

Test Series: March, 2021

MOCK TEST PAPER – 1
INTERMEDIATE (NEW): GROUP – II
PAPER – 8A: FINANCIAL MANAGEMENT
SUGGESTED ANSWERS/HINTS

1. (a) Working:

Calculation of Earnings per share (EPS):

$$EPS = \frac{DPS}{\text{Dividend Payout Ratio}}$$

$$EPS = \frac{Rs. 9}{1-0.25} = Rs. 12$$

Market price per share by

(i) Walter's model:

$$P = \frac{D + \frac{r}{K_e}(E - D)}{K_e}$$
$$= \frac{Rs. 9 + \frac{0.24}{0.19}(Rs. 12 - Rs. 9)}{0.19}$$
$$= Rs. 67.31$$

(ii) Gordon's model (Dividend Growth model):

$$P_0 = \frac{D_0(1+g)}{K_e - g}$$

Where,

P_0 = Present market price per share.

g = Growth rate (br) = $0.25 \times 0.24 = 0.06$

b = Retention ratio

k = Cost of Capital

r = Internal rate of return (IRR)

D_0 = Dividend per share

E = Earnings per share

$$= \frac{Rs. 9(1+0.06)}{0.19-0.06}$$
$$= \frac{Rs. 9.54}{0.13} = Rs. 73.38$$

Alternatively,

$$P_0 = \frac{E(1-b)}{k-br}$$

$$P_0 = \frac{12(1-0.25)}{0.19-0.06} = \frac{9}{0.13} = Rs. 69.23$$

(b) Workings:

1. Current Ratio $= \frac{\text{Current Assets(CA)}}{\text{Current Liabilities(CL)}} = \frac{1.5}{1}$
 $\therefore \text{CA} = 1.5 \text{ CL}$
Also, CA - CL = Rs. 2,00,000
1.5 CL - CL = Rs. 2,00,000
CL $= \frac{\text{Rs. 2,00,000}}{0.5} = \text{Rs. 4,00,000}$
CA $= 1.5 \times \text{Rs. 4,00,000} = \text{Rs. 6,00,000}$
2. Bank Credit (BC) to Other Current Liabilities (OCL) ratio = 3:1
 $\frac{\text{Bank Credit (BC)}}{\text{Other Current Liabilities (OCL)}} = \frac{3}{1}$
BC = 3 OCL
Also, BC + OCL = CL
3 OCL + OCL = Rs. 4,00,000
OCL $= \frac{\text{Rs. 4,00,000}}{4} = \text{Rs. 1,00,000}$
Bank Credit $= 3 \times \text{Rs. 1,00,000} = \text{Rs. 3,00,000}$
3. Quick Ratio $= \frac{\text{Current Assets - Inventories}}{\text{Current Liabilities}}$
0.7 $= \frac{\text{Rs. 6,00,000 - Inventories}}{\text{Rs. 4,00,000}}$
Inventories $= \text{Rs. 6,00,000} - \text{Rs. 2,80,000} = \text{Rs. 3,20,000}$
4. Inventory Turnover = 5 times
Inventory Turnover $= \frac{\text{Cost of goods sold (COGS)}}{\text{Average Inventory}}$
Average Inventory $= \frac{\text{Cost of goods sold (COGS)}}{\text{Inventory Turnover}}$
COGS $= \text{Rs. 3,20,000} \times 5 = \text{Rs. 16,00,000}$
5. Gross Margin $= \frac{\text{Sales - COGS}}{\text{Sales}} \times 100 = 25\%$
Sales $= \frac{16,00,000}{0.75} = \text{Rs. 21,33,333.33}$
6. Average Collection Period (ACP) = 1.5 months = 45 days
Debtors Turnover $= \frac{360}{\text{ACP}} = \frac{360}{45} = 8 \text{ times}$
Also, Debtors Turnover $= \frac{\text{Sales}}{\text{Average Debtors}}$
Hence, Debtors $= \frac{\text{Rs. 21,33,333.33}}{8} = \text{Rs. 2,66,667}$

$$7. \quad \text{Bank \& Cash} = \text{CA} - (\text{Debtors} + \text{Inventory})$$

$$= \text{Rs. } 6,00,000 - (\text{Rs. } 2,66,667 + 3,20,000) = \text{Rs. } 13,333$$

$$8. \quad \frac{\text{Reserves \& Surplus}}{\text{Bank \& Cash}} = 3$$

$$\text{Reserves \& Surplus} = 3 \times \text{Rs. } 13,333 = \text{Rs. } 40,000$$

