

Financial Management and Economics answer key

1a)

Calculation of Earnings per share for three alternatives to finance the project

Particulars	Alternatives		
	I To raise debt of Rs. 2,50,000 and equity of Rs. 22,50,000	II To raise debt of Rs.10,00,000 and equity of Rs.15,00,000	III To raise debt of Rs.15,00,000 and equity of Rs. 10,00,000
	(Rs.)	(Rs.)	(Rs.)
Earnings before interest and tax	5,00,000	5,00,000	5,00,000
Less: Interest on debt at the rate of	25,000 (10% on Rs.2,50,000)	1,37,500 (10% on Rs.2,50,000) (15% on Rs. 7,50,000)	2,37,500 (10% on Rs. 2,50,000) (15% on Rs.7,50,000) (20% on Rs.5,00,000)
Earnings before tax	4,75,000	3,62,500	2,62,500
Less: Tax @ 50%	2,37,500	1,81,250	1,31,250
Earnings after tax: (A)	2,37,500	1,81,250	1,31,250
Number of shares: (B) (Equity/ Market price of Share)	15,000 (Rs.22,50,000/Rs.150)	10,000 (Rs.15,00,000/Rs.150)	8,000 (Rs.10,00,000/Rs.125)
Earnings per share: [(A)/(B)]	15.833	18.125	16.406

The company should raise Rs.10,00,000 from debt and Rs.15,00,000 by issuing equity shares, as it gives highest EPS.

1b)

(a) Dividend yield on the equity shares

$$= \frac{\text{Dividend per share}}{\text{Market price per share}} \times 100 = \frac{\text{₹ } 2 (= 0.20 \times \text{₹ } 10)}{\text{₹ } 40} \times 100 = 5 \text{ per cent}$$

(b) Dividend coverage ratio

$$\begin{aligned} \text{(i) Preference} &= \frac{\text{Profit after taxes}}{\text{Dividend payable to preference shareholders}} \\ &= \frac{\text{₹ } 2,70,000}{\text{₹ } 27,000 (= 0.09 \times \text{₹ } 3,00,000)} = 10 \text{ times} \end{aligned}$$

$$\begin{aligned} \text{(ii) Equity} &= \frac{\text{Profit after taxes - Preference share dividend}}{\text{Dividend payable to equity shareholders at current rate of ₹ } 2 \text{ per share}} \\ &= \frac{\text{₹ } 2,70,000 - \text{₹ } 27,000}{\text{₹ } 1,60,000 (80,000 \text{ shares} \times \text{₹ } 2)} = 1.52 \text{ times} \end{aligned}$$

(c) Earnings per equity share

$$\begin{aligned} &= \frac{\text{Earnings available to equity shareholders}}{\text{Number of equity shares outstanding}} \\ &= \frac{\text{₹ } 2,43,000}{80,000} = \text{₹ } 3.04 \text{ per share} \end{aligned}$$

(d) Price-earning (P/E) ratio = $\frac{\text{Market price per share}}{\text{Equity per share}} = \frac{\text{₹ } 40}{\text{₹ } 3.04} = 13.2 \text{ times}$

1c)

Determination of Net Present Value (NPV)

Year	Expected Cash flow (₹)	Certainty-equivalent (CE)	Adjusted Cash flow (Cash flow × CE) (₹)	PV factor (at 0.06)	Total PV (₹)
0	(4,00,000)	1.0	(4,00,000)	1.000	(4,00,000)
1	3,20,000	0.8	2,56,000	0.943	2,41,408
2	2,80,000	0.7	1,96,000	0.890	1,74,440
3	2,60,000	0.6	1,56,000	0.840	1,31,040
4	2,40,000	0.4	96,000	0.792	76,032
5	1,60,000	0.3	48,000	0.747	35,856
NPV = (6,58,776 – 4,00,000)					2,58,776

As the Net Present Value is positive the project should be accepted.

