(GI-1, GI-2+4, GI-3, GI-5+6 & VDI-1, VI-1, SI-1)
DATE: 03.09.2020 MAXIMUM MARKS: 100 TIMING: 3¼ Hours

FINANCIAL MANAGEMENT

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) Determination of Net Present Value (NPV)

Year	Expected Cash flow (Rs.)	Certainty equivalent (CE)	Adjusted Cash flow (Cash flow x CE) (Rs.)	PV factor (at 0.06)	Total PV (Rs.)
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	{2 M} 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

{2 M}

Comment-As the Net Present Value is positive the project should be accepted. {1 M}

Answer:
(b) Analysis of Credit Policies (Rs. in Lakhs)

Credit Period (months)	Current Policy (1)	Plan I (1.5)	Plan II (2)	Plan III (3)
Credit sales	120	130	150	180
Less: Variable cost @ 60%	72	78	90	108
Contribution	48	52	60	72
Less: Fixed cost	30	30	35	40
Operating Profit (a)	18	22	25	32
Cost of Sales (Variable Cost + Fixed Cost)	102	108	125	148
Investment in debtors [Cost of sales x Credit period / 12 months)	8.5	13.5	20.83	37.00
Cost of Investment in debtors @ 20% (b)	1.70	2.70	4.17	7.40
Credit sales	120	130	150	180
Bad debts (% of sales)	0.5%	0.8%	1%	2%
Bad debts (c)	0.60	1.04	1.50	3.60
Net Profit (a) – [(b) + (c)]	15.70	18.26	19.33	21.00
	{1 M}	{1 M}	{1 M}	{1 M}

Analysis:
The net profit is higher if 3 months credit period is allowed. Hence, it is suggested to adopt plan III. {1 M}

Answer:
(c) In order to find out the % change in EPS as a result of % change in sales, the combined leverage should be calculated as follows:

Operating Leverage = Contribution/EBIT= Rs. 11,20,000 + Rs. 7,00,000 / 11,20,000 = 1.625
Financial Leverage = EBIT/Profit before Tax = Rs. 11,20,000 / 3,20,000 = 3.5
Combined Leverage = Contribution/Profit before tax = OL×FL = 1.625×3.5 = 5.69. }{2 M}

The combined leverage of 5.69 implies that for 1% change in sales level, the % change in EPS would be 5.69%. So, if the sales are expected to increase by 5%, then the % increase in EPS would be 5×5.69 = 28.45%. }{3 M}

Answer:

(d) (a) M/s X Y Ltd.

(i) Walter's model is given by

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

Where P = Market price per share.

E = Earnings per share = $\frac{5,00,000}{1,00,000}$ = Rs. 5

D = Dividend per share = $5 \times 60\%$ = Rs. 3

r = Return earned on investment = 15%

K_e = Cost of equity capital = 12%

$$P = \frac{2 + (5-3) \times \frac{0.15}{0.12}}{0.12} = \frac{3 + 2.0 \times \frac{.15}{.12}}{0.12}$$

= 45.83 }{2 M}

(ii) According to Walter's model when the return on investment is more than the cost of equity capital, the price per share increases as the dividend pay-out ratio decreases. Hence, the optimum dividend pay-out ratio in this case is nil. {1 M}

So, at a pay-out ratio of zero, the market value of the company's share will be : $\frac{0 + (5-0)\frac{0.15}{0.12}}{0.12} = 52.08$ }{2 M}

Answer 2:

Preparation of Balance Sheet of a Company

Working Notes:

1. Cost of Goods Sold = Sales – Gross Profit (=25% of Sales)
= Rs. 30,00,000 – Rs. 7,50,000
= Rs. 22,50,000 }{1/2 M}

2. Closing Stock = Cost of Goods sold/Stock Turnover
= Rs. 22,50,000 / 6
= Rs. 3,75,000 }{1 M}

3. Fixed Assets = Cost of Goods Sold / Fixed Assets Turnover
= Rs. 22,50,000 / 1.5
= Rs. 15,00,000 }{1 M}

4. Current Assets:
Current Ratio = 1.5 and Liquid Ratio = 1
Stock = 1.5 – 1 = 0.5
Current Assets = Amount of Stock x 1.5 / 0.5
= Rs. 3,75,000 x 1.5/0.5 = Rs. 11,25,000 }{1 M}