Balance Sheet of SN Ltd. as on 31st March 2021

Liabilities	(Rs.)	Assets	(Rs.)
Share Capital	6,25,000	Fixed Assets	4,65,000
Reserves & Surplus	40,000	(Balancing Figure)	
Current Liabilities:		Current Assets:	
Bank Credit	3,00,000	Inventories	3,20,000
Other Current Liabilities	1,00,000	Debtors	2,66,667
		Bank & Cash	13,333
	10,65,000		10,65,000

(c) Calculation of Degree of Operating leverage and Degree of Combined leverage

Firm	Degree of Operating Leverage (DOL) = $\frac{\% \text{ change in Operating Income}}{\% \text{ change in Revenue}}$	Degree of Combined Leverage (DCL) = $\frac{\% \text{ change in EPS}}{\% \text{ change in Revenue}}$
P	$\frac{23\%}{25\%} = 0.92$	$\frac{30\%}{25\%} = 1.2$
Q	$\frac{30\%}{27\%} = 1.11$	$\frac{26\%}{27\%} = 0.96$
R	$\frac{36\%}{24\%} = 1.50$	$\frac{20\%}{24\%} = 0.83$
S	$\frac{30\%}{20\%} = 1.50$	$\frac{20\%}{20\%} = 1.00$

(d) Computation of level of earnings before interest and tax (EBIT)

In case alternative (i) is accepted, then the EPS of the firm would be:

$$\text{EPS}_{\text{Alternative (i)}} = \frac{(\text{EBIT} - \text{Interest}) (1 - \text{tax rate})}{\text{No. of equity shares}} = \frac{(\text{EBIT} - 0.14 \times 8,00,000) (1 - 0.3)}{1,20,000 \text{ shares}}$$

In case the alternative (ii) is accepted, then the EPS of the firm would be

$$\text{EPS}_{\text{Alternative (ii)}} = \frac{(\text{EBIT} - \text{Interest}) (1 - \text{tax rate}) - \text{PD}}{\text{No. of equity shares}}$$

$$= \frac{(\text{EBIT} - 0.14 \times 8,00,000) (1 - 0.3) - 0.16 \times 4,00,000}{80,000 \text{ shares}}$$

In order to determine the indifference level of EBIT, the EPS under the two alternative plans should be equated as follows:

$$\frac{(EBIT - 0.14 \times 8,00,000)(1 - 0.3)}{1,20,000 \text{ shares}} = \frac{(EBIT - 0.14 \times 8,00,000)(1 - 0.3) - 0.16 \times 4,00,000}{80,000 \text{ shares}}$$

$$\text{Or, } \frac{0.7EBIT - 78,400}{1,20,000} = \frac{0.7EBIT - 1,42,400}{80,000}$$

$$\text{Or } 1.40 \text{ EBIT} - \text{Rs. } 1,56,800 = 2.10 \text{ EBIT} - \text{Rs. } 4,27,200$$

$$\text{Or } 0.70 \text{ EBIT} = \text{Rs. } 2,70,400$$

$$\text{Or } \text{EBIT} = \frac{2,70,400}{0.7}$$

$$\text{Or } \text{EBIT} = \text{Rs. } 3,86,285.71 \text{ (approx.)}$$

2. (i) Cost of Equity (K_e)

$$= \frac{D_1}{P_0 - F} + g = \frac{\text{Rs. } 5}{\text{Rs. } 265 - \text{Rs. } 1} + 0.15 = 0.1689 \text{ or } 16.89\%$$

(ii) Cost of Debt (K_d)

