(ALL BATCHES)

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FINANCIAL MANAGEMENT & ECONOMICS FOR FINANCE

SECTION - A

Answer:1

(a) Total Assets = Rs. 20 crores

Total Asset Turnover Ratio = 2.5

Hence, Total Sales = 20 × 2.5 = Rs. 50 crores

Computation of Profit after Tax (PAT)

	(Rs. in crores)
Sales	50.00
Less: Variable Operating Cost @ 65%	32.50
Contribution	17.50
Less: Fixed Cost (other than Interest)	4.00
EBIT	13.50
Less: Interest on Debentures (15% × 10)	1.50
PBT	12.00
Less: Tax @ 30%	3.60
PAT	8.40

(i) Earnings per Share

$$EPS = \frac{5.40 \text{ crores}}{\text{Number of Equity Shares}} = \frac{8.40 \text{ crores}}{50,00,000} = \text{Rs. } 16.80$$

It indicates the amount the company earns per share. Investors use this as a guide while valuing the share and making investment decisions. It is also a indicator used in comparing firms within an industry or industry segment. **2 M**

(ii) Operating Leverage

$$\text{Operating Leverage} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{17.50}{12.00} = 1.296$$

It indicates the choice of technology and fixed cost in cost structure. It is level specific. When firm operates beyond operating break-even level, then operating leverage is low. It indicates sensitivity of earnings before interest and tax (EBIT) to change in sales at a particular level. **1 M**

(iii) Financial Leverage

$$\text{Financial Leverage} = \frac{\text{EBIT}}{\text{PBT}} = \frac{13.50}{12.00} = 1.125$$

The financial leverage is very comfortable since the debt service obligation is small vis-à-vis EBIT. **1 M**

(iv) Combined Leverage

$$\text{Combined Leverage} = \frac{Contribution}{EBIT} \times \frac{\text{EBIT}}{\text{PBT}}$$

Or, = Operating Leverage × Financial Leverage

= 1.296 × 1.125 = 1.458 **1 M**

The combined leverage studies the choice of fixed cost in cost structure and choice of debt in capital structure. It studies how sensitive the change in EPS is vis-à-vis change in sales. The leverages – operating, financial and combined are measures of risk.

(b)

$$\frac{\text{Long – term debt}}{\text{Net worth}} = 0.5 = \frac{\text{Long – term debt}}{2,00,000}$$ **1M**

Long-term debt = Rs. 1,00,000

Total liabilities and net worth = Rs. 4,00,000

Total assets = Rs. 4,00,000

$$\frac{\text{Sales}}{\text{Total assets}} = 2.5 = \frac{\text{Sales}}{4,00,000} = \text{Sales} = \text{Rs. } 10,00,000$$

Cost of goods sold = (0.9) (Rs. 10,00,000) = Rs. 9,00,000.

$$\frac{\text{Cost of goods sold}}{\text{Inventory}} = \frac{9,00,000}{\text{Inventory}} = 9 = \text{Inventory} = \text{Rs.}1,00,000$$ **1M**

$$\frac{\text{Receivables} \times 360}{10,00,000} = 18 \text{ days}$$ **1M**

Receivables = Rs. 50,000

$$\frac{\text{Cash} + 50,000}{1,00,000} = 1$$ **1M**

Cash = Rs. 50,000

Plant and equipment = Rs. 2,00,000. **} ½M**

Balance Sheet

	Rs.		Rs.
Cash	50,000	Notes and payables	1,00,000
Accounts receivable	50,000	Long-term debt **} ½M**	1,00,000
Inventory	1,00,000	Common stock	1,00,000
Plant and equipment	2,00,000	Retained earnings	1,00,000
Total assets	4,00,000	Total liabilities and equity	4,00,000

(c)

(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 $V = \frac{EBIT}{K_0} = \frac{5,00,000}{0.15}$	33,33,333

2½M

(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

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

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

OR

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

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

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

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

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

2½M

(d)

(i) Computation of Earnings per share(EPS)

