frac{₹ 60,181 + ₹ 70,175}{2} \\ &= ₹ 65,178. \end{aligned}$$

## 4. Debtors Collection Period (D)

$$\begin{aligned} &= \frac{\text{Average Debtors}}{\text{Annual Credit Sales}} \times 365 \\ &= \frac{₹ 1,23,561.50}{₹ 11,00,000} \times 365 \\ &= 41 \text{ days } \{1 \text{ M}\} \\ \text{Average debtors} &= \frac{₹ 1,12,123 + ₹ 1,35,000}{2} = ₹ 1,23,561.50 \end{aligned}$$

## 5. Creditors Payment Period (C)

$$\begin{aligned} &= \frac{\text{Average Creditors}}{\text{Annual Net Credit Purchases}} \times 365 \\ &= \frac{\left( \frac{₹ 50,079 + ₹ 70,469}{2} \right)}{₹ 4,00,000} \times 365 \\ &= 55 \text{ days } \{1 \text{ M}\} \end{aligned}$$

## (i) Operating Cycle Period

$$\begin{aligned} &= R + W + F + D - C \\ &= 53 + 21 + 26 + 41 - 55 \\ &= 86 \text{ days } \{1 \text{ M}\} \end{aligned}$$

## (ii) Number of Operating Cycles in the Year

$$= \frac{365}{\text{Operating Cycle Period}} = \frac{365}{86} = 4.244 \{1 \text{ M}\}$$

## (iii) Amount of Working Capital Required

$$= \frac{\text{Annual Operating Cost}}{\text{Number of Operating Cycles}} = \frac{₹ 9,50,000}{4.244} = ₹ 2,23,845.42 \{2 \text{ M}\}$$



**Answer 6:**

- (a) Bridge finance refers, normally, to loans taken by the business, usually from commercial banks for a short period, pending disbursement of term loans by financial institutions, normally it takes time for the financial institution to finalise procedures of creation of security, tie-up participation with other institutions etc. even though a positive appraisal of the project has been made. However, once the loans are approved in principle, firms in order not to lose further time in starting their projects arrange for bridge finance. Such temporary loan is normally repaid out of the proceeds of the principal term loans. It is secured by hypothecation of moveable assets, personal guarantees and demand promissory notes. Generally rate of interest on bridge finance is higher as compared with that on term loans. {3 M}

**Answer:****(b)****Virtual Banking and its Advantages**

Virtual banking refers to the provision of banking and related services through the use of information technology without direct recourse to the bank by the customer. {2 M}

The advantages of virtual banking services are as follows:

- Lower cost of handling a transaction. {1/2 M}
- The increased speed of response to customer requirements. {1/2 M}
- The lower cost of operating branch network along with reduced staff costs leads to cost efficiency. {1/2 M}

Virtual banking allows the possibility of improved and a range of services being made available to the customer rapidly, accurately and at his convenience. {1/2 M}

**Answer:****(c)**

**Concentration Banking:** In concentration banking the company establishes a number of strategic collection centres in different regions instead of a single collection centre at the head office. This system reduces the period between the time a customer mails in his remittances and the time when they become spendable funds with the company. Payments received by the different collection centers are deposited with their respective local banks which in turn transfer all surplus funds to the concentration bank of head office. {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) Government intervenes to ensure price stability and thus regulate aggregate demand with two policy instruments namely, monetary (credit) policy and fiscal (budgetary) policy. Monetary policy attempts to stabilise aggregate demand in the economy by influencing the availability and cost of money, i.e., the rate of interest. Fiscal policy, on the other hand, aims at influencing aggregate demand by altering tax, public expenditure and public debt of the government. When total spending is too low, the government may increase its spending and/or lower taxes to reduce unemployment and the central bank may lower interest rates. When total spending is excessive, the government may cut its spending and/or raise taxes to foster price stability and the central bank may raise interest rates. In addition, the government may initiate regulatory measures such as price ceiling and price floors. **{1 M}**
- (ii) M4 = Currency and coins with the people + demand deposits with the banks (Current and Saving accounts) + other deposits with the RBI + Net time deposits with the banking system + Total deposits with the Post Office Savings (excluding National Savings Certificates). **{1 M}**

Components	Rs. in Crores
Currency with the public	1,12,206.6
Demand deposits with banks	1,93,300.4
Other deposits with the RBI	614.8
Net time deposits with the banking system.	2,67,310.2
Post Office Savings deposits	277.5
Total	5,73,709.5