2a)

(a) Computation of Sohna Limited's ROI

$$\text{ROI} = \frac{\text{EBIT}}{\text{Investment}}$$

$$\text{EBIT} = \text{Sales} - \text{Variable Cost} - \text{Fixed Cost}$$

$$= ₹ 75 \text{ lakhs} - ₹ 42 \text{ lakhs} - ₹ 6 \text{ lakhs} = ₹ 27 \text{ lakhs.}$$

$$\text{ROI} = \frac{₹ 27 \text{ lakhs}}{₹ 100 \text{ lakhs}} = 27 \text{ per cent.}$$

(b) Yes, Sohna Limited has favourable financial leverage as its ROI is higher than the interest on debt.

(c) Computation of Asset Turnover of Sohna Limited

$$\text{Asset turnover} = \frac{\text{Sales}}{\text{Total assets or Total investments}} = \frac{₹ 75 \text{ lakhs}}{₹ 100 \text{ lakhs}} = 0.75$$

The asset turnover of Sohna Limited is lower than the industry average of 3.

(d) Computation of Leverages

$$\text{Operating leverage} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{(₹ 75 \text{ lakhs} - ₹ 42 \text{ lakhs})}{₹ 27 \text{ lakhs}} = 1.22$$

$$\text{Financial leverage} = \frac{\text{EBIT}}{\text{EBIT} - \text{Interest}} = \frac{\text{₹ 27 lakhs}}{(\text{₹ 27 lakhs} - \text{₹ 4.05 lakhs})} = 1.18$$

$$\text{Combined leverage} = \frac{\text{Sales} - \text{Variable cost}}{\text{EBIT} - \text{Interest}} = \frac{\text{₹ 33 lakhs}}{\text{₹ 22,95,000}} = 1.44$$

(e) EBIT at Sales Level of ₹ 50 lakhs

	₹
Sales Revenue	50,00,000
Less: Variable Costs (50 lakhs × 0.56)	28,00,000
Less: Fixed Costs	<u>6,00,000</u>
EBIT	<u>16,00,000</u>

2b)

(i) Statement showing value of the firm

	(₹)
Net operating income/EBIT	5,00,000
Less: Interest on debentures (10% of ₹ 15,00,000)	(1,50,000)
Earnings available for equity holders	3,50,000
Total cost of capital (K_0) (given)	15%
Value of the firm $V = \frac{\text{EBIT}}{K_0} = \frac{5,00,000}{0.15}$	33,33,333

(ii) Calculation of cost of equity

	(₹)
Market value of debt (D)	15,00,000
Market value of equity (S) $S = V - D = ₹33,33,333 - ₹15,00,000$	18,33,333

$$K_e = \frac{\text{Earnings available for equity holders}}{\text{Value of equity (S)}}$$

$$\text{Or, } = \frac{\text{EBIT} - \text{Interest paid on debt}}{\text{Market value of equity}} = \frac{₹ 3,50,000}{₹ 18,33,333} = 19.09\%$$

OR

$$K_0 = K_e \left(\frac{S}{V} \right) + K_d \left(\frac{D}{V} \right)$$

$$K_0 = K_0 \left(\frac{V}{S} \right) - K_d \left(\frac{D}{S} \right)$$

$$= 0.15 \left(\frac{33,33,333}{18,33,333} \right) - 0.10 \left(\frac{15,00,000}{18,33,333} \right)$$

$$= \frac{1}{18,33,333} [(0.15 \times 33,33,333) - 0 (0.10 \times 15,00,000)]$$

$$= \frac{1}{18,33,333} [5,00,000 - 1,50,000] = 19.09\%$$

3)

(i) Calculation of after tax cost of the followings:

$$(a) \text{ New 14\% Debentures } (K_d) = \frac{I(1-t)}{NP} = \frac{\text{₹}14(1-0.5)}{\text{₹}98} = 0.0714 \text{ or } 7.14\%$$

$$\text{New 12\% Preference Shares } (K_p) = \frac{PD}{NP} = \frac{\text{₹}1.20}{\text{₹}9.80} = 0.1224 \text{ or } 12.24\%$$

$$(b) \text{ Equity Shares (Retained Earnings) } (K_e) = \frac{\text{Expected dividend } (D_1)}{\text{Current market price } (P_0)} + \text{Growthrate } (G)$$
$$= \frac{50\% \text{ of } \text{₹}2.773}{\text{₹}27.75} + 0.12 = 0.17 \text{ or } 17\%$$