Plants	A	B	C
Earningsbeforeinterestand tax (EBIT)	80,000	80,000	80,000
Less: Interest charges	---	(8,000) (8% × Rs.1lakh)	----
Earnings before tax (EBT)	80,000	72,000	80,000
Less: Tax (@ 50%)	(40,000)	(36,000)	(40,000)
Earnings after tax (EAT)	40,000	36,000	40,000
Less: Preference Dividend	---	---	(8,000) (8% × Rs.1lakh)
Earnings available for Equity shareholders (A)	40,000	36,000	32,000
No. of Equity shares (B)	10,000 (Rs.2 lakh ÷ Rs. 20)	5,000 (Rs. 1 lakh ÷ Rs. 20)	5,000 (Rs.1 lakh ÷ Rs. 20)
EPS Rs. [(A) ÷ (B)]	4 **}½M**	7.20 **}½M**	6.40 **}½M**

(ii) Calculation of Financial Break-even point

Financial break-even point is the earnings which are equal to the fixed finance charges and preference dividend.

Plan A : Under this plan there is no interest or preference dividend payment hence, the Financial Break-even point will be zero. **½M**

Plan B : Under this plan there is an interest payment of Rs. 8,000 and no preference dividend, hence, the Financial Break-even point will be Rs. 8,000 (Interest charges). ½M

Plan C : Under this plan there is no interest payment but an after tax preference dividend of Rs. 8,000 is paid. Hence, the Financial Break-even point will be before tax earnings of Rs. 16,000 (i.e. Rs. 8,000 ÷ 0.5 = Rs. 16,000.) ½M

(iii) Computation of indifference point between the plans. The indifference between two alternative methods of financing is calculated by applying the following formula.

$$\frac{(EBIT - I_1)(1-T)}{E_1} = \frac{(EBIT - I_2)(1-T)}{E_2}$$

Where,

EBIT = Earnings before interest and tax.
I_1 = Fixed charges (interest or pref. dividend) under Alternative
I_2 = Fixed charges (interest or pref. dividend) under Alternative
T = Tax rate
E_1 = No. of equity shares in Alternative T
E_2 = No. of equity shares in Alternative 2

Now, we can calculate indifference point between different plans of financing.

I. Indifference point where EBIT of Plan A and Plan B is equal. ½M

$$\frac{(EBIT - 0)(1-0.5)}{10,000} = \frac{(EBIT - 8,000)(1-0.5)}{5,000}$$

0.5 EBIT (5,000) = (0.5 EBIT – 4,000) (10,000)
0.5 EBIT = EBIT – 8,000
0.5 EBIT = 8,000
EBIT = Rs.16,000

II. Indifference point where EBIT of Plan A and Plan C is equal. ½M

$$\frac{(EBIT - 0)(1-0.5)}{10,000} = \frac{(EBIT - 0)(1-0.5) - 8,000}{5,000}$$

$$\frac{0.5\ EBIT}{10,000} = \frac{0.5\ EBIT\ -\ 8,000}{5,000}$$

0.25 EBIT = 0.5 EBIT – 8,000
0.25 EBIT = 8,000
EBIT = Rs. 32,000

III. Indifference point where EBIT of Plan B and Plan C are equal. ½M

$$\frac{(EBIT - 8,000)(1-0.5)}{5,000} = \frac{(EBIT - 0)(1-0.5) - 8,000}{5,000}$$

0.5 EBIT – 4,000 = 0.5 EBIT – 8,000

There is no indifference point between the financial plans B and C. It can be seen that Financial Plan B dominates Plan C. Since, the financial break even point of the former is only Rs. 8,000 but in case of latter it is Rs. 16,000. ½M

Answer:2

(a)

Working Notes–

1. The buy or lease decision means computation of NPV arising from lease decision i.e. computation of valuation advantage of lease over buy. If the value is positive then we go for lease, otherwise we buy. ½M

2. The valuation process involves – a) finding incremental cash flow of lease over buy, and then, b) discounting the incremental cash flow by net of tax interest rate of equivalent loan (to purchase the asset in question). In the given example if the equipment is taken on lease, then we have incremental cash flow in year '0' by way of purchase cost saving of Rs. 30,00,000. Subsequently, there is cash outflow in the form of net of tax lease rent from year 1 to 5. Net of tax lease rent per annum = 9,00,000 x (1-.40) = Rs. 5,40,000. Again, if the equipment had been purchases there would have been tax saving of depreciation = Depreciation X tax rate. Here, the tax saving or tax shield is available for 5 years. But under lease the benefit accrues to lessor. For lessee it is a negative cash flow as advantage is not available to him under lease arrangement as lessor is considered the legal owner of the asset for claiming depreciation under Income tax law. The depreciation schedule and tax shield on depreciation are given in table 1. 2M