5. Liquid Assets (Debtors and Cash) = Current Assets – Stock
= Rs. 11,25,000 – Rs. 3,75,000
= Rs. 7,50,000 }{1/2 M}

6. Debtors = Sales x Debtors Collection Period / 12
= Rs. 30,00,000 x 2 / 12
= Rs. 5,00,000 }{1 M}

7. Cash = Liquid Assets – Debtors
= Rs. 7,50,000 – Rs. 5,00,000
= Rs. 2,50,000 }{1/2 M}

8. Net worth = Fixed Assets / 1.2
= Rs. 15,00,000 / 1.2
= Rs. 12,50,000 }{1 M}

9. Reserves and Surplus
Reserves and Surplus + Share Capital = 0.6 + 1 = 1.6
Reserves and Surplus = Rs. 12,50,000 x 0.6 / 1.6
= Rs. 4,68,750 }{1/2 M}

10. Share capital = Net worth – Reserves and Surplus
= Rs. 12,50,000 – Rs. 4,68,750
= Rs. 7,81,250 }{1/2 M}

11. Current Liabilities = Current Assets / Current Ratio
= Rs. 11,25,000 / 1.5
= Rs. 7,50,000 }{1 M}

12. Capital Gearing Ratio = Long-term Debts/Equity shareholder's Fund
Long – Term Debts = Rs. 12,50,000 × 0.5
= Rs. 6,25,000 }{1/2 M}

Balance Sheet of a Company

Liabilities	Amount (Rs.)	Assets	Amount (Rs.)
Equity Share Capital	7,81,250	Fixed Assets	15,00,000
Reserves and Surplus	4,68,750	Current Assets	
Long-term Debts	6,25,000	Stock	3,75,000
Current Liabilities	7,50,000	Debtors	5,00,000
		Cash	2,50,000
	26,25,000		**26,25,000**

{1 M}

Answer 3:

Statement showing estimate of Working Capital

Current Assets	**(Rs.)**	**(Rs.)**	
Stock of Raw material (70,000 units x 52 x 30/360)		3,03,333	}{1 M}
Work-in-progress:			
Raw materials (70,000 units x 52 x 15/360)	1,51,667		
Direct labour (70,000 units x 19.50 x 30/360 x 1/4)	28,437		
Overheads (70,000 units x 39 x 30/360 x 1/4)	56,875	2,36,979	}{1 M}
Stock of finished goods (70,000 units x 110.50 x 30/360)		6,44,583	}{1 M}
Debtors (70,000 units x 130 x 60/360)		15,16,667	}{1 M}
Cash balance		1,20,000	}{1 M}
	(a)	28,21,562	

Current Liabilities:			
Creditors for raw material (70,000 units x 52 x 30/360)		3,03,333	}{1 M}
Creditors for wages (70,000 units x 19.50 x 1.5/52)		39,375	}{1 M}
Creditors for overheads (70,000 units x 39 x 30/360)		2,27,500	}{1 M}
	(b)	5,70,208	
Net Working Capital	(a) – (b)	22,51,354	}{1 M}

Note: Debtors has been taken on sale price. It may be taken on cost price then debtors will be = 70,000 x 110.5 x 60/360 = 12,89,167. }{1 M}

Answer 4:
Specific cost of capital

K_e (CAPM) = $R_f + \beta\,(R_m - R_f)$ = 16.36% }{1 M}

$R_m - R_f$ = 6%

R_f = 10%, R_m = 16%

K_p = (Dividend / NS) x 100 = (1.1 / 12) x 100 = 9.17% }{1 M}

$$K_d = \frac{12(1-0.4) + \frac{100-102.5}{3}}{\frac{100+102.50}{2}} \times 100 = 6.29\%$$ }{1 M}

K_l = 14% (1-0.4) = 8.4% }{1 M}

K_r = K_e = 16.36% }{1 M}

WACC

Book value basis

Source	(Rs.) in millions	Weight	Cost of Capital	K_O
Equity capital	240	0.20	16.36%	3.272
Reserves	360	0.30	16.36%	4.908
Preference	120	0.10	9.17%	0.917
Debentures	120	0.10	6.29%	0.629
Term loans	360	0.30	8.40%	2.520
	1200	1.00		12.246%