**{2 M}**

**Answer:**

- (b) In recent years, apprehensions have been raised in respect of the WTO and its ability to maintain and extend a system of liberal world trade. The major issues are:
- (i) The progress of multilateral negotiations on trade liberalization is very slow and the requirement of consensus among all members acts as a constraint and creates rigidity in the system. As a result, countries find regionalism a plausible alternative. Moreover, contemporary trade barriers are much more complex and difficult to negotiate in a multilateral forum. Logically, these issues are found easier to discuss on bilateral or regional level.
- (ii) The complex network of regional agreements introduces uncertainties and murkiness in the global trade system.
- (iii) While multilateral efforts have effectively reduced tariffs on industrial goods, the achievement in liberalizing trade in agriculture, textiles, and apparel, and in many other areas of international commerce has been negligible.
- (iv) The latest negotiations, such as the Doha Development Round, have run into problems, and their definitive success is doubtful.
- (v) Most countries, particularly developing countries are dissatisfied with the WTO because, in practice, most of the promises of the Uruguay Round
- {1/2 M for any 6 points}**

- agreement to expand global trade has not materialized.
- (vi) The developing countries contend that the real expansion of trade in the three key areas of agriculture, textiles and services has been dismal.
  - (vii) Protectionism and lack of willingness among developed countries to provide market access on a multilateral basis has driven many developing countries to seek regional alternatives.
  - (viii) The developing countries have raised a number of issues in the Doha Agenda in respect of the difficulties that they face in implementing the present agreements.
  - (ix) The North-South divide apparent in the WTO ministerial meets has fuelled the apprehension of developing countries about the prospect of trade expansion under the WTO regime.
  - (x) Developing countries complain that they face exceptionally high tariffs on selected products in many markets and this obstructs their vital exports. Examples are tariff peaks on textiles, clothing, and fish and fish products.
  - (xi) Another major issue concerns 'tariff escalation' where an importing country protects its processing or manufacturing industry by setting lower duties on imports of raw materials and components, and higher duties on finished products.
  - (xii) There is also possible erosion of preferences i.e. the special tariff concessions granted by developed countries on imports from certain developing countries have become less meaningful because of the narrowing of differences between the normal and preferential rates.
  - (xiii) The least-developed countries find themselves disproportionately disadvantaged and vulnerable with regard to adjustments due to lack of human as well as physical capital, poor infrastructure, inadequate institutions, political instabilities etc.

**Answer:**

- (c) The Doha Round, formally the Doha Development Agenda, which is the ninth round since the Second World War was officially launched at the WTO's Fourth Ministerial Conference in Doha, Qatar, in November 2001. The round seeks to accomplish major modifications of the international trading system through lower trade barriers and revised trade rules. The negotiations include 20 areas of trade, including agriculture, services trade, market access for nonagricultural products, and certain intellectual property issues. The most controversial topic in the yet to conclude Doha Agenda has been agriculture trade. **{1 M}**
- {1 M}**

**Answer 8:**

- (a) (i) Exchange rates have a very significant role in determining the nature and extent of a country's trade. Changes in import and export prices will lead to changes in import and export volumes, causing changes in import spending and export revenue.
- (ii) We have seen above that by changing the relative prices, depreciation may increase windfall profits in export and import-competing industries. However, depreciation may also cause contractionary effects. We shall see how it may happen. In an under developed or semi industrialized country, where - inputs (such as oil) 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. **(1/2 M each)**
- (iii) For an economy where exports are significantly high, a depreciated currency would mean a lot of gain. In addition, if exports originate from labour-intensive industries, increased export prices will have positive effect employment income and potentially on wages.
- (iv) When a country's currency depreciates, production for exports and of import substitutes become more profitable. Therefore, factors of production

- will be induced to move into the tradable goods sectors and out of the non tradable goods sectors. The reverse will be true when the currency appreciates. These types of resource movements involve economic wastes.
- (v) The fiscal health of a country whose currency depreciates is likely to be affected with rising export earnings and import payments and consequent impact on current account balance. A widening current account deficit is a danger signal as far as growth prospects of the overall economy is concerned. If export earnings rise faster than the imports spending then current account will improve otherwise not.
- (vi) Countries with foreign currency denominated government debts, currency depreciation will increase the interest burden and cause strain to the exchequer for repaying and servicing foreign debt. Fortunately, India's has small proportion of public debt in foreign currency.

**Answer:**

- (b) The 'real exchange rate' describes 'how many' of a good or service in one country can be traded for 'one' of that good or service in a foreign country. It is calculated as :

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

Another exchange rate concept, the Real Effective Exchange Rate (REER) is the nominal effective exchange rate (a measure of the value of a domestic currency against a weighted average of various foreign currencies) divided by a price deflator or index of costs. An increase in REER implies that exports become more expensive and imports become cheaper; therefore, an increase in REER indicates a loss in trade competitiveness.