Table 1

Year (1)	Cost/ opening balance (2)	Depreciation @25% (3)	Closing balance (4)	Tax shield (5)
1	30,00,000	7,50,000	22,50,000	3,00,000
2	22,50,000	5,62,500	16,87,500	2,25,000
3	16,87,500	4,21,875	12,65,625	1,68,750
4	12,65,625	3,16,406	9,49,219	1,26,563
5	9,49,219	2,37,305	7,11,914	94,922

3. After 5 years the equipment is sold for Rs. 200000.
Loss on sale = Rs. (7,11,914 -2,00,000)
= Rs. 5,11,914
Tax savings on loss = 40% of Rs..5,11,914 =Rs. 2,04,766
This further tax shield has to be accounted for in the year 5 . ½M

4. If the equipment is taken on lease, the cash outflow on a/c of lease rental, depreciation tax shield is given in table 2

Table 2

Year (1)	Net of tax lease rental (2)	Depreciation tax shield (3)	Total (4)
1	5,40,000	3,00,000	8,40,000
2	5,40,000	2,25,000	7,65,000
3	5,40,000	1,68,750	7,08,750
4	5,40,000	1,26,563	6,66,563
5	5,40,000	94,922	6,34,922

1½M

5. Net of tax interest rate = 0.15X(1-.40) = 0.09.
NPV
= 20,239
Since, NPV or value of the lease is positive, the equipment should be taken on lease.

½M

(b)LintersModel

Linter model has two parameters:

i. The target payoutratio,

ii. The spread at which current dividends adjust to thetarget.

1M

JohnLinterbasedhismodelonaseriesofinterviewswhichheconductedwithcorporate managers in the mid 1950's.While developing the model, he considers the following assumptions:

1. Firm have a long term dividend payout ratio. They maintain a fixed dividend payout over a long term. Mature companies with stable earnings may have high payouts and growth companies usually have lowpayouts.
2. Managers are more concerned with changes in dividends than the absolute amounts of dividends. A manager may easily decide to pay a dividend of Rs. 2 per share if last year too it was Rs. 2 but paying Rs. 3 dividend if last year dividend was Rs.2 is an important financial management decision.
3. Dividend changes follow changes in long run sustainableearnings.
4. Managersarereluctanttoaffectdividendchangesthatmayhavetobe reversed.

2M

Under Linter's model, the current year's dividend is dependent on current year's earnings and last year's dividend.

$$D_1 = D_0 + [(EPS \times Target\ payout) - D_0] \times Af$$

Where

D_1 = Dividend in year 1

D_0 = Dividend in year 0 (last year dividend) EPS = Earnings per share

Af = Adjustment factor

2M

Answer:3

Calculation of Net Working Capital requirement:

	(₹)	(₹)	
A. Current Assets:			
Inventories:			
- Raw material stock (Refer to Working note 3)	6,64,615		1M
- Work in progress stock (Refer to Working note 2)	5,00,000		1½M
- Finished goods stock (Refer to Working note 4)	13,60,000		1M
Receivables (Debtors) (Refer to Working note 5)	25,40,769		1½M
Cash and Bank balance	25,000		½M
Gross Working Capital	50,60,384	50,60,384	

B. Current Liabilities:			
Creditors for raw materials (Refer to Working note 6)	7,15,740		1M
Creditors for wages (Refer to Working note 7)	91,731		1M
	8,07,471	8,07,471	½M
Net Working Capital (A - B)		42,52,913	½M

Working Notes:

