

Test-4

Time Allowed: 3hrs.

Total Marks = 100 Marks

PART- A

(Financial Management)

Note: Question no. 1 is compulsory. Attempt any 4 questions out of remaining 5 questions.**Answer to Question No.: 1(a)****Option 1:** Interest (I_1) = 12% of ₹ 2,00,000 = ₹ 24,000No. of equity shares (N_1) = 4,00,000/10 = 40,000**Option 2** Preference dividend (PD_2) = x % of ₹ 2,00,000 = $x/100 \times 2,00,000 = 2,000x$

No. of equity shares = 4,00,000/10 = 40,000

$$\text{Point of indifference} = \frac{(\text{EBIT} - I_1(1 - T))}{N_1} = \frac{(\text{EBIT})(1 - T) - PD_2}{N_2}$$

$$\frac{(\text{EBIT} - 24,000)(1 - 0.30)}{40,000} = \frac{(\text{EBIT})(1 - 0.30) - 2,000x}{40,000}$$

We are given that EBIT level of ₹ 2,40,000 produces the situation of indifference point.

$$\text{Hence, } \frac{(2,40,000 - 24,000)(1 - 0.30)}{40,000} = \frac{(2,40,000)(1 - 0.30) - 2,000x}{40,000}$$

$$\text{We get, } 1,51,200 = 1,68,000 - 2,000x \Rightarrow x = \frac{1,68,000 - 1,51,000}{2,000} = 8.4$$

Therefore, in the given case, the rate of preference dividend is 8.4%

Answer to Question No.: 1(b)

$$V_{UL}(\text{firm P}) = \frac{\text{EBIT}(1 - t)}{K_e} = \frac{2,60,000(1 - 0.30)}{10\%} = ₹ 18,20,000$$

$$V_L(\text{firm Q}) = \frac{\text{EBIT}(1 - t)}{K_e} + (\text{Debt})(\text{Tax rate}) = \frac{2,60,000(1 - 0.30)}{10\%} + (8,00,000 \times 0.30) = ₹ 20,60,000$$

Answer to Question No.: 1(c)

(a) Proprietor's fund = ₹ 48,00,000

(b) Fixed assets = ₹ 36,00,000

(c) Net profit ratio = 12%

Note: 1: Fixed assets to proprietor's fund ratio = 0.75

$$\frac{\text{Fixed Assets}}{\text{Proprietors Fund}} = 0.75 \Rightarrow \frac{\text{Fixed Assets}}{\text{Fixed Assets} + \text{Net Working Capital}} = 0.75$$

$$\frac{\text{Fixed Assets}}{\text{Fixed Asset} + ₹ 12,00,000} = 0.75$$

On Solving, Fixed assets = ₹ 36,00,000

$$\text{Proprietor's funds} = \frac{\text{Fixed Assets}}{0.75} = \frac{₹ 36,00,000}{0.75} = ₹ 48,00,000$$

Note 2: Working capital turnover ratio = 5 times

$$\frac{\text{Sales}}{\text{Net Working Capital}} = 5 \Rightarrow \text{Sales} = 5 \times ₹ 12,00,000 = ₹ 60,00,000$$

Note 3: Return equity = $\frac{\text{PAT}}{\text{Proprietor's Fund}} \times 100$

$$\text{PAT} = \text{Proprietor's funds} \times 15\% = 48,00,000 \times 15\% = ₹ 7,20,000$$

$$\text{Net Profit ratio} = \frac{\text{PAT}}{\text{Sales}} \times 100 = \frac{₹ 7,20,000}{₹ 60,00,000} = 12\%$$

Answer to Question No.: 1(d)

Total Assets Turnover Ratio = Sales/Total Assets $\Rightarrow 3 = \text{Sales}/3,00,000 = 9,00,000$.

Particulars	Amount (₹)
Sales (3 × 3,00,000)	9,00,000
Less: Variable operating cost (50%)	(4,50,000)
Contribution	4,50,000
Less: Fixed operating cost	(1,50,000)
EBIT or operating profit	3,00,000
Less: Interest on debt 10% on 1,20,000	(12,000)
PBT	2,88,000
Less : Tax @ 50%	(1,44,000)
PAT	1,44,000

EPS = ₹ 1,44,000/9,000 Equity shares = ₹ 16.