* Growth rate (on the basis of EPS) is calculated as below :

$$\frac{\text{EPS in current year} - \text{EPS in previous year}}{\text{EPS in previous year}} = \frac{\text{₹}2.773 - \text{₹}2.476}{\text{₹}2.476} = 0.12$$

(Students may verify the growth trend by applying the above formula to last three or four years)

(ii) Calculation of marginal cost of capital (on the basis of existing capital structure):

Source of capital	Weight (a)	After tax Cost of capital (%) (b)	WACC (%) (a) × (b)
14% Debenture	0.15	7.14	1.071
12% Preference shares	0.05	12.24	0.612
Equity shares	0.80	17.00	13.600
Marginal cost of capital			15.283

(iii) The company can spent for capital investment before issuing new equity shares and without increasing its marginal cost of capital:

Retained earnings can be available for capital investment

= 50% of 2015 EPS × equity shares outstanding

= 50% of ₹ 2.773 × 2,00,000 shares = ₹2,77,300

Since, marginal cost of capital is to be maintained at the current level i.e. 15.28%, the retained earnings should be equal to 80% of total additional capital for investment.

Thus investment before issuing equity $\left(\frac{₹2,77,300}{80} \times 100 \right) = ₹ 3,46,625$

The remaining capital of ₹ 69,325 i.e. ₹ 3,46,625 - ₹ 2,77,300 shall be financed by issuing 14% Debenture and 12% preference shares in the ratio of 3 : 1 respectively.

- (iv) If the company spends more than ₹ 3,46,625 as calculated in part (iii) above, it will have to issue new shares at ₹ 20 per share.

The cost of new issue of equity shares will be:

$$K_e = \frac{\text{Expected dividend}(D_1)}{\text{Current market price}(P_0)} + \text{Growthrate}(g) = \frac{50\% \text{ of } ₹2.773}{₹20} + 0.12 = 0.1893 \text{ or } 18.93\%$$

Calculation of marginal cost of capital (assuming the existing capital structure will be maintained):

Source of capital	Weight (a)	Cost (%) (b)	WACC (%) (a) × (b)
14% Debenture	0.15	7.14	1.071
12% Preference shares	0.05	12.24	0.612
Equity shares	0.80	18.93	15.144
Marginal cost of capital			16.827

4)

In order to find out the annual lease rent, the cash flows from the asset must be evaluated as follows:

Year	Depreciation (₹)	Tax Shield (₹)	Cash flow (₹)	PVF(10%)	PV (₹)
1	3,33,333	1,66,667	1,66,666	.909	1,51,500
2	2,22,222	1,11,111	1,11,111	.826	91,778
3	1,48,148	74,074	74,074	.751	55,630
4	98,766	49,383	49,383	.683	33,728
5	65,844	32,922	32,922	.621	20,444
5	31,687*	15,843	15,843	.621	9,838
5	Salvage Value		1,00,000	.621	<u>62,100</u>
			Present Value of Inflows		4,25,018
			Outflow		<u>10,00,000</u>
			Net Present value		<u>5,74,982</u>

* Short Term Capital Loss

The firm therefore, should have total recovery of ₹5,74,982 through the lease rentals. The annual lease rental after tax may be calculated as follows:

$$\begin{aligned}
 \text{Lease rental (after tax)} &= \text{Total recovery required} + \text{PVAF}_{(10\%,n)} \\
 &= ₹5,74,982 + 3.791 = ₹1,51,670 \\
 \text{Now, the lease rental before tax} &= ₹1,51,670 + 0.5 \\
 &= ₹3,03,340
 \end{aligned}$$

Therefore, the firm should charge a lease rental of ₹3,03,340 in order to earn a required rate of return of 10% after tax.