Calculation of NPV at discount rate of 5% and 7%

Year	Cash flows (Rs.)	Discount factor @ 5%	Present Value	Discount factor @ 7%	Present Value (Rs.)
0	112.7	1.000	(112.7)	1.000	(112.7)
1 to 10	7	7.722	54.05	7.024	49.17
10	100	0.614	61.40	0.508	50.80
NPV			+2.75		-12.73

Calculation of IRR

$$\text{IRR} = 5\% + \frac{2.75}{2.75 - (-12.73)} (7\% - 5\%) = 5\% + \frac{2.75}{15.48} (7\% - 5\%) = 5.36\%$$

$$\text{Cost of Debt } (K_d) = 5.36\%$$

(iii) Cost of Preference shares (K_p)

Calculation of NPV at discount rate of 2% and 5%

Year	Cash flows (Rs.)	Discount factor @ 2%	Present Value	Discount factor @ 5%	Present Value (Rs.)
0	117.6	1.000	(117.6)	1.000	(117.6)
1 to 10	5	8.983	44.92	7.722	38.61
10	100	0.820	82.00	0.614	61.40
NPV			+9.32		-17.59

Calculation of IRR

$$\text{IRR} = 2\% + \frac{9.32}{9.32 - (-17.59)} (5\% - 2\%) = 2\% + \frac{9.32}{26.91} (5\% - 2\%) = 3.04\%$$

$$\text{Cost of Preference Shares } (K_p) = 3.04\%$$

Calculation of WACC using market value weights

Source of capital	Market Value	Weights	After tax cost of capital	WACC (K _o)
	(Rs.)	(a)	(b)	(c) = (a)×(b)
10% Debentures (Rs.115× 10,000)	11,50,000	0.021	0.0536	0.00113
5% Preference shares (Rs.120× 10,000)	12,00,000	0.022	0.0304	0.00067
Equity shares (Rs.265 × 2,00,000)	5,30,00,000	0.957	0.1689	0.16164
	5,53,50,000	1.000		0.16344

WACC (K_o) = 0.16344 or 16.344%

3. Monthly Cash Budget for first six months of 2021

(Amount in Rs.)

Particulars	Jan.	Feb.	Mar.	April	May	June
Opening balance	40,000	40,000	40,000	40,000	40,000	40,000
Receipts:						
Cash sales	15,000	20,000	25,000	30,000	20,000	15,000
Collection from debtors	1,72,500	97,500	67,500	67,500	82,500	70,500
Total cash available (A)	2,27,500	1,57,500	1,32,500	1,37,500	1,42,500	1,25,500
Payments:						
Purchases	64,000	80,000	96,000	64,000	48,000	96,000
Operating Expenses	22,000	25,000	30,000	30,000	25,000	24,000
Interest on debentures	3,000	-	-	3,000	-	-
Tax payment	-	-	-	5,000	-	-
Total payments (B)	89,000	1,05,000	1,26,000	1,02,000	73,000	1,20,000
Minimum cash balance desired	40,000	40,000	40,000	40,000	40,000	40,000
Total cash needed (C)	1,29,000	1,45,000	1,66,000	1,42,000	1,13,000	1,60,000
Surplus/(deficit) (A - C)	98,500	12,500	(33,500)	(4,500)	29,500	(34,500)
Investment/financing						
Temporary Investments	(98,500)	(12,500)	-	-	(29,500)	-
Liquidation of temporary investments or temporary borrowings			33,500	4,500	-	34,500
Total effect of investment/financing(D)	(98,500)	(12,500)	33,500	4,500	(29,500)	34,500
Closing cash balance (A + D - B)	40,000	40,000	40,000	40,000	40,000	40,000

Workings:

1. Collection from debtors:

(Amount in Rs.)