Degree of Operating Leverage = Contribution/EBIT = 4,50,000/3,00,000 = 1.5

Degree of financial leverage = EBIT/EBT = 3,00,000/2,88,000 = 1.042

Degree of combined leverage = Contribution/EBT = 4,50,000/2,88,000 = 1.563 (i.e. 1.5 × 1.042)

Important Explanation

1. Total Assets = Net fixed assets + current assets
= 2,25,000 + 75,000 = ₹ 3,00,000
2. Variable operating cost ratio is 50% it means variable cost will be 50% of sales.
3. DCL may also be computed with the help of following formula :
 $DCL = DOL \times DFL = 1.5 \times 1.042 = 1.563$
4. Alpha numeric co. has long term debt of ₹ 1,20,000 which is charging interest rate of 10%. Therefore, the amount of interest which is payable by the company is ₹ 12,000 (10% of ₹ 1,20,000)
5. Retained earnings: - The given Balance Sheet also consists retained earnings of ₹ 30,000. It is a part of undistributed profits which may further be utilised for the purpose of company's growth objectives. However, the information regarding retained earnings is not relevant for calculation of leverages. Hence, it is to be ignored.

Answer to Question No.: 2(a)

$$K_e = \frac{D_1}{MP} + g = \frac{26.25}{200} + 5\% = 18.125\%$$

$$D_1 = D_0(1 + g) = 25(1 + 0.05) = 26.25\%$$

$$K_d = \frac{I(1 - T)}{NP} = \frac{11(1 - 0.30)}{100} = 7.7\% \text{ and } K_p = \frac{\text{Preference Dividend}}{NP} = \frac{9}{100} = 9\%$$

Computation of WACC using Book value weights

Source	Book Value	Weight	C/C	WACC
Equity Shares	80,00,000	8/20	18.125%	7.25%
Preference Shares	20,00,000	2/20	9%	0.90%
Debenture	60,00,000	6/20	7.7%	2.31%
Retained Earnings	40,00,000	4/20	18.125%	3.625
	2,00,00,000			14.085%

Computation of WACC using Market value weights

Source	Market Value	Weight	C/C	WACC
Equity Shares	1,60,00,000	160/250	18.125%	11.6%
Preference Shares	24,00,000	24/250	9%	0.8640%
Debenture	66,00,000	66/250	7.7%	2.0328
Retained Earnings	---	---	18.125%	---
	2,50,00,000			14.4968%

Answer to Question No.: 2(b)

Linters Model of Dividend

1. Assumptions :-

- a) Only Equity Capital is employed.
- b) Current years dividend is dependent upon two factors, i.e., current year earnings and last year dividends
- c) D/P ratio is maintained at fixed level for a long period
- d) Change in the amount of dividend is a very important decision.

2. Formula :-

$$D_1 = D_0 + [(EPS \times \text{Target Payout}) - D_0] \times AF$$

D_1 = Dividend in Year 1

D_0 = Dividend in Year 0 [Last Dividend]

AF = Adjustment Factor.

3. Example :-

$D_0 = ₹ 10$; Current Year EPS = ₹ 20; Target Payout = 60%; AF = 50%,
Current Year Dividend (D_1)

$$= D_0 + [(EPS \times 60\%) - D_0] \times AF$$

$$= 10 + [(\₹20 \times 60\%) - ₹ 10] \times 50\% = ₹ 11.$$

4. This Model only concentrates on Dividend Determination. It does not help in ascertaining the market price of the equity share.
5. Adjustment Factor is an arbitrary number.

Answer to Question No.: 3

Statement of Net Working Capital Requirement

A. Current Assets:	Amount (₹)
Raw materials in stock $[(1,04,000 \times 80 \times 4)/52]$	6,40,000
Work-in-progress:	
Raw materials $[(1,04,000 \times 80 \times 2)/52]$	3,20,000
Direct labour $[50\% \text{ of } (1,04,000 \times 30 \times 2)/52]$	60,000
Overheads $[50\% \text{ of } (1,04,000 \times 60 \times 2)/52]$	1,20,000
Finished Goods Stock $[(1,04,000 \times 170 \times 4)/52]$	13,60,000
Debtors $[(1,04,000 \times 170 \times 8)/52]$	27,20,000
Cash at Bank	25,000
Total Current Assets	54,45,000
B. Current Liabilities	
Creditors $(1,04,000 \times 80 \times 4)/52$	6,40,000
Wages (Lag-in-payment) $[(1,04,000 \times 30 \times 1\frac{1}{2})/52]$	90,000
Total current liabilities	7,30,000
Net Working Capital (CA-CL)	45,15,000
+ 10% Contingencies	4,51,500
Working Capital Requirement	49,66,500