5a)

Given,

Cost of Equity (K_e)	12%
Number of shares in the beginning (n)	10,000
Current Market Price (P_0)	₹100
Net Profit (E)	₹2,50,000
Expected Dividend	₹10 per share
Investment (I)	₹5,00,000

$$(i) \quad P_0 = \frac{P_1 + D_1}{1 + K_e}$$
$$100 = \frac{P_1 + 0}{1 + 0.12}$$
$$P_1 = 112 - 0 = 112$$

$$P_0 = \frac{P_1 + D_1}{1 + K_e}$$
$$100 = \frac{P_1 + 10}{1 + 0.12}$$
$$P_1 = 112 - 10 = 102$$

(ii) Calculation of funds required for investment

Earning	5,00,000
Dividend distributed	1,00,000
Fund available for investment	4,00,000
Total Investment	10,00,000
Balance Funds required	10,00,000 - 4,00,000 = ₹6,00,000

$$\text{No. of shares} = \frac{\text{Funds required}}{\text{Price at end}(P_1)}$$

$$\Delta n = \frac{6,00,000}{102} = 5882.35 \text{ or } 5883 \text{ Shares}$$

5b)

Project	Investment Required	Present value of Future Cash Flows	Net Present value
	₹	₹	₹
1	2,00,000	2,90,000	90,000
2	1,15,000	1,85,000	70,000
3	10	4,00,000	1,30,000
1 and 2	3,15,000	4,75,000	1,60,000
1 and 3	4,40,000	6,90,000	2,50,000
2 and 3	3,85,000	6,20,000	2,35,000
1, 2 and 3	6,80,000*	9,10,000	2,30,000

(Refer Working note)

Working Note:

(i) Total Investment required if all the three projects are undertaken simultaneously:

	(₹)
Project 1 & 3	4,40,000
Project 2	1,15,000
Plant extension cost	1,25,000
Total	6,80,000

(ii) Total of Present value of Cash flows if all the three projects are undertaken simultaneously:

	(₹)
Project 2 & 3	6,20,000
Project 1	2,90,000
Total	9,10,000

Advise: Projects 1 and 3 should be chosen, as they provide the highest net present value.

6a)

Statement showing the Evaluation of Debtors Policies

Particulars	Proposed Policy ₹
A. Expected Profit:	
(a) Credit Sales	15,00,000
(b) Total Cost	
(i) Variable Costs	14,50,000
(ii) Recurring Costs	5,000
	14,55,000
(c) Bad Debts	15,000
(d) Expected Profit [(a) – (b) – (c)]	30,000
B. Opportunity Cost of Investments in Receivables	68,787
C. Net Benefits (A – B)	(38,787)

Recommendation: The Proposed Policy should not be adopted since the net benefits under this policy are negative

Working Note: Calculation of Opportunity Cost of Average Investments

$$\text{Opportunity Cost} = \text{Total Cost} \times \frac{\text{Collection period}}{365} \times \frac{\text{Rate of Return}}{100}$$

Particulars	15%	34%	30%	20%	Total
A. Total Cost	2,18,250	4,94,700	4,36,500	2,91,000	14,40,450
B. Collection period	30/365	60/365	90/365	100/365	
C. Required Rate of Return	24%	24%	24%	24%	
D. Opportunity Cost (A x B x C)	4,305	19,517	25,831	19,134	68,787

6b)

Agency Cost: In a sole proprietorship firm, partnership etc., owners participate in management but in corporate, owners are not active in management so, there is a separation between owner/shareholders and managers. In theory managers should act in the best interest of shareholders however in reality, managers may try to maximise their individual goal like salary, perks etc., so there is a principal-agent relationship between managers and owners, which is known as Agency

Problem. In a nutshell, Agency Problem is the chances that managers may place personal goals ahead of the goal of owners. Agency Problem leads to Agency Cost. Agency cost is the additional cost borne by the shareholders to monitor the manager and control their behaviour so as to maximise shareholders wealth. Generally, Agency Costs are of four types (i) monitoring (ii) bonding (iii) opportunity (iv) structuring

However, following efforts can be made to address Agency Cost:

Managerial compensation to be linked to profit of the company to some extent with the long term objectives of the company.

Employees' Stock option plan (ESOP) is also designed to address the issue with the underlying assumption that maximisation of the stock price is the objective of the investors.