**Answer:**

- (c) A soft peg refers to an exchange rate policy under which the exchange rate is generally determined by the market, but in case the exchange rate tend to be move speedily in one direction, the central bank will intervene in the market. With a hard peg exchange rate policy, the central bank sets a fixed and unchanging value for the exchange rate. Both soft peg and hard peg policy require that the central bank intervene in the foreign exchange market.

**Answer:**

- (d) The National Treatment Principle is complementary to the MFN principle. GATT Article III requires that with respect to internal taxes, internal laws, etc. applied to imports, treatment not less favourable than that which is accorded to like domestic products must be accorded to all other members. In other words, a country should not discriminate between its own and foreign products, services or nationals. For instance, once imported apples reach Indian market, they cannot be discriminated against and should be treated at par in respect of marketing opportunities, product visibility or any other aspect with locally produced apples.

**Answer 9:**

- (a) The WTO's top level decision-making body is the Ministerial Conference which can take decisions on all matters under any of the multilateral trade agreements. The Ministerial Conference meets at least once every two years. The next level is the General Council which meets several times a year at the Geneva headquarters. The General Council also meets as the Trade Policy Review Body and the Dispute Settlement Body. At the next level, the Goods Council, Services Council and Intellectual Property (TRIPS) Council report to the General Council. These councils are responsible for overseeing the implementation of the WTO agreements in their respective areas of specialisation.

**Answer:**

- (b) Countervailing duties are tariffs that aim to offset the artificially low prices charged by exporters who enjoy export subsidies and tax concessions offered by the governments in their home country. If a foreign country does not have a comparative advantage in a particular good and a government subsidy allows the foreign firm to be an exporter of the product, then the subsidy generates a distortion from the free-trade allocation of resources. In such cases, CVD is charged in an importing country to negate the advantage that exporters get from subsidies to ensure fair and market oriented pricing of imported products and thereby protecting domestic industries and firms. For example, in 2016, in order to protect its domestic industry, India imposed 12.5% countervailing duty on Gold jewellery imports from ASEAN. {1 M}
- {1 M}

**Answer:**

- (c) (i) Sanitary and Phytosanitary (SPS) Measures: SPS measures are applied to protect human, animal or plant life from risks arising from additives, pests, contaminants, toxins or disease-causing organisms and to protect biodiversity. These include ban or prohibition of import of certain goods, all measures governing quality and hygienic requirements, production processes, and associated compliance assessments. For example; prohibition of import of poultry from countries affected by avian flu, meat and poultry processing standards to reduce pathogens, residue limits for pesticides in foods etc. {1½ M}
- (ii) Technical Barriers To Trade (TBT): Technical Barriers to Trade (TBT) which cover both food and non-food traded products refer to mandatory 'Standards and Technical Regulations' that define the specific characteristics that a product should have, such as its size, shape, design, labelling / marking / packaging, functionality or performance and production methods, excluding measures covered by the SPS Agreement. The specific procedures used to check whether a product is really conforming to these requirements (conformity assessment procedures e.g. testing, inspection and certification) are also covered in TBT. This involves compulsory quality, quantity and price control of goods before shipment from the exporting country. Just as SPS, TBT measures are standards-based measures that countries use to protect their consumers and preserve natural resources, but these can also be used effectively as obstacles to imports or to discriminate against imports and protect domestic products. Altering products and production processes to comply with the diverse requirements in export markets may be either impossible for the exporting country or would obviously raise costs hurting the competitiveness of the exporting country. Some examples of TBT are: food laws, quality standards, industrial standards, organic certification, eco-labeling, marketing and label requirements. {1½ M}

**Answer:**

- (d) Mercantilism, which was the policy of Europe's great powers, was based on the premise that national wealth and power are best served by increasing exports and collecting precious metals in return. Mercantilists also believed that the more gold and silver a country accumulates, the richer it becomes. Mercantilism advocated maximizing exports in order to bring in more "specie" (precious metals) and minimizing imports through the state imposing very high tariffs on foreign goods. This view argues that trade is a 'zero-sum game', with winners who win does so only at the expense of losers and one country's gain is equal to another country's loss, so that the net change in wealth or benefits among the participants is zero. The arguments put forth by mercantilists were later proved to have many shortcomings by later economists. Although it is still very important theory which explains policies followed by many big and fast growing economies in Asia. {1 M}
- {1 M}

**Answer 10:**

- (a) (i) Contractionary monetary policy  
 (ii) Expansionary monetary policy  
 (iii) Contractionary monetary policy  
 (iv) Contractionary monetary policy  
 (v) Influence the availability of resources in the banking system for lending.
- } {1 M each}