Assumptions: -

Net working capital requirement has been estimated on cash cost basis. Hence, investment in debtor has been computed on cash cost.

Important Explanation

1. Monthly statement (1,000 units)

Particulars	Amount (₹)
Raw material $(1,000 \times 8)$	8,000
Labour $(1,000 \times 2)$	2,000
Overheads $(1,000 \times 6)$	6,000
Cost of sales (Total costs)	16,000
Profit	4,000
Sales $(1,000 \times 20)$	20,000

- 2. Stock of Raw material:** Since raw material holding period is 4 weeks. Stock of raw material should be representing 4 weeks consumption of material i.e. = $8,000 \times 4 = ₹ 32,000$.
- 3. Stock of WIP:** We are given that WIP holding period is 2 weeks, in which material is 100% spent labour and overheads have spent have 50% stock of WIP is computed below: -
- | | | |
|--|--------------|---------------|
| Material ($8,000 \times 2 \times 100\%$) | 16,000 | |
| Labour ($2,000 \times 2 \times 50\%$) | 2,000 | |
| Overheads ($6,000 \times 2 \times 50\%$) | <u>6,000</u> | 24,000 |
- 4. Stock of Finished goods:** Since finished goods holding period is 6 weeks, therefore stock of finished goods is computed below: -
- | | | |
|--|---------------|---------------|
| Material ($8,000 \times 6 \times 100\%$) | 48,000 | |
| Labour ($2,000 \times 6 \times 100\%$) | 12,000 | |
| Overhead ($6,000 \times 6 \times 100\%$) | <u>36,000</u> | 96,000 |
- 5. Debtors:** Since, debtors collection period is 8 weeks, debtors balance must be representing i.e. 8 weeks credit sales i.e. $8,000 \times 4 = ₹ 32,000$.
- 6. Creditors:** Since creditors payment period is 4 weeks, creditors balance must be representing 4 weeks of credit purchases i.e. $₹ 1,60,000 \times 4 = ₹ 6,00,000$.
- Outstanding wages:** Since wages are paid after 1.5 weeks, o/s wages must be representing wage cost i.e. 1.5 weeks i.e. $₹ 2,000 \times 1.5 = ₹ 3,000$.

Answer to Question No.: 4

Present value of cash outflows under leasing alternatives

Year	Payment under lease contract			Tax at 40% on lease payment	Net cash outflow	PVF @ 16%	Present Value
	Lease	10% of Gross Revenue	Total				
1	5,00,000	2,25,000	7,25,000	2,90,000	4,35,000	0.862	3,74,970
2	5,00,000	2,50,000	7,50,000	3,00,000	4,50,000	0.743	3,34,350
3	5,00,000	2,75,000	13,75,000	5,50,000	8,25,000	0.641	5,28,825
	6,00,000						12,38,145

Present value of cash outflow under Buying/Borrowing alternative

Year end	Instalment payment			Tax advantage on		Net cash Outflows	PVF @ 16%	Present value
	Principal	Interest at 16%	Total	Interest payment	Depreciation (Note-1)			
1	5,00,000	3,52,000	8,52,000	1,40,800	1,60,000	5,51,200	0.862	4,75,134
2	8,50,000	2,72,000	11,22,000	1,08,800	1,60,000	8,53,200	0.743	6,33,928
3	8,50,000	1,36,000	9,86,000	54,400	1,60,000	7,72,600	0.641	4,94,596
3 (Salvage value)						(10,00,000)	0.641	(6,41,000)
								9,62,658

Recommendation:

It is recommended to purchase the computer for ₹ 22 lakhs. Because the present value of this option is lower as compared to leasing alternative.