	Year 2020			Year 2021					
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June
Total sales	2,00,000	2,20,000	2,40,000	60,000	80,000	1,00,000	1,20,000	80,000	60,000

Credit sales (75% of total sales)	1,50,000	1,65,000	1,80,000	45,000	60,000	75,000	90,000	60,000	45,000
Collections:									
One month		90,000	99,000	1,08,000	27,000	36,000	45,000	54,000	36,000
Two months			45,000	49,500	54,000	13,500	18,000	22,500	27,000
Three months				15,000	16,500	18,000	4,500	6,000	7,500
Total collections				1,72,500	97,500	67,500	67,500	82,500	70,500

2. Payment to Creditors: (Amount in Rs.)

	Year 2021						
	Jan	Feb	Mar	Apr	May	Jun	Jul
Total sales	60,000	80,000	1,00,000	1,20,000	80,000	60,000	1,20,000
Purchases (80% of total sales)	48,000	64,000	80,000	96,000	64,000	48,000	96,000
Payment:							
One month prior	64,000	80,000	96,000	64,000	48,000	96,000	

4. (a) Statement Showing the Net Present Value of Project A

Year end	Cash Flow (Rs.) (a)	C.E. (b)	Adjusted Cash flow (Rs.) (c) = (a) × (b)	Present value factor at 5% (d)	Total Present value (Rs.) (e) = (c) × (d)
1	16,75,000	0.8	13,40,000	0.952	12,75,680
2	15,00,000	0.7	10,50,000	0.907	9,52,350
3	15,00,000	0.5	7,50,000	0.864	6,48,000
4	20,00,000	0.4	8,00,000	0.823	6,58,400
5	21,20,000	0.6	12,72,000	0.784	9,97,248
PV of total Cash Inflows					45,31,678
Less: Initial Investment					34,00,000
Net Present Value					11,31,678

Statement Showing the Net Present Value of Project B

Year end	Cash Flow (Rs.) (a)	C.E. (b)	Adjusted Cash flow (Rs.) (c) = (a) × (b)	Present value factor at 5% (d)	Total Present value (Rs.) (e) = (c) × (d)
1	16,75,000	0.9	15,07,500	0.952	14,35,140
2	15,00,000	0.8	12,00,000	0.907	10,88,400
3	15,00,000	0.7	10,50,000	0.864	9,07,200
4	10,00,000	0.8	8,00,000	0.823	6,58,400
5	9,00,000	0.9	8,10,000	0.784	6,35,040
PV of total Cash Inflows					47,24,180
Less: Initial Investment					33,00,000
Net Present Value					14,24,180

Project B has NPV of Rs. 14,24,180 which is higher than the NPV of Project A. Thus, N&B Ltd. should accept Project B.

(b) Advantages of Certainty Equivalent Method:

1. The certainty equivalent method is simple and easy to understand and apply.
 2. It can easily be calculated for different risk levels applicable to different cash flows. For example, if in a particular year, a higher risk is associated with the cash flow, it can be easily adjusted and the NPV can be recalculated accordingly.
5. Since the life span of each machine is different and time span exceeds the useful lives of each model, we shall use Equivalent Annual Cost method to decide which brand should be chosen.

(i) If machine is used for 20 years

(a) Residual value of machine of brand X

$$= [\text{Rs. } 15,00,000 - (1 - 0.10)] - (\text{Rs. } 15,00,000 \times 0.06 \times 14) = \text{Rs. } 90,000$$

(b) Residual value of machine of brand Y

$$= [\text{Rs. } 10,00,000 - (1 - 0.40)] - (\text{Rs. } 10,00,000 \times 0.06 \times 9) = \text{Rs. } 60,000$$

Present Value (PV) of cost if machine of brand X is purchased

Period	Cash Outflow (Rs.)	PVF @ 12%	PV (Rs.)
0	15,00,000	1.000	15,00,000
1-5	50,000	3.605	1,80,250
6-10	70,000	2.046	1,43,220
11-15	98,000	1.161	1,13,778
15	(90,000)	0.183	(16,470)
			19,20,778

$$\text{PVAF for 1-15 years} = 6.812$$

$$\text{Equivalent Annual Cost} = \frac{\text{Rs. } 19,20,778}{6.812} = \text{Rs. } 2,81,969.76$$