1. Annual cost of production

	(₹)	
Raw material requirements {(1,04,000 units × ₹ 80)+ ₹3,20,000}	86,40,000	
Direct wages {(1,04,000 units × ₹ 30) + ₹60,000}	31,80,000	
Overheads (exclusive of depreciation) {(1,04,000 × ₹ 60)+ ₹1,20,000}	63,60,000	
Gross Factory Cost	1,81,80,000	½M
Less: Closing W.I.P	(5,00,000)	
Cost of Goods Produced	1,76,80,000	
Less: Closing Stock of Finished Goods (₹1,76,80,000 × 8,000/1,04,000)	(13,60,000)	
Total Cash Cost of Sales	1,63,20,000	

2. Work in progress stock

	(₹)
Raw material requirements (4,000 units × ₹ 80)	3,20,000
Direct wages (50% × 4,000 units × ₹ 30)	60,000
Overheads (50% × 4,000 units × ₹ 60)	1,20,000
	5,00,000

3. Raw material stock

It is given that raw material in stock is average 4 weeks consumption. Since, the company is newly formed, the raw material requirement for production and work in progress will be issued and consumed during the year.

Hence, the raw material consumption for the year (52 weeks) is as follows:

	(₹)
For Finished goods (1,04,000 × ₹ 80)	83,20,000
For Work in progress (4,000 × ₹ 80)	3,20,000
	86,40,000

½M

Ram material stock $\frac{\text{Rs. } 86,40,000}{52 \text{ weeks}}$ × 4 weeks i.e. Rs. 6,64,615

4. Finished goods stock: 8,000 units@ Rs. 170 per unit = 13,60,000

5. Debtors for sale: 1,63,20,000 × $\frac{8}{52}$ = Rs. 25,10,769

6. Creditors for raw material:

Material Consumed (Rs. 83,20,000 + Rs. 3,20,000) Rs. 86,40,000
Add: Closing Stock of raw material Rs. 6,64,615
Rs. 93,04,615

Credit allowed by suppliers = $\frac{\text{Rs. } 93,04,615}{52 \text{ weeks}}$ × 4 weeks = Rs. 7,15,740

½M

7. Creditors for wages

Outstanding wage payment = $\frac{\text{Rs. } 31,80,000}{52 \text{ weeks}}$ × 1.5 weeks = Rs. 91,731

Answer: 4

Working notes

1 Computation of Net Present Values of Projects

Year	Cash flows		Disct. factor @ 16 %	Discounted Cash flow	
	Project A (₹)	Project B (₹)		Project A (₹)	Project B (₹)
	(1)	(2)	(3)	(3) × (1)	(3) × (2)
0	(1,35,000)	(2,40,000)	1.000	(1,35,000)	(2,40,000)
1	--	60,000	0.862	--	51,720
2	30,000	84,000	0.743	22,290	62,412
3	1,32,000	96,000	0.641	84,612	61,536
4	84,000	1,02,000	0.552	46,368	56,304
5	84,000	90,000	0.476	39,984	42,840
Net present value				58,254	34,812

1M

2 Computation of Cumulative Present Values of Projects Cash inflows

Year	Project A		Project B	
	PV of cash inflows (₹)	Cumulative PV (₹)	PV of cash inflows (₹)	Cumulative PV (₹)
1	--	--	51,720	51,720
2	22,290	22,290	62,412	1,14,132
3	84,612	1,06,902	61,536	1,75,668
4	46,368	1,53,270	56,304	2,31,972
5	39,984	1,93,254	42,840	2,74,812

1M

(i) Discounted payback period:*(Refer to Working note 2)*

Cost of Project A = Rs.1,35,000

Cost of Project B = Rs.2,40,000

Cumulative PV of cash inflows of Project A after 4 years = Rs.1,53,270

Cumulative PV of cash inflows of Project B after 5 years = Rs.2,74,812

A comparison of projects cost with their cumulative PV clearly shows that theproject A's cost will be recovered in less than 4 years and that of project B in less than 5 years. The exact duration of discounted payback period can be computed as follows:

	Project A	Project B
Excess PV of cash inflows over the project cost (₹)	18,270 (₹ 1,53,270 – ₹ 1,35,000)	34,812 (₹ 2,74,812 – ₹ 2,40,000)
Computation of period required to recover excess amount of cumulative PV over project cost (Refer to Working note 2)	0.39 year (₹ 18,270 ÷ ₹ 46,368)	0.81 years (₹ 34,812 ÷ ₹ 42,840)
Discounted payback period	3.61 year (4 – 0.39) years	4.19 years (5 – 0.81) years

