PAPER – 8: FINANCIAL MANAGEMENT & ECONOMICS FOR FINANCE

PART A: FINANCIAL MANAGEMENT

QUESTIONS

Ratio Analysis

1. From the following table of financial ratios of Prabhu Chemicals Limited, comment on various ratios given at the end:

Ratios	2021	2022	Average of Chemical Industry
Liquidity Ratios			
Current ratio	2.1	2.3	2.4
Quick ratio	1.4	1.8	1.4
Receivable turnover ratio	8	9	8
Inventory turnover	8	9	5
Receivables collection period	46 days	41 days	46 days
Operating profitability			
Operating income –ROI	24%	21%	18%
Operating profit margin	18%	18%	12%
Financing decisions			
Debt ratio	45%	44%	60%
Return			
Return on equity	26%	28%	18%

COMMENT on the following aspect of Prabhu Chemicals Limited

(i) Liquidity

(ii) Operating profits

(iii) Financing

(iv) Return to the shareholders

Cost of Capital

2. Jason Limited is planning to raise additional finance of ₹ 20 lakhs for meeting its new project plans. It has ₹ 4,20,000 in the form of retained earnings available for investment purposes. Further details are as following:

Debt / Equity Mix	30 / 70
Cost of Debt	
Upto ₹ 3,60,000	8 % (before tax)
Beyond ₹ 3,60,000	12 % (before tax)
Earnings per share	₹ 4
Dividend pay-out	50% of earnings
Current Market Price per share	₹ 44
Expected Growth rate in Dividend	10 %
Tax	40%

You are required:

(a) To determine the cost of retained earnings and cost of equity.

(b) To determine the post-tax average cost of additional debt.

(c) To determine the pattern for raising the additional finance, and

(d) Compute the overall weighted average after tax cost of additional finance.

Capital Structure

3. Prakash Limited provides you the following information:

	(₹)
Profit (EBIT)	3,00,000
Less: Interest on Debenture @ 10%	(50,000)
EBT	2,50,000
Less Income Tax @ 50%	(1,25,000)
	1,25,000
No. of Equity Shares (₹ 10 each)	25,000
Earnings per share (EPS)	5
Price /EPS (PE) Ratio	10

The company has reserves and surplus of ₹ 7,50,000 and required ₹ 5,00,000 further for modernisation. Return on Capital Employed (ROCE) is constant. Debt (Debt/ Debt + Equity) Ratio higher than 40% will bring the P/E Ratio down to 8 and increase the interest rate on additional debts to 12%. You are required to ASCERTAIN the probable price of the share.

(i) If the additional capital is raised as debt; and

(ii) If the amount is raised by issuing equity shares at ruling market price

Leverage

4. The capital structure of ABC Ltd. for the year ended 31st March 2022 consisted as follows:

Particulars	Amount in ₹
Equity share capital (face value ₹ 100 each)	20,00,000
10% debentures (₹ 100 each)	20,00,000

During the year 2021-22, sales decreased to 1,00,000 units as compared to 1,20,000 units in the previous year. However, the selling price stood at ₹ 15 per unit and variable cost at ₹ 10 per unit for both the years. The fixed expenses were at ₹ 2,00,000 p.a. and the income tax rate is 30%.

You are required to CALCULATE the following:

(a) The degree of financial leverage at 1,20,000 units and 1,00,000 units.

(b) The degree of operating leverage at 1,20,000 units and 1,00,000 units.

(c) The percentage change in EPS.

Investment Decisions

5. PQR Limited is considering buying a new machine which would have a useful economic life of five years, at a cost of ₹ 40,00,000 and a scrap value of ₹ 5,00,000, with 80 per cent of the cost being payable at the start of the project and 20 per cent at the end of the first year. The machine would produce 80,000 units per annum of a new product with an estimated selling price of ₹ 400 per unit. Direct costs would be ₹ 375 per unit and annual fixed costs, including depreciation calculated on a straight- line basis, would be ₹ 10,40,000 per annum.

In the first year and the second year, special sales promotion expenditure, not included in the above costs, would be incurred, amounting to ₹ 1,25,000 and ₹ 1,75,000 respectively.

EVALUATE the project using the NPV method of investment appraisal, assuming the company's cost of capital to be 12 percent.

Management of Receivables (Debtors)

6. A regular customer of your company has approached to you for extension of credit facility for purchasing of goods. On analysis of past performance and on the basis of information supplied, the following pattern of payment schedule emerges:

Pattern of Payment Schedule	
At the end of 30 days	20% of the bill
At the end of 60 days	30% of the bill.