Note 1: Depreciation. Under SLM method = $(22-10)/3 = 4$ lakhs

Tax advantage 4 lakhs \times 40% = ₹ 1,60,000

Important Notes: -

- 1.** We are given that annual lease rent is ₹ 5 lakhs, however at the end of 3rd year additional rent of ₹ 6 lakhs is to be paid. Cash outflow will be :-
- Year 1 = 5 lakhs
 - Year 2 = 5 lakhs
 - Year 3 = 11 lakhs (6 + 5)

2. We are also given that 10% of gross revenue would be paid as per lease rent. It means 10% of revenue of each will also be paid as lease rent. Total cash outflow = Lease rent + 10% of revenue.
3. Since tax rate to 40%, tax to be saved on payment of total lease rent will be 40%.
Effective cash outflow = Total cash outflow – Tax saved on lease rent
4. Under purchase option, tax will be saved on amount of interest payment and amount of depreciation.
5. Salvage value is ₹ 10,00,000 hence depreciation will be = $[(22,00,000 - 10,00,000)/3 \text{ years}] = 4 \text{ lakhs}$ (each year)
6. Net cash outflow = Principal repaid + Interest - tax saved on interest and depreciation
7. At the end of year 3, cash inflow of ₹ 10,00,000 will be in form of salvage value. PV of cash inflow should get deducted since it will be received at the end of year 3.

Answer to Question No.: 5 (a) CHANGING SCENARIO OF FINANCIAL MANAGEMENT IN INDIA

- 1) Traditional financing management concentrated on receipts and payment aspects only.
However, modern financial management has come a long way and it is has expanded to the other specialized activities such as currency management, cash budget, capital formation, etc.
- 2) Indian economy is opening up and global resources are being tapped. Hence, there are ample opportunities for finance managers in India. The finance managers are responsible and capable of changing the fortunes of the enterprise.
- 3) Due to the changes in global environment, the finance manager needs to have a broader and Far-sighted outlook and he must realize that his actions would have far-reaching consequences.
- 4) Some of the steps taken by Financial managers has an impact on external financial conditions which needs to be emphasized conditions which needs to be emphasized,
 - a) Raising finance through foreign sources
 - b) Raising funds through IPOs and seasoned equity offerings
 - c) Shares buyback.

Answer to Question No.: 5 (b) ANGEL FINANCING

- 1) Angel investors invest in early stage or start-up companies in exchange of low rate of return. This type of financing has been increasing now-a-days and high profile success stories like Uber, WhatsApp and Facebook are prominent example in this context.
- 2) Angel investors look for the business ideas which are exciting and have the potential of high growth and profit earning capacity. Angels want to back the business ideas they believe in.
- 3) Where to find Angel investors?
 - a) U.K. business Angel Association.
 - b) Angel News.
 - c) Angel co. Fund
 - d) Angel Investment Network.
 - e) Brave heart Investment Group.
 - f) Angels Den.
- 4) Angel Financing is very risky proposition because there is high risk of sacrificing huge amount of money .It is to be noted that less than 10% of new projects are found to be successful. This aspect cannot be ignored.

Answer to Question No.: 5 (c) Double Option Bonds

- 1) Double option bonds are recently issued by IDBI. The face value of each bond is ₹5,000 and it carries interest of 15% p.a. which is to be compounded half early from the date of allotment and having maturity period of 10 years.
- 2) Each bond has two parts in the form of two separate certificates, one for principal amount of ₹ 5,000 and other for interest (including redemption premium). Both the certificates are listed on all major stock exchanges in India. The investor has the option of selling either one or both parts at any time.

Part – B**(Economics for finance)**

Note: Question no. 1 is compulsory. Attempt any 3 Questions out of remaining 4 Questions.

Answer to Question No.: 1(a)**Personal Income V/s Private Income**

- 1) Personal Income refers to the income which is actually received by the households from all sources. Private income is the income which accrues to the private sector from all sources.
- 2) Personal Income
= Private Income – Corporate Tax – Retained Earnings
- 3) Corporate Tax is to be deducted because it is paid by private enterprises to the Government and not received by households.
- 4) Retained Earnings are deducted as they are retained by private enterprises for future expansion & emergencies.