1½M 1½M

(ii) Profitability Index(PI): $= \frac{\text{Sum of discounted cash inflows}}{\text{Initian cash outlay}}$

Profitability Index (for Project A) = $\frac{₹\ 1,93,254}{₹\ 1,35,000} = 1.43$ } **1½M**

Profitability Index (for Project B) = $\frac{₹\ 2,74,812}{₹\ 2,40,000} = 1.15$ } **1½M**

(iii) Net present value(NPV) *(for Project A)* = ₹ 58,254 } **½M**

Net present value(NPV) *(for Project B)* = ₹ 34,812 } **½M**

(Refer to Working note 1)

Conclusion: As the NPV, PI of Project A is higher and Discounted Pay back is lower, therefore Project a should be accepted.

Answer 5:

(i) Statement of Weighted Average Cost of Capital

Project cost	Financing	Proportion of capital Structure	After tax cost (1–Tax 50%)	Weighted average cost (%)	
Upto ₹ 2 Lakhs	Debt	0.4	10% (1 – 0.5) = 5%	0.4 × 5 = 2.0	
	Equity	0.6	12%	0.6 × 12 = 7.2	
				9.2%	**2M**
Above ₹ 2 lakhs & upto to ₹ 5 Lakhs	Debt	0.4	11% (1 – 0.5) = 5.5%	0.4 × 5.5 = 2.2	
	Equity	0.6	13%	0.6 × 13 = 7.8	
				10.0%	**2M**
Above ₹ 5 lakhs & upto ₹ 10 lakhs	Debt	0.4	12% (1 – 0.5) = 6%	0.4 × 6 = 2.4	
	Equity	0.6	14%	0.6 × 14 = 8.4	
				10.8%	**2M**
Above ₹ 10 lakhs & upto ₹ 20 lakhs	Debt	0.4	13% (1 – 0.5) = 6.5%	0.4 × 6.5 = 2.6	
	Equity	0.6	14.5%	0.6 × 14.5 = 8.7	
				11.3%	**2M**

Project	Fund requirement	Cost of capital	
X	₹6.5 lakhs	10.8% (from the above table)	**1M**
Y	₹14 lakhs	11.3% (from the above table)	

(ii) If a Project is expected to give after tax return of 10%, it would be acceptableprovided its project cost does not exceed Rs. 5 lakhs or, after tax return should be more than or at least equal to the weighted average cost of capital. **1M**

Answer 6:

(a)

Today, the role of chief financial officer, or CFO, is no longer confined to accounting, financial reporting and risk management. It's about being a strategic business partner of the chief executive officer, or CEO. Some of the key differences that highlight the changing role of a CFO are as follows:- **½M**

What a CFO used to do?	What a CFO now does?
Budgeting	Budgeting
Forecasting	Forecasting
Accounting	Managing M&As
Treasury (cash management)	Profitability analysis (for example, by customer or product)
Preparing internal financial reports for management.	Pricing analysis
Preparing quarterly, annual filings for investors.	Decisions about outsourcing
Tax filing	Overseeing the IT function.
Tracking accounts payable and accounts receivable.	Overseeing the HR function.
Travel and entertainment expense management.	Strategic planning (sometimes overseeing this function).
	Regulatory compliance.
	Risk management.

3½M

(b)

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**

(c)

Financial ratios provide clues but not conclusions. These are tools only in the hands of experts because there is no standard ready-made interpretation of financial ratios

As the name indicates it is the reciprocal of payback period. A major drawback of the payback period method of capital budgeting is that it does not indicate any cut off period for the purpose of investment decision. It is, however, argued that the reciprocal of the payback would be a close approximation of the Internal Rate of Return (later discussed in detail) if the life of the project is at least twice the payback period and the project generates equal amount of the annual cash inflows. In practice, the payback reciprocal is a helpful tool for quickly estimating the rate of return of a project provided its life is at least twice the payback period. **1½M**

The payback reciprocal can be calculated as follows:

$$\text{Payback Reciprocal} = \frac{\text{Average annual cash in flow}}{\text{Initial investment}}$$ **½M**