**Answer:**

- (b) The Central Government has notified 4 per cent Consumer Price Index (CPI) inflation as the target for the period from August 5, 2016 to March 31, 2021 with the upper tolerance limit of 6 per cent and the lower tolerance limit of 2 per cent. The RBI is mandated to publish a Monetary Policy Report every six months, explaining the sources of inflation and the forecasts of inflation for the coming period of six to eighteen months. } {1 M}
- The following factors are notified by the central government as constituting a failure to achieve the inflation target:
- (a) the average inflation is more than the upper tolerance level of the inflation target for any three consecutive quarters; or } {1/2 M}
- (b) the average inflation is less than the lower tolerance level for any three consecutive quarters. } {1/2 M}
- The choice of CPI was made because it closely reflects cost of living and has larger influence on inflation expectations compared to other anchors. With this step, India is following countries such as the New Zealand, the USA, the UK, European Union, and Brazil. Although in recent times many of the countries are moving away from this approach and the targeting nominal GDP growth. } {1 M}

**Answer:**

- (c) Typically, the exchange rate channel works through expenditure switching between domestic and foreign goods. Appreciation of the domestic currency makes domestically produced goods more expensive compared to foreign-produced goods. This causes net exports to fall; correspondingly domestic output and employment also fall. } {1 M}
- } {1 M}

**Answer 11:**

- (a) The speculative motive reflects people's desire to hold cash in order to be equipped to exploit any attractive investment opportunity requiring cash expenditure. According to Keynes, people demand to hold money balances to take advantage of the future changes in the rate of interest, which is the same as future changes in bond prices. It is implicit in Keynes theory, that the 'rate of interest',  $i$ , is really the return on bonds. Keynes assumed that the expected return on money is zero, while the expected returns on bonds are of two types, namely: } {1<sup>1/2</sup> M}
- (i) the interest payment  
 (ii) the expected rate of capital gain.
- 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: } {1<sup>1/2</sup> M}
- (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.

**Answer:**

- (b)** We have been discussing so far about how fiscal policy acts as an effective tool for managing aggregate demand in the short-run to help maintain price stability and employment levels. However, demand-side policies unaccompanied by policies to stimulate aggregate supply cannot produce long-run economic growth. Fiscal policies such as those involving infrastructure spending generally have positive supply-side effects. When government supports building a modern infrastructure, the private sector is provided with the requisite overheads it needs. Government provision of public goods such as education, research and development etc. provide momentum for long-run economic growth. A well designed tax policy that rewards innovation and entrepreneurship, without discouraging incentives will promote private businesses who wish to invest and thereby help the economy grow. {1 M}
- {1 M}

**Answer:**

- (c)** Non-discretionary fiscal policy or automatic stabilizers are part of the structure of the economy and are 'built-in' fiscal mechanisms that operate automatically to reduce the expansions and contractions of the business cycle. Personal income taxes, corporate income taxes and transfer payments (unemployment compensation, welfare benefits) are prominent automatic stabilizers. {1 M}
- During recession incomes are reduced; with progressive tax structure, there will be a decline in the proportion of income that is taxed. This would result in lower tax payments as well as some tax refunds. Simultaneously, government expenditures increase due to increased transfer payments like unemployment benefits. These two together provide proportionately more disposable income available for consumption spending to households. In the absence of such automatic responses, household spending would tend to decrease more sharply and the economy would in all probability fall into a deeper recession. {1 M}
- On the contrary, when an economy expands, employment increases, with progressive system of taxes people have to pay higher taxes as their income rises. This leaves them with lower disposable income and thus causes a decline in their consumption and therefore aggregate demand. Similarly, corporate profits tend to be higher during an expansionary phase attracting higher corporate tax payments. With higher income taxes, firms are left with lower surplus causing a decline in their consumption and investments and thus in the aggregate demand. Again, during expansion unemployment falls, therefore government expenditure by way of transfer payments falls and with lower government expenditure inflation gets controlled to a certain extent. {1 M}

**Answer:**

- (d)** The key to internalizing an externality (both external costs and benefits) is to ensure that those who create the externalities include them while making decisions. One method of ensuring internalization of negative externalities is imposing pollution taxes. The size of the tax depends on the amount of pollution {1 M}



a firm produces. These taxes are named Pigouvian taxes after A.C. Pigou who argued that an externality cannot be alleviated by contractual negotiation between the affected parties and therefore taxation should be resorted to. These taxes, by 'making the polluter pay', seek to internalize external costs into the price of a product or activity. More precisely, the tax is placed on the externality itself (the amount of pollution emissions) rather than on output (say, amount of steel). **{1 M}**

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