Effective monitoring through corporate governance can be done.

6c)

Bond is fixed income security created to raise fund. Bonds can be raised through Public Issue and through Private Placement.

Types of Bond

Based on call Bond can be divided as

(i) Callable bonds and (ii) Puttable bonds

(i) Callable bonds: A callable bond has a call option which gives the issuer the right to redeem the bond before maturity at a predetermined price known as the call price (Generally at a premium).

(ii) Puttable bonds: Puttable bonds give the investor a put option (i.e. the right to sell the bond) back to the company before maturity.

7a)

In the early 1900s, Cambridge Economists Alfred Marshall, A.C. Pigou, D.H. Robertson and John Maynard Keynes (then associated with Cambridge) put forward a fundamentally different approach to quantity theory, known neoclassical theory or cash balance approach. The Cambridge version holds that money increases utility in the following two ways:

1. enabling the possibility of split-up of sale and purchase to two different points of time rather than being simultaneous, and
2. being a hedge against uncertainty.

While the first above represents transaction motive, just as Fisher envisaged, the second points to money's role as a temporary store of wealth. Since sale and purchase of commodities by individuals do not take place simultaneously, they need a 'temporary abode' of purchasing power as a hedge against uncertainty. As such, demand for money also involves a precautionary motive in Cambridge approach. Since money gives utility in its store of wealth and precautionary modes, one can say that money is demanded for itself.

Now, the question is how much money will be demanded? The answer is: it depends partly on income and partly on other factors of which important ones are wealth and interest rates. The former determinant of demand i.e. income, points to transactions demand such that

higher the income, the greater the quantity of purchases and as a consequence greater will be the need for money as a temporary abode of value to overcome transactions costs. The Cambridge equation is stated as:

$M_d = k PY$, Where M_d = is the demand for money

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 '. The equation above explains that the demand for money (M) equals k proportion of the total money income.

Thus we see that the neoclassical theory changed the focus of the quantity theory of money to money demand and hypothesized that demand for money is a function of money income. Both these versions are chiefly concerned with money as a means of transactions or exchange, and therefore, they present models of the transaction demand for money.

7b)

(i) $Y = C + I + G + (X - M)$

$$Y = 0.75 \times \{(1 - 0.30) \times Y\} + 250 + 800 + 600 - 0.15 \times Y$$

$$Y = 0.375Y + 1650$$

$$0.625Y = 1650$$

$$Y = \frac{1650}{0.625}$$

Hence $Y = \text{Rs.} 2640 \text{ Crores}$

(ii) Exports (X) = Rs.600 Crores

$$\text{Imports} = 0.15(2640) = \text{Rs.} 396 \text{ Crores}$$

Hence current account is in surplus of Rs. 204 Crores

(iii) Tax revenue = $0.3(2640) = \text{Rs.} 792 \text{ Crores}$

$$\text{Government expenditure} = \text{Rs.} 800 \text{ Crores}$$

Hence budget is in deficit of Rs. 8 crores i.e. -8

7c)

Escalated Tariff structure refers to the system wherein the nominal tariff rates on imports of manufactured goods are higher than the nominal tariff rates on intermediate inputs and raw materials, i.e. the tariff on a product increases as that product moves through the value-added chain. For example a four percent tariff on iron ore or iron ingots and twelve percent tariff on steel pipes. This type of tariff is discriminatory as it protects manufacturing industries in importing countries and dampens the attempts of developing manufacturing industries of exporting countries. This has special relevance to trade between developed countries and developing countries. Developing countries are thus forced to continue to be suppliers of raw materials without much value addition.

8a)

- At the extreme, government may enforce complete ban on a demerit good. e.g. Intoxicating drugs. In such cases, the possession, trading or consumption of the good is made illegal.
- Through persuasion which is mainly intended to be achieved by negative advertising campaigns which emphasize the dangers associated with consumption of demerit goods.
- Through legislations that prohibit the advertising or promotion of demerit goods in whatsoever manner.
- Strict regulations of the market for the good may be put in place so as to limit access to the good, especially by vulnerable groups such as children and adolescents.
- Regulatory controls in the form of spatial restrictions e.g. smoking in public places, sale of tobacco to be away from schools, and time restrictions under which sale at particular times during the day is banned.