At the end of 90 days	30% of the bill
At the end of 100 days	18% of the bill
Non-recovery	2% of the bill

The customer wants to enter into a firm commitment for purchase of goods of ₹ 40 lakhs in 2022, deliveries to be made in equal quantities on the first day of each quarter in the calendar year. The price per unit of commodity is ₹ 400 on which a profit of ₹ 20 per unit is expected to be made. It is anticipated that taking up of this contract would mean an extra recurring expenditure of ₹ 20,000 per annum. If the opportunity cost is 18% per annum, would you as the finance manager of the company RECOMMEND the grant of credit to the customer? Assume 1 year = 360 days.

Risk Analysis in Capital Budgeting

7. An enterprise is investing ₹ 200 lakhs in a project. The risk-free rate of return is 7%. Risk premium expected by the Management is 7%. The life of the project is 5 years. Following are the cash flows that are estimated over the life of the project.

Year	Cash flows (₹ In lakhs)
1	50
2	120
3	150
4	160
5	130

CALCULATE Net Present Value of the project based on Risk free rate and also on the basis of Risks adjusted discount rate.

Dividend Decisions

8. HM Ltd. is listed on Bombay Stock Exchange which is currently been evaluated by Mr. A on certain parameters.

Mr. A collated following information:

(a) The company generally gives a quarterly interim dividend. ₹ 2.5 per share is the last dividend declared.

(b) The company's sales are growing by 20% on a 5-year Compounded Annual Growth Rate (CAGR) basis, however the company expects following retention amounts against probabilities mentioned as contention is dependent upon cash requirements for the company. Rate of return is 10% generated by the company.

Situation	Prob.	Retention Ratio
A	30%	50%
B	40%	60%
C	30%	50%

(c) The current risk-free rate is 3.75% and with a beta of 1.2 company is having a risk premium of 4.25%.

You are required to help Mr. A in calculating the current market price using Gordon's formula.

Management of working Capital

9. Consider the following figures and ratios:

(i)	Sales for the year (all credit)	₹ 1,05,00,000
(ii)	Gross Profit ratio	35 percent
(iii)	Fixed assets turnover (based on cost of goods sold)	1.5
(iv)	Stock turnover (based on cost of goods sold)	6
(v)	Liquid ratio	1.5:1
(vi)	Current ratio	2.5:1
(vii)	Receivables (Debtors) collection period	1 month
(viii)	Reserves and surplus to Share capital	1:1.5
(ix)	Capital gearing ratio	0.7875
(x)	Fixed assets to net worth	1.3 : 1

You are required to PREPARE:

(a) Balance Sheet as on 31/3/2022 based on above details.

(b) The statement showing working capital requirement if the company wants to make a provision for contingencies @ 14 percent of net working capital.

Miscellaneous

10. (a) EXPLAIN agency problem and agency cost. How to address the issues of the same.

(b) DESCRIBE the inter relationship between investing, financing, and dividend decisions.

(c) STATE the meaning of debt securitization.

SUGGESTED HINTS/ANSWERS

1.

Ratios	Comment
Liquidity	Current ratio has improved from last year and matching the industry average. Quick ratio also improved than last year and above the industry average. The reduced inventory levels (evidenced by higher inventory turnover ratio) have led to better quick ratio in FY 2022 compared to FY 2021. Further the decrease in current liabilities is greater than the collective decrease in inventory and debtors as the current ratio have increase from FY2021 to FY 2022.
Operating Profits	Operating Income-ROI reduced from last year, but Operating Profit Margin has been maintained. This may happen due to decrease in operating cost. However, both the ratios are still higher than the industry average.
Financing	The company has reduced its debt capital by 1% and saved earnings for equity shareholders. It also signifies that dependency on debt compared to other industry players (60%) is low.
Return to the shareholders	Prabhu's ROE is 26 per cent in 2021 and 28 per cent in 2022 compared to an industry average of 18 per cent. The ROE is stable and improved over the last year.