Present Value (PV) of cost if machine of brand Y is purchased

Period	Cash Outflow (Rs.)	PVF @ 12%	PV (Rs.)
0	10,00,000	1.000	10,00,000
1-5	70,000	3.605	2,52,350
6-10	1,15,000	2.046	2,35,290
10	(60,000)	0.322	(19,320)
			14,68,320

$$\text{PVAF for 1-10 years} = 5.651$$

$$\text{Equivalent Annual Cost} = \frac{\text{Rs. } 14,68,320}{5.651} = \text{Rs. } 2,59,833.66$$

Present Value (PV) of cost if machine of brand Y is taken on rent

Period	Cash Outflow (Rs.)	PVF @ 12%	PV (Rs.)
0	2,24,000	1.000	2,24,000
1-4	2,25,000	3.038	6,83,550
5-9	2,70,000	2.291	6,18,570
			15,26,120

PVAF for 1-10 years = 5.651

$$\text{Equivalent Annual Cost} = \frac{\text{Rs. } 15,26,120}{5.651} = \text{Rs. } 2,70,061.94$$

Decision: Since Equivalent Annual Cash Outflow is least in case of purchase of Machine of brand Y the same should be purchased.

(ii) If machine is used for 5 years

(a) Scrap value of machine of brand X

$$= [\text{Rs. } 15,00,000 - (1 - 0.10)] - (\text{Rs. } 15,00,000 \times 0.06 \times 4) = \text{Rs. } 9,90,000$$

(b) Scrap value of machine of brand Y

$$= [\text{Rs. } 10,00,000 - (1 - 0.40)] - (\text{Rs. } 10,00,000 \times 0.06 \times 4) = \text{Rs. } 3,60,000$$

Present Value (PV) of cost if machine of brand X is purchased

Period	Cash Outflow (Rs.)	PVF @ 12%	PV (Rs.)
0	15,00,000	1.000	15,00,000
1-5	50,000	3.605	1,80,250
5	(9,90,000)	0.567	(5,61,330)
			11,18,920

Present Value (PV) of cost if machine of brand Y is purchased

Period	Cash Outflow (Rs.)	PVF @ 12%	PV (Rs.)
0	10,00,000	1.000	10,00,000
1-5	70,000	3.605	2,52,350
5	(3,60,000)	0.567	(2,04,120)
			10,48,230

Present Value (PV) of cost if machine of brand Y is taken on rent

Period	Cash Outflow (Rs.)	PVF @ 12%	PV (Rs.)
0	2,24,000	1.000	2,24,000
1-4	2,25,000	3.038	6,83,550
5	1,10,000*	0.567	62,370
			9,69,920

* [Rs. 2,20,000 - (Rs. 22,000 × 5) = Rs. 1,10,000]

Decision: Since Cash Outflow is least in case of rent of Machine of brand Y the same should be taken on rent.

6. (a) Advantages and disadvantages of Wealth maximization principle.

Advantages:

- (i) Emphasizes the long term gains
- (ii) Recognises risk or uncertainty
- (iii) Recognises the timing of returns
- (iv) Considers shareholders' return.

Disadvantages:

- (i) Offers no clear relationship between financial decisions and share price.
- (ii) Can lead to management anxiety and frustration.

(b) Characteristics of Debentures are as follows:

- Normally, debentures are issued on the basis of a debenture trust deed which lists the terms and conditions on which the debentures are floated.
- Debentures are either secured or unsecured.
- May or may not be listed on the stock exchange.
- The cost of capital raised through debentures is quite low since the interest payable on debentures can be charged as an expense before tax.
- From the investors' point of view, debentures offer a more attractive prospect than the preference shares since interest on debentures is payable whether or not the company makes profits.
- Debentures are thus instruments for raising long-term debt capital.
- The period of maturity normally varies from 3 to 10 years and may also increase for projects having high gestation period.

- (c) Secured Premium Notes:** Secured Premium Notes is issued along with a detachable warrant and is redeemable after a notified period of say 4 to 7 years. The conversion of detachable warrant into equity shares will have to be done within time period notified by the company.