{2 1/2 M}

Market value basis

Source	(Rs.) in millions	Weight	Cost of Capital	K_O
Equity	360	0.3647	16.36%	5.967
Preference	144	0.1459	9.17%	1.338
Debentures	123	0.1246	6.29%	0.784
Term loans	360	0.3648	8.40%	3.064
	987	1.0000		11.153%

{2 1/2 M}

Answer 5:
Evaluation of Expansion decision under NPV method
Step 1: **Rs. In lakhs**

Calculation of PV of cash outflow

Cost of fixed asset at [t0] – 600 x 1 = Rs. 600

Cost of working capital at [t0] – 150 x 1 = Rs. 150

Additional WC required at [t3] – 100 x PVF 3yrs 15% - 100 x 0.66 = Rs. 66

PV of cash outflow = Rs. 816 }{2 M}

Step 2:
Calculation of PV of operating cash inflow for six years = Rs. 826 lakhs

Year	Production	Contribution	Fixed expenses	Depreciation (WDV)	PBT	PAT	CIAT	PV at 15%	PV
1	400	320	240	200	(120)	(60)	140	0.870	121.80
2	800	640	360	133	147	74	207	0.756	156.49
3	1080	864	480	89	295	148	237	0.658	155.95
4	1200	960	480	59	421	210	269	0.572	153.87
5	1200	960	480	40	440	220	260	0.497	129.22
6	1200	960	480	26	454	227	253	0.432	109.29
PV of operating cash inflows for 6 years									**826.62**

{4 M}

Step 3:
Calculation of PV of terminal cash inflow
Salvage value of fixed assets [600 x 10/100] = 60
Less: Tax on profit at 50% [60-53] x 50/100 = 3.5(rounded off) = 04 56
WC recovered [100%] [100 + 150] = 250
= 306
Its present value = 306 x PVAF 6 yrs 15% = 306 x 0.432 = Rs. 132 lakhs }{2 M}

Step 4:
Calculation of NPV
PV of total cash inflows [Recurring + Terminal i.e., 826 + 132] = Rs. 958
Less: Outflow = Rs. 816
NPV = Rs. 142 lakhs }{1 M}

Comment:
As NPV is positive, it is advised to implement the new project. }{1 M}

Answer 6:

(a) 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 quick estimation of rate of return of a project provided its life is at least twice the payback period.
The payback reciprocal can be calculated as follows: {3 M}

$$\text{Payback Reciprocal} = \frac{\text{Average annual cash in flow}}{\text{Initial investment}}$$ {1 M}

Answer

(b) (a) **Bridge Finance:** 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 {2 M} 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.

(b) **Floating Rate Bonds:** These are the bonds where the interest rate is not fixed and is allowed to float depending upon The market conditions. These are ideal instruments which can be resorted to by the issuers to hedge themselves against the volatility in the interest rates. They have become popular as a money market instrument arid have been successfully issued by financial iinstitutions like lDBl, ICICI etc. **{2 M}**

(C) **Packing Credit:** Packing credit is an advance made available by banks to an exporter. Any exporter, having at hand a firm export order placed with him by his foreign buyer on an irrevocable letter of credit opened in his favour, can approach a bank for availing of packing credit. An advance so taken by an exporter is required to be liquidated within 180 days from the date of its commencement by negotiation of export bills or receipt of export proceeds in an approved manner. Thus Packing Credit is essentially a short-term advance. **{2 M}**

ECONOMICS FOR FINANCE

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 equestions first 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) A decision to stop smoking – positive consumption externalities – as it causes benefits to other people in society who have been suffering from passive smoking.

(ii) Switching from conventional farming to organic farming- positive production externalities -as it helps the environment as there are fewer chemicals in the environment.

(iii) Started to drive a car and increased road congestion– negative consumption externalities – as individual consume road space they reduce available road space and deny this space to others.

(iv) Water polluted by industries- negative production externalities –as it adds effluent which harms plants, animals and humans.

(v) Building Lighthouse – free rider problem- as all sailors will benefit from its illumination – even if they don't pay towards its upkeep.

{ Each Point 1 Mark}

Answer:

(b) Motivations for a country seeking investments occurs when:

I. Producers have saturated sales in their home market

II. Firms want to ensure market growth and to find new buyers and larger markets with sizable population.

III. Technological developments and economies arising from large scale production necessitate greater ability of the market to support the expected demand on which the investment is based. The minimum size of market needed to support technological development in certain industries is sometimes larger than the largest national market.