Imposing unusually high taxes on producing or purchasing the good making them very costly and unaffordable to many is perhaps the most commonly used method for reducing the consumption of a demerit good. For example, the GST Council has bracketed four items namely, high end cars, pan masala, aerated drinks and tobacco products into demerit goods category and therefore these would be taxed (with a cess being added on to the basic tax) at much higher rates than the top GST slab of 28 per cent.

However, there are various limitations for government to succeed in producing the desired optimal effects in the case of demerit goods. There are many practical difficulties in imposing taxes. In order to impose a tax which is equivalent to the marginal external cost, the governments need to know the exact value of the marginal external cost and then ascribe accurate monetary value to those negative externalities. In practice, this is extremely difficult to do.

8b)

Price ceiling is a government intervention in regulated market economies wherein an upper limit is set on the price charged for a product or service and the sellers are bound to abide by such limits. The objective is to influence the outcomes of a market on grounds of fairness and equity. When prices of certain essential commodities rise excessively, government may resort to controls in the form of price ceilings (also called maximum price) for making a resource or commodity available to all at reasonable prices. Rent controls, setting of maximum prices of food grains and essential items during times of scarcity etc are examples of price ceiling. A price ceiling which is set below the prevailing market clearing price will generate excess demand over supply and shortages will result.

8c)

$$\text{Reserve Money} = \text{Currency in Circulation} + \text{Bankers' Deposits with RBI} + \text{'Other' Deposits with RBI}$$
$$15428.40 + 4596.18 + 183.30 = \mathbf{20205.68}$$

9a)

The pertinent question here is why do markets fail? There are four major reasons for market failure. They are:

- Market power,
- Externalities,
- Public goods, and
- Incomplete information

9b)

A distinction is made between the two concepts of public spending during depression, namely, the concept of 'pump priming' and the concept of 'compensatory spending'. Pump priming involves a one-shot injection of government expenditure into a depressed economy with the aim of boosting business confidence and encouraging larger private investment. It is a temporary fiscal stimulus in order to set off the multiplier process. The argument is that with a temporary injection of purchasing power into the economy through a rise in government spending financed by borrowing rather than taxes, it is possible for government to bring about permanent recovery from a slump. Pump priming was widely used by governments in the post-war era in order to maintain full employment; however, it became discredited later when it failed to halt rising unemployment and was held responsible for inflation. Compensatory spending is said to be resorted to when the government spending is deliberately carried out with the obvious intention to compensate for the deficiency in private investment.

9c)

- (i) The price index for exports of Country A in year 2012 (2000 base-year), was 116.1 means that compared to year 2000, its export prices were 16.1 percent above the 2000 base year prices.
- (ii) The price index for Country A's imports was 120.2 in year 2012(2000 base-year), means that compared to year 2000, its import prices were 20.2 percent above the 2000 base year prices.
- (iii) The index of the terms of trade for Country A in 2012 would be calculated as follows:

$$\begin{aligned}\text{Terms of Trade} &= \frac{\text{Price of a country's exports}}{\text{Price index of its imports}} \times 100 \\ &= (116.1/120.2) \times 100 = 96.6\end{aligned}$$

"Terms of trade" is ratio of the price of a country's export commodity to the price of its import commodity. The figure 96.6 means that each unit of country A's exports in 2012 exchanged for 3.4 percent (3.4 = 100 – 96.6) fewer units of imports than in the base year.

10a)

- (i) The money multiplier is a function of the currency ratio set by depositors c , which depends on the behaviour of the public in respect of holding money. The public by their decisions in respect of the size of the nominal currency in hand (designated as the currency ratio) is in a position to influence the amount of the nominal demand deposits of the commercial banks. When people decide to hoard to money fearing shortage of money in ATM's, there is an increase in c because depositors are converting some of their demand deposits into currency. Demand deposits undergo multiple expansions while currency does not. Hence when demand deposits are being converted into currency, there is a switch from a component of the money supply that undergoes multiple expansions to one that does not. The overall level of multiple expansion declines, and therefore, money multiplier also falls.
- (ii) Demand deposits held by people are highly liquid as they can be easily withdrawn and converted to cash. If people, for any reason, withdraw money from ATMs with greater frequency, then banks will have to keep more cash reserves to meet the obligations. This will raise the reserve ratio, and lower the money multiplier. As a result money supply will decline.