Or

Masala bond: Masala (means spice) bond is an Indian name used for Rupee denominated bond that Indian corporate borrowers can sell to investors in overseas markets. These bonds are issued outside India but denominated in Indian Rupees. NTPC raised Rs. 2,000 crore via masala bonds for its capital expenditure in the year 2016.

PAPER 8B: ECONOMICS FOR FINANCE

ANSWERS / HINTS

7. (a) National Accounts Statistics in India are compiled by National Accounts Division in the Central Statistics Office, Ministry of Statistics and Programme Implementation. The estimates are published both annually and quarterly. This publication is the key source of macroeconomic data of the country and as per the mandate of FRBM Act 2003, the Ministry of Finance uses the GDP numbers (at current prices) to determine the fiscal targets. The Ministry has released the new series of National Accounts by revising the base year from 2004-05 to 2011-12. The revision of National Accounts was done by CSO in January 2015.

- (b) Once the Public good is provided, the additional resource cost of another person consuming the goods is zero.

Characteristics of Public Goods:

- (a) is non-rival in consumption
- (b) are non-excludable
- (c) are characterised by indivisibility
- (d) are generally more vulnerable to issues such as externalities, inadequate property rights and free rider problems.

Because of the peculiar characteristics of public goods such as indivisibility, non-excludability, competitive market will fail to generate economically efficient outputs of public goods.

- (c) Personal Income = National Income - Undistributed Profits - Net Interest Payments made by households - corporate tax + Transfer payments to the households from firms and government

$$= 2000 - 175 - 35 - 20 + 25$$

$$= 1795 \text{ Crores}$$

Personal Disposable Income = Personal Income – Personal Income Taxes – Non-Tax payments

$$= 1795 - 50 - 40$$

$$= 1705 \text{ crores}$$

8. (a) $GVA_{mp} = \text{Value of Output} - \text{Intermediate Consumption}$
 $= (\text{Sales} + \text{Change in Stocks}) - \text{Intermediate Consumption}$

$$= 4500 + 10 - 200$$

$$= 4,310 \text{ crores}$$

$$GVA_{mp} = 4,310 \text{ cr}$$

$$NVA_{mp} = GVA_{mp} - \text{Depreciation}$$

$$= 4,310 - 200$$

$$= 4,110 \text{ cr}$$

$$NVA_{fc} = NVA_{mp} - (\text{Indirect Taxes} - \text{Subsidies})$$

$$= 4,110 - (70 - 20)$$

$$= 4,060 \text{ cr.}$$

$$NDP_{fc} = NVA_{fc} = \text{Compensation of employees} + \text{Operating Surplus} + \text{Mixed Income of self employed}$$

$$4,060 = 600 + \text{Operating Surplus} + 700$$

$$\text{Operating Surplus} = 2760 \text{ cr}$$

- (b) The Problem of the Tragedy of commons was first described by Garrett Hardin. Economists used the term to describe the problem which occurs when rivalrous and non-excludable goods are overused to the disadvantage of the entire world. The term "commons" is derived from the traditional English legal term of "Common land" where farmers / peasant would graze their livestock, hunt and collect wild plants and other produce. Everyone has access to a commonly held pasture there and are no rules for sustainable numbers for grazing. The outcome of the individual rational economic decisions of cattle owners was market failure because these actions resulted in degradation, depletion or even destruction of the resource leading to welfare loss for the entire society.
- (c) Government's fiscal policy has a strong influence on the performance of the macro economy in terms of employment, price stability, economic growth, and external balances. Proceeds from progressive taxes to be used for financing public services, especially those that benefit low-income households (for example, supply of essential food grains at highly subsidized prices to BPL households). The challenge before any government is how to design its budgetary policy so that the pursuit of one goal does not jeopardize the other.
9. (a) Whenever the Central and the State government's cash balances fall short of the minimum requirement, they are eligible to avail of a facility called Ways and Means Advances (WMA/Overdraft facility). When the reserve bank lends to the governments under WMA/OD it results in the generation of excess reserves. The excess reserves thus created can potentially lead to an increase in money supply through the money multiplier process.
- (b) The Credit Multiplier is also referred to as the deposit multiplier or the deposit expansion multiplier, describes the amount of additional money created by commercial bank through the process of lending the available money it has in excess of the central bank's reserve requirements. It is the reciprocal of the required reserve ratio.