Answer to Question No.: 1(b)**Gross domestic Capital Formation**

It means total expenditure towards Investment Goods and it includes the following:-

- 1) Machinery, equipment and other assets purchase by producing units.
- 2) Own Account Production of Machinery, Equipment and other assets by producing units.
- 3) Expenditure on change in inventory
- 4) Land and Residential Buildings purchased / constructed by Consumer Households.
- 5) Expenditure on acquisition of valuables by households (Jewellery etc.)

Answer to Question No.: 1(c)**Comparative Cost Theory v/s Factor Endowment Theory**

Classical Theory(Comparative Cost)	Modern Theory (Factor Endowment)
1) It can be regarded as theory Based on labour value.	1) It can be regarded as theory Based on Endowment Value.
2) Labour is considered as only factor of production.	2) Labour & Capital are considered as factors of production.
3) Comparative Advantage arises due to skill and techniques of workers.	3) Comparative advantage arises due to relative difference in the availability of resources.
4) This theory treats international trade as quite distinct from domestic trade.	4) According to this theory, International trade is only an extension of inter- regional trade.

Answer to Question No.: 2(a)**Purposes / Importance /objectives of measurement of National****Income :-**

- 1) It provides valuable data to Government, Research Scholars, Economists, Accountants, and other entities and also proves to be very helpful in decision – making.
- 2) It provides complete accounting and conceptual framework for analyzing and evaluating the economics performance of a counter.
- 3) It provides a clear picture of the economy regarding GDP, Per- Capita Income, Disposable Income, etc.
- 4) It evaluates the living standards, Income Levels, Expenditure and Consumption patterns of the people.
- 5) It is helpful in deciding the national priorities, such as Education, Inflation, Unemployment, Defence , Social Development, etc.
- 6) To inter – relate different sectors of the economy and significance of each sector in overall economy.
- 7) To assess future consumption patterns and also decide the demands for goods and services in the future.

Answer to Question No.: 2(b)**Mercantilists' theory of International Trade**

- 1) This theory was initially promoted by European countries.
- 2) This theory was based on the premise that national wealth and power are best served by increasing exports and collecting precious stones and metals in return. In fact, the collection and accumulation of gold and silver is regarded as 'basic parameter' for deciding the richness of a particular country.
- 3) This theory also advocates the policy of minimizing the imports through the state imposing high rates of taxes on foreign goods.
- 4) Although this theory is criticized by modern economics scholars on several factors but it is still regarded as an important theory which explains the policies adopted by big and fast growing economies in the world.

Answer to Question No.: 2(c)**Average Propensity to consume (APC)**

- 1) It is the ratio of total Consumption compared with total Income.
- 2) Formula :-

$$APC = \frac{\text{Total Consumption}}{\text{Total Income}}$$

- 3) Nature: - It shows a decreasing trend, as the income increases.

Answer to Question No.: 3(a) Technical Measures in relation to Non- Tariff Measures**1) Sanitary and Phyto-Sanitary Measures (SPS):**

- a) SPS are applied to protect human, animal or plant life from risks arising from additives, pests, contaminants, toxins, or disease – causing organisms, and to protect bio diversity.
- b) SPS include ban or prohibition of import of certain goods, all measures relating to quality and hygiene requirements, production processes, and related compliance testing and certification.
- c) **Example:** Prohibition of Import of Poultry Items from Countries affected by Avian Flu.

2) Technical Barriers to Trade (TBT): It covers both food and non food traded products refer to mandatory "Standards and Technical Regulations" that define the Specific Characteristics that a Product should have, excluding measures covered by SPS.

This involves Compulsory quality, quantity and price Control of goods before shipment from the Exporting Country.

Example: Food Laws, Quality Standards, Industrial Standards, Eco labeling etc.

Answer to Question No.: 3(b)**Foreign Direct Investment v/s Foreign Portfolio Investment**

FDI	FPI
Direct Investment In factories, assets, land, inventories etc. and involve foreign ownership of production facilities and typically occurs through acquisition of more than 10 % of the shares of the target assets.	Portfolio capital, in general, moves to investment in financial stocks, bonds and other financial instruments and is effected largely by individuals and institutions through the mechanism of capital market.
Not inclined to be speculative and has a long term interest and therefore relatively difficult to withdraw	Speculative in nature and has only short term interest and therefore, relatively easy to withdraw.
Often accompanied by technology transfer	Not accompanied by technology transfer
Direct impact on employment of labour and wages.	Not direct impact on employment of labour and wages.