IV. There are substantial barriers to exporting from the home country

V. Firms identify country-specific consumer preferences and favourable structure of markets elsewhere.

VI. Firms realize that their products are unique or superior and that there is scope for exploiting this opportunity by extending to other regions.

{ Each Point 1/2 Mark}

Answer:

(c) RBI has introduced Liquidity Adjustment Facility (LAF) in 2000. The Liquidity Adjustment Facility(LAF) is a facility extended by the Reserve Bank of India to the scheduled commercial banks (excluding RRBs) and primary dealers to avail of liquidity in case of requirement (or park excess funds with the RBI in case of excess liquidity) on an overnight basis against the collateral of government securities including state government securities. {1 M}

The introduction of LAF is an important landmark since it triggered a rapid transformation in the monetary policy operating environment in India. As a key element in the operating framework of the RBI, its objective is to assist banks to adjust their day to day mismatches in liquidity. Currently, the RBI provides financial accommodation to the commercial banks through repos/reverse repos under the Liquidity Adjustment Facility (LAF). {1 M}

Answer 8:

(a) Market Stabilization Scheme for monetary management was introduced in 2004 following a MoU between the Reserve Bank of India (RBI) and the Government of India (GoI) with the primary aim of aiding the sterilization operations of the RBI. **{1 M}**

(Sterilization is the process by which the monetary authority sterilizes the effects of significant foreign capital inflows on domestic liquidity by off-loading parts of the stock of government securities held by it). Under this scheme, the Government of India borrows from the RBI (such borrowing being additional to its normal borrowing requirements) and issues treasury-bills/dated securities for absorbing excess liquidity from the market arising from large capital inflows. **{2 M}**

Answer:

(b) Local content requirements (LCRs) are conditions imposed by a host country government that require investing firms to purchase and use domestically manufactured goods or domestically supplied services in order to operate in an economy. The fraction of a final good to be procured locally may be specified either in value terms (e.g. 25% of the value of a product must be locally produced), by requiring that some minimum share of the value of a good represent home value added, or in physical units (eg. 50% of component parts for a product must be locally produced). **{2 M}**

From the viewpoint of domestic producers of inputs, local content requirement provides greater demand which is not necessarily associated to their competitiveness and for components/ parts manufacturers gives protection in the same way that an import quota would. Local content requirement benefits producers and not consumers because such requirements may raise the prices. **{1 M}**

Answer:

(c) The GATT lost its relevance by 1980s because-

(i) It was obsolete to the fast evolving contemporary complex world trade scenario characterized by emerging globalization.

(ii) International investments had expanded substantially.

(iii) Intellectual property rights and trade in services were not covered by GATT.

(iv) World merchandise trade increased by leaps and bounds and was beyond its scope.

(v) The ambiguities in the multilateral system could be heavily exploited.

(vi) Efforts at liberalizing agricultural trade were not successful.

(vii) There were inadequacies in institutional structure and dispute settlement system.

(viii) It was not a treaty and therefore terms of GATT were binding only insofar as they are not incoherent with a nation's domestic rules.

{Any 4 Points each 1/2 Mark}

Answer:

(d) GDP measures what is produced or created over the current time period and excludes all non-production transactions. Only incomes earned by owners of primary factors of production for services rendered in production are included in national income. **{1 M}**

Transfer payments, both private and government, are made without goods or services being received in return. These payments do not correspond to return for contribution to production because they do not directly absorb resources or create output. Therefore, transfer incomes such as pensions and other social security payments are excluded from national income. **{1 M}**

Answer 9:

(a) Common access resources such as oceans tend to be over-consumed in an unregulated market because they are rivalrous and non-excludable in consumption. **{1 M}**

'Tragedy of the commons' is a term to describe the problem which occurs when rivalrous but non-excludable goods are overused by individual users acting independently and rationally according to their own self-interest. In doing so, they behave contrary to the common good of all users by depleting a shared common resource to the disadvantage of the entire universe. **{2 M}**

Answer:

(b) All the goods mentioned in the question can be classified as impure public good. There are many hybrid goods that possess some features of both public and private goods. These goods are called impure public goods and are partially rivalrous or congestible. Because of the possibility of congestion, the benefit that an individual gets from an impure public good depends on the number of users. Consumption of these goods by another person reduces, but does not eliminate, the benefits that other people receive from their consumption of the same good. Impure public goods also differ from pure public goods in that they are often excludable. **{2 M}**