SECTION - B

Answer:7

(a)

A floating exchange rate has many advantages:

(i) A floating exchange rate has the great advantage of allowing a Central bankand /or government to pursue its own independent monetary policy **1M**

(ii) Floating exchange rate regime allows exchange rate to be used as a policy tool:for example, policy-makers can adjust the nominal exchange rate to influencethe competitiveness of the tradeable goods sector **1M**

(iii) As there is no obligation or necessity to intervene in the currency markets, thecentral bank is not required to maintain a huge foreign exchange reserves. **1M**

(b) Demand for money is in the nature of derived demand; it is demanded for it purchasing power. Basically people demand money because they wish to have command over real goods and services with the use of money **2M**

(c) Foreign direct investment (FDI) VS Foreign portfolio investment (FPI)

Foreign direct investment (FDI)	Foreign portfolio investment (FPI)	
Investment involves creation of physical assets	Investment is only in financial assets	
Has a long term interest and therefore remain invested for long	Only short term interest and generally remain invested for short periods	**½M**
Relatively difficult to withdraw	Relatively easy to withdraw	
Not inclined to be speculative	Speculative in nature	**½M**
Often accompanied by technology transfer	Not accompanied by technology transfer	
Direct impact on employment of labour and wages	No direct impact on employment of labour and wages	**½M**
Enduring interest in management and control	No abiding interest in management and control	
Securities are held with significant degree of influence by the investor on the management of the enterprise	Securities are held purely as a financial investment and no significant degree of influence on the management of the enterprise	**½M**

(d)

(a) The money value of output equals total output times the average price perunit. The money value of output is (7,000 x 5) = Rs. 35,000. **½M**

(b) In a two sector economy, households receive an amount equal to themoney value of output. Therefore, the money income of households is thesame as the money value of output i.eRs. 35,000. **½M**

(c) Total spending by households (Rs. 35,000 x 0.8) ie. Rs. 28,000. **½M**

(d) The total money revenues received by the business sector is equal toaggregate spending by households ie. Rs. 28, 000. **½M**

(e) The business sector makes payments of Rs. 35000 to produce output,whereas the households purchase only output worth Rs. 28,000 of what isproduced. Therefore, the business sector has unsold inventories valued atRs. 7000. They should be expected to decrease output. **1M**

Answer:8

(a)(i)

The incentive to let other people pay for a good or service, the benefits of whichare enjoyed by an individual is known as the free rider problem. In other words,free riding is 'benefiting from the actions of others without paying'. A free rider isa consumer or producer who does not pay for a nonexclusive good in theexpectation that others will pay. **1M**

Public goods provide a very important example of market failure, in which the selfinterestedbehaviour of individuals does not produce efficient results. We shall nowsee how free riding is applicable in the case of public goods. Consumers can takeadvantage of public goods without contributing sufficiently to their production. **1M**

The absence of excludability in the case of public goods and the tendency of peopleto act in their own self interest will lead to the problem of free riding. If individualscannot be excluded from the benefit of a public good, then they are not likely toexpress the value of the benefits which they receive as an offer to pay. **1M**

(ii)

Important determinant of demand for money. Higher the interest rate, higherwould be opportunity cost of holding cash and lower the demand for money. **2M**

(b)(i)

GDPMP = (Value of output in primary sector - intermediate consumption ofprimary sector) + (value of output in secondary sector - intermediateconsumption of secondary sector) + (value of output in tertiary sector -intermediate consumption of tertiary sector) **1M**

Value of output in primary sector	= 500
- Intermediate consumption of primary sector	= 250
+ Value of output in secondary sector	= 900
- Intermediate consumption in secondary sector	= 300
+ Value of output in tertiary sector	= 700
- Intermediate consumption of tertiary sector	= 300
GDP_{MP}	= Rs. 1250 Crores

2M

(ii)

A nation should specialize in the production and export of the commodity inwhich its absolute disadvantage is smaller (this is the commodity of itscomparative advantage) and import the commodity in which it's absolutedisadvantage is greater (this is the commodity of its comparativedisadvantage). **2M**

Answer:9

(a)(i)