Answer to Question No.: 3(c)**Ad-valorem Tariff.****1) Ad-valorem Tariff:- (Rate (%) as a Tariff)**

- a) Ad-valorem is levied as a constant percentage of the monetary value of one unit of the imported good. Ad-valorem tariff are widely used over the world.

Example: 20% Ad valorem tariff generates ₹1000 when price is ₹5000.

20% Ad valorem tariff generates ₹2000 when price is ₹10000.

Answer to Question No.: 4(a) Public Debt as an Instrument of Fiscal Policy:

- a) Public debt may be internal or external; when the government borrows from its own people in the country, it is called internal debt. On the other hand, when the government borrows from outside sources, the debt is called external debt. Public debt takes two forms namely, market loans and small savings.
- b) **Recession/Contraction Phase:** Government reduces its Borrowings (e.g. closure of certain schemes, non-acceptance of fresh deposits etc.), and also repays existing Public Debt. Such action increases the availability of money in the economy and Increases Aggregate Demand.
- c) **Expansion/Inflation Phase:** Government increases its Borrowings (e.g. offering of certain new schemes, acceptance of fresh deposits etc.), and also at attractive rates of interest. Such action wipes out the excess purchasing power in the economy, reducing demand – pull inflation.

Answer to Question No.: 4(b) Government Intervention to Correct Externalities**1) To Promote Positive Externalities:****Through subsidies:**

- a) Subsidies given by Govt. reduces the Production Costs of Firms.
- b) This leads to higher output and supply.
- c) Thus, such goods will be produced in higher quantities, i.e. socially optimum level of output.

Through Production & Supply:

- a) Govt. enters the market directly as an entrepreneur, to produce items whose externalities are vastly positive & pervasive.
- b) **Example:** R&D, Afforestation, sewage Treatment, Cleaning up Rivers, etc.

2) To reduce Negative Externalities:

Direct Control: These are aimed at regulating the actions of those involved in generating negative Externalities, by –

- a. Total prohibition,
- b. Setting Limits for Negative Externalities.

Indirect Control: These provide Economic Incentives to Market participants, to achieve the socially optimal solution. They convert the negative Externality (i.e. Social cost) into a Private Cost of the Firm by way of (a) Taxes, and (b) Permits

Answer to Question No.: 4(c)**Nation's Debt**

- 1) A nation's Debt is the difference between its Total Past deficits and its total Past Surpluses.
- 2) If a government has borrowed money over the years to finance its Deficits and has not paid it back through Accumulated surpluses, then it is said to be in Debt.
- 3) A surplus Budget reduces National Debt, and a Deficit Budget will add to the National Debt.

Answer to Question No.: 5(a) Credit Multiplier

- 1) It describes the amount of additional money created by commercial bank through the process of lending the available money in excess of the reserve requirements.
- 2) It reflects a bank's Ability to increase the money supply
- 3) It is also called "Deposit Multiplier" or 'Deposit expansion multiplier'.

$$4) \text{ Credit multiplier} = \frac{1}{\text{Required Reserve Rate}}.$$

- 5) The deposit multiplier and money multiplier and closely related but not identical because –
 - a. General Banks do not land out all of their available money but instead maintain excess reserve.
 - b. All individuals/borrowings do not spent every rupee they have earned/borrowed. They are likely to hold/convert some portion of it to cash.

Answer to Question No.: 5(b) General characteristics that the money should possess Money should be:-

- a. Generally acceptable
- b. Durable, i.e., long lasting
- c. Recognizable
- d. Difficult to counterfeit, i.e., not easily reproducible
- e. Relatively scarce, but has elasticity of supply.
- f. Portable, i.e., easily transportable
- g. Possessing uniformity
- h. Divisible into smaller parts without losing its value.

Answer to Question No.: 5(c)

Repo Rate

Repo rate is the rate at which the Countries Central Bank lends money to commercial banks during financial crisis. In other works commercial banks borrow money from RBI by selling securities or bonds with an agreement to repurchase the securities with an agreement on certain date.