Since free riding can be eliminated, the impure public good may be provided either by the market or by the government at a price or fee. If the consumption of a good can be excluded, then the market would provide a price mechanism for it. The provider of an impure public good may be able to control the degree of congestion either by regulating the number of people who may use it, or the frequency with which it may be used or both. **{1 M}**

Answer:

(c) GVA_{MP} = Gross Value OutputMP – Intermediate consumption

= (Sales + change in stock) – Intermediate consumption

= 4000-600 = 3400 crore

GDP_{MP} = GVA_{MP} = 3400 crore

NDP_{MP} = GDP_{MP} – consumption of fixed capital

= 3400 – 200

= 3200 crore

NDPFC = NDPMP – NIT

= 3200 – 500

= 2700 crore **{1 M}**

NDPFC = Compensation of employees + Operating surplus + Mixed income

2700 = 800 + Operating Surplus + 400

Operating surplus = 1500 crore **{1 M}**

Answer:

(d) The market value of bonds and the market rate of interest are inversely related. The investment consultant considers the current interest rate as low, compared to the 'normal or critical rate of interest', i.e., he expects the rate of interest to rise in future (fall in bond prices), and therefore it is advantageous to hold wealth in the form of liquid cash rather than bonds because:

(i) when interest is low, the loss suffered by way of interest income forgone is small,

(ii) one 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

{ Each Point 1/2 Mark}

(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 10:

(a) 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.

(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 agreement to expand global trade has not materialized.

(vi) The developing countries have raised a number of concerns and a few are presented here:

- The real expansion of trade in the three key areas of agriculture, textiles and services has been dismal.
- 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.
- 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.
- 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.
- Developing countries complain that they face exceptionally high tariffs on selected products in many markets and this obstructs their vital exports.
- 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.
- 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.
- 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.

{ Any 6 Points each 1/2 Mark}

Answer:

(b) Yes, there is still scope for mutually beneficial trade. **{1 M}**

The first step is that nation should specialize in the production and export of the commodity in which its absolute disadvantage is smaller and import the commodity in which its absolute disadvantage is greater. This can be explained with the help of an example (Theory of Comparative Advantage). **{2 M}**

Answer:

(c) Under floating exchange rate regime the equilibrium value of the exchange rate of a country's currency is market determined i.e. the demand for and supply of currency relative to other currencies determines the exchange rate. **{2 M}**

Answer:

(d) Trade is distorted if quantities of commodities produced, bought, and sold and their prices are higher or lower than levels that would usually exist in a competitive market. **{1 M}**

For example, barriers to imports such as tariffs, domestic subsidies and quantitative restrictions can make agricultural products more costly in a market of a country. The higher prices will result in higher production of crop. Then export subsidies are needed to sell the surplus output in the world markets, where prices are low. Thus, the subsidising countries can be producing and exporting considerably more than what they normally would. **{1 M}**

Answer 11:

(a) Perfect information which implies that both buyers and sellers have complete information about anything that may influence their decision making is an important element of an efficient competitive market. Information failure occurs when lack of information can result in consumers and producers making decisions that do not maximize welfare. **{2 M}**

Information failure is widespread in numerous market exchanges due to complex nature of goods and services that are transacted, inaccurate and incomplete data, and non-availability of correct information. **{1 M}**

Answer:

(b) National defence has all characteristics of a public good. It yields utility to people; its consumption is essentially nonrival, non-excludable and collective in nature and is characterized by indivisibility. National defence is available for all individuals whether they pay taxes or not and it is impossible to exclude anyone within the country from consuming and benefiting from it. **{1 M}**

No direct payment by the consumer is involved in the case of defence. Once it is provided, the additional resource cost of another person consuming it is zero. Defence also has the unique feature of public good i.e. it does not conform to the settings of market exchange. Though defence is extremely valuable for the wellbeing of the society, left to market, it will not be produced at all or will be under produced. **{1 M}**

Answer:

(c) Reserve Money = Currency in circulation + Bankers' deposits with the RBI + Other deposits with the RBI **{2 M}**

= 15428.40 + 4596.18 + 183.30

= 20207.88 **{3 M}**

__**__