There are four possible types of externalities:

- Negative production externalities **}½M**
- Positive production externalities **}½M**
- Negative consumption externalities ,and **}½M**
- Positive consumption externalities **}½M**

(ii)

(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. **1M**

(ii) The price index for Country A's imports was 120.2 in year 2012(2000 baseyear),means that compared to year 2000, its import prices were 20.2percent above the 2000 base year prices. **1M**

(iii) The index of the terms of trade for Country A in 2012 would be calculatedas follows: **1M**

$$\text{Terms of Trade} = \frac{\text{Price of a country's exports}}{\text{Price index of its imports}} \times 100$$

$$= (116.1/120.2) \times 100 = 96.6$$

"Terms of trade" is ratio of the price of a country's export commodity tothe price of its import commodity. The figure 96.6 means that each unitof 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.

(b)(i)

Direct provision of a public good by government can help overcomefree-rider problem which leads to market failure. The non-rival nature ofconsumption provides a strong argument for the government rather than themarket to provide and pay for public goods. In the case of such pure public goodswhere entry fees cannot be charged, direct provision by governments through theuse of general government tax revenues is the only option. **1½M**

Excludable public goods can be provided by government and the same can befinanced through entry fees. A very commonly followed method is to grant licensesto private firms to build a public good facility. Under this method, the goods areprovided to the public on payment of an entry fee. In such cases, the governmentregulates the level of the entry fee chargeable from the public and keeps strictwatch on the functioning of the licensee to guarantee equitable distribution ofwelfare. **1½M**

(ii) The equilibrium level of output can be found by equating output andaggregate spending i.e by solving Y = C + I + X-M for Y **2M**

Y = C + I + X- M

Y = 700 + 0.8Y + 1200 + 100

Y – 0.8Y = 700 + 1200 + 100

0.2Y = 2000

Y =2000/.2 = 10,000

Answer: 10

(a)(i)

In India, foreign investment is prohibited in the following sectors:

(i) Lottery business including Government / private lottery, online lotteries, etc. **}½M**

(ii) Gambling and betting including casinos etc. **}½M**

(iii) Chit funds **}½M**

(iv) Nidhi company **}½M**

(v) Trading in Transferable Development Rights (TDRs)**}½M**

(vi) Real Estate Business or Construction of Farm Houses **}½M**

(vii) Manufacturing of cigars, cheroots, cigarillos and cigarettes, of tobacco or oftobacco substitutes **½M**

(viii) Activities / sectors not open to private sector investment e.g. atomic energy and railway operations (other than permitted activities). **½M**

(ii)

The value of the increment to consumer expenditure per unit of increment toincome; termed b such that 0 < b < 1. **2M**

(b)(i)

In contrast to the Keynesian demand for transaction balances which is interestinelastic,the transaction demand of Baumol and Tobin is interest-elastic. **2M**

(ii)

M1 is composed of currency and coins with the people, demand deposits ofbanks (current and saving accounts) and other deposits of the RBI. **2M**

Answer:11

(a)(i)

The WTO does its functions by acting as a forum for trade negotiations among member governments, administering trade agreements, reviewing national trade policies, assisting developing countries in trade policy issues, through technical assistance and training programmes and cooperating with other international organizations. **2M**

(ii)

Free-trade area is a group of countries that eliminate all tariff barriers on tradewith each other and retains independence in determining their tariffs with nonmembers.Example: NAFTA **2M**

(b)(i)

Trade policy encompasses all instruments that governments may use to promote or restrict imports and exports. **1M**

The instruments of trade policy are broadly classified into price- related measures such as tariffs and non-price measures or non-tariff measures (NTMs). **2M**

(ii)

(a) The spot exchange rate changes from Rs 61/ 1$ to Rs 64/1$. It impliesdepreciation of Rupee and appreciation of Dollar. Exports become cheaperand more attractive to foreigners; imports will be discouraged as theybecome costlier to import. **1½M**

(b) The spot exchange rate changes from Rs 66/ 1$ to Rs 63/1$. This meansthat Rupee has appreciated in value and dollar has depreciated. Exportsbecome costlier and so demand for Indian exports may fall; importsbecome cheaper. **1½M**

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