10 b)

The foreign-based multinational companies invest abroad to gain access to resources, that are either unobtainable or available only at a much higher cost in the home country. The firm may find it cheaper to produce in a foreign facility due to the availability of superior or less costly access to the inputs of production than at home. The resources generally sought for are:

- (i) physical resources such as oil, minerals, raw materials, or agricultural products.
- (ii) human resources such as skilled labor and low-cost unskilled labour, organizational skills, management, consultancy or marketing expertise,
- (iii) technological resources such as innovative, and other created assets (e.g., brand names)
- (iv) physical infrastructure
- (v) financial infrastructure such as safe efficient and integrated financial market, set of market institutions, networks and financial intermediaries

10c)

- (i) The spot exchange rate changes from Rs 61/ 1\$ to Rs 64/1\$. It implies depreciation of Rupee and appreciation of Dollar. Exports become cheaper and more attractive to foreigners; imports will be discouraged as they become costlier to import.
- (ii) The spot exchange rate changes from Rs 66/ 1\$ to Rs 63/1\$. This means that Rupee has appreciated in value and dollar has depreciated. Exports become costlier and so demand for Indian exports may fall; imports become cheaper.

10d)

The Agreement on Agriculture (AoA) is an international treaty of the World Trade Organization negotiated during the Uruguay Round. It contains provisions in three broad areas of agriculture and trade policy: market access, domestic support and export subsidies. The Agreement aims to:

- (i) establish fair and market oriented agricultural trading system, and
- (ii) provide for substantial and progressive reduction in agricultural support and export subsidies with a view to remove distortion in the world market. These are to be achieved through enhancement of market access, reduction of domestic support and elimination of export subsidies.

11a)

There are mainly four different mechanisms through which monetary policy influences the price level and the national income. These are:

- (a) the interest rate channel,
- (b) the exchange rate channel,
- (c) the quantum channel (e.g., relating to money supply and credit), and
- (d) the asset price channel i.e. via equity and real estate prices.

11b)

National Income (NNP_{FC})

Expenditure Method:

$$= \text{Private Final Consumption Expenditure} + \text{Govt. Final Consumption Expenditure} + \text{Net domestic capital Formation} + \text{Net Exports} = 210+50+40+(-5) = 295$$

$$NNP (FC) = NDP_{MP} + \text{Factor Income from abroad} - \text{Net Indirect Tax (Indirect Tax - Subsidy)} \\ = 295 + 3 - (30-5)$$

$$= 295 + 3 - 25 = 273$$

$$= 298 - 25 = 273$$

$$NNP_{FC} = 273 \text{ Crores}$$

Income Method: Wages and Salaries+ Employers Contribution+ Profit + Interest + Rent + Royalty

$$= 170 + 10 + 45 + 20 + 10 + 15 = 270 (NDP_{FC})$$

$$NNP_{FC} = NDP_{FC} + \text{FIFA}$$

$$270+3 = 273 \text{ Crores}$$

11c)

Theory of Government intervention for redistribution to ensure fairness and equity (As discussed in the above two questions)

- (i) Price intervention - a market-based policy - contributing airlines may experience cost escalation – possible fare hikes – changes in equilibrium quantities – disincentives to fly aircrafts in taxed routes - possible exit from market by low profit margin airlines- Regional connectivity and other welfare outcomes as subsidies to producers would lower their cost of production increase output- substantial positive externalities.
- (ii) Another possibility: government intervention in the economy to correct a market failure creates inefficiency and leads to a misallocation of scarce resources - social welfare will not be maximized – uncertainty as to the need for merit goods – disincentives to existing players - cannot be sure that the government interventions would be effective – possibility of government failure.