$$\text{Credit Multiplier} = 1 \div \text{by required reserve ratio}$$

(c) $Y_d = Y - T + TR$

$$Y_d = Y - 100 + 50$$

$$Y = C + I + G$$

$$Y = 200 + 0.80 (Y - 100 + 50) + 400 + 300$$

$$Y = 200 + 0.80 Y - 0.80 \times 50 + 700$$

$$Y = 900 + 0.80 Y - 40$$

$$Y - 0.80Y = 860$$

$$0.20 Y = 860$$

$$Y = 860 \div 0.20 = 4350$$

10. (a) The factor price equalisation theorem postulates that if the prices of the output of goods are equalized between countries engaged in free trade, then the price of the input factor will also be equalised between countries. This implies that the wages and rent will converge across the countries with free trade or in other words, trade in goods is a perfect substitute for trade in factors.
- (b) The developing countries find themselves disproportionately disadvantage and vulnerable with regard to adjustments due to lack of human as well as physical capital, poor infrastructure, inadequate institutions, political instabilities etc. Developing countries also complain that they face exceptionally high tariffs on selected products in many markets and this obstructs their vital exports.
- (c) The bank rate has been aligned to the Marginal Standing Facility (MSF) rate and therefore as and when the MSF rate changes alongside policy repo rate changes automatically. Now bank rate is used only for calculating penalty on default in the maintenance of Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR).
- (d) Repo or repurchase option is a collateralised lending because banks borrow money from RBI to fulfil their short-term monetary requirements by selling securities to RBI with an explicit agreement to repurchase the same at predetermined date and at a fixed rate. The rate charged by RBI for this transaction is called the 'repo rate'.

The Reverse repo is defined as an instrument for lending funds by purchasing securities on a mutually agreed future date at an agreed price which includes interest for the funds lent.

11. (a) The Cambridge approach holds that money increases utility in the following two ways:
- enabling the possibility of split-up sale and purchase to two different points of time rather than being simultaneous and
 - being a hedge against uncertainty.

The Cambridge money demand function is stated as:

$$M_d = K PY$$

M_d = is the demand of money balances,

Y = real national income

P = average price level of currently produced goods and services

PY = nominal income

K = proportion of nominal income (PY) that people want to hold as Cash Balances.

The term 'k' in the above equation is called Cambridge K is a parameter reflecting economic structure and monetary habits, namely the ratio of desired money balances to total transactions to income and the ratio of desired money balances to total transactions.

- (b) The Monetary Policy Committee was constituted in September 2016. The Committee is required to meet four times a year and decision taken in the meeting is published after conclusion of the meeting. Based on the review of the macroeconomic and monetary developments in the economy, the monetary policy will determine the policy rate required to achieve the inflation target. The fixing of the benchmark policy interest rate (repo rate) is made through debate and majority vote by the panel of experts of the committee.

- (c) A leakage is referred to as an outflow of income from the circular flow model. Leakages are that part of income which is not used to purchase goods and services or what households withdraw from the circular flow. An injection is an inflow of income to the circular flow. Due to injection of income in the circular flow, the volume of income increases. Investment is an injection in the circular flow. The Circular flow will be balanced and therefore in equilibrium when the injections are equal to the leakages.
- (d) Richard Musgrave in his classic treatise “The Theory of Public Finance” introduced the three-branch taxonomy of the role of government in a market economy. The functions of the government are to be separated into three namely: resource allocation, income redistribution and macroeconomic stabilization. The allocation and redistribution function are primarily microeconomic functions while stabilization is a macroeconomic function. The allocation function aims to correct the sources of inefficiency in the economic system while distribution role ensures that the distribution of wealth and income is fair. Monetary and fiscal Policy, maintenance of high levels of employment and price stability fall under the stabilization function.