2. (a) Cost of Equity / Retained Earnings (using dividend growth model)

$$Ke = \frac{D_1}{P_0}$$

where D1 = Do (1 + g) = 2 (1 + .10) = 2.2

$$Ke = \frac{2.2}{44} + 0.10 = 0.15 \text{ or } 15\ \%$$

(b) Cost of Debt (Post Tax)

Kd = I (1-t)

Upto 3,60,000 Kd = .08 (1-0.4) = 0.048

Beyond 3,60,000 = .12 (1-0.4) = 0.072

Thus, post-tax cost of additional debt = 0.048 x 3,60,000 / 6,00,000 + 0.072 x 2,40,000/ 6,00,000 = 0.0288 + 0.0288 = 0.0576 or 5.76%

(c) Pattern for Raising Additional Finance

Debt = 20,00,000 x 30% = 6,00,000

Equity = 20,00,000 x 70 % = 14,00,000

Out of this total equity amount of ₹ 14,00,000 -

Equity Shares = 14,00,000 – 4,20,000

= 9,80,000

And Retained Earnings = 4,20,000

(d) Overall Weighted Average after tax cost of additional finance

WACC = Kd x Debt Mix + Ke x Equity Mix = 0.0576 x 30% + 0.15 x 70% = 0.01728 + 0.105 = 0.1223 or 12.23% (approx.)

3. Ascertainment of probable price of shares of Prakash limited

Particulars	**Plan-I**	**Plan-II**
	If ₹ 5,00,000 is raised as debt (₹)	**If ₹ 5,00,000 is raised by issuing equity shares (₹)**
Earnings Before Interest and Tax (EBIT) {20% of new capital i.e., 20% of (₹15,00,000 + ₹ 5,00,000)} (Refer working note1)	4,00,000	4,00,000
Less: Interest on old debentures (10% of ₹5,00,000)	(50,000)	(50,000)
Less: Interest on new debt (12% of ₹5,00,000)	(60,000)	--
Earnings Before Tax (EBT)	2,90,000	3,50,000
Less: Tax @ 50%	(1,45,000)	(1,75,000)
Earnings for equity shareholders (EAT)	1,45,000	1,75,000

No. of Equity Shares (refer working note 2)	25,000	35,000
Earnings per Share (EPS)	₹ 5.80	₹ 5.00
Price/ Earnings (P/E) Ratio (refer working note 3)	8	10
Probable Price Per Share (PE Ratio × EPS)	₹ 46.40	₹ 50

Working Notes:

1. **Calculation of existing Return of Capital Employed (ROCE):**

	(₹)
Equity Share capital (25,000 shares × ₹10)	2,50,000
10% Debentures $\left(₹\,50{,}000 \times \frac{100}{10}\right)$	5,00,000
Reserves and Surplus	7,50,000
Total Capital Employed	15,00,000
Earnings before interest and tax (EBIT) (given)	3,00,000
ROCE = $\frac{₹\,3{,}00{,}000}{₹\,15{,}00{,}000} \times 100$	20%

2. **Number of Equity Shares to be issued in Plan-II:**

$= \frac{₹\,5{,}00{,}000}{₹\,50} = 10{,}000$ Shares

Thus, after the issue total number of shares = 25,000+ 10,000 = 35,000 shares

3. **Debt/Equity Ratio if ₹ 5,00,000 is raised as debt:**

$= \frac{₹\,10{,}00{,}000}{₹\,20{,}00{,}000} \times 100 = 50\%$

As the debt equity ratio is more than 40% the P/E ratio will be brought down to 8 in Plan-I

4.

Sales in units	**1,20,000 (₹)**	**1,00,000 (₹)**
Sales Value	18,00,000	15,00,000
Variable Cost	(12,00,000)	(10,00,000)
Contribution	6,00,000	5,00,000

Fixed expenses	(2,00,000)	(2,00,000)
EBIT	4,00,000	3,00,000
Debenture Interest	(2,00,000)	(2,00,000)
EBT	2,00,000	1,00,000
Tax @ 30%	(60,000)	(30,000)
Profit after tax (PAT)	1,40,000	70,000
(i) Financial Leverage= $\frac{\text{EBIT}}{\text{EBT}}$	$= \frac{4,00,000}{2,00,000} = 2$	$= \frac{3,00,000}{1,00,000} = 3$
(ii) Operating leverage = $\frac{\text{Contribution}}{\text{EBIT}}$	$\frac{6,00,000}{4,00,000} = 1.50$	$= \frac{5,00,000}{3,00,000} = 1.67$
(iii) Earnings per share (EPS)	$\frac{1,40,000}{20,000}$ = ₹ 7	$\frac{70,000}{20,000}$ = ₹ 3.5
Decrease in EPS	= ₹ 7 – ₹ 3.5 = ₹ 3.5	
% decrease in EPS	$\frac{3.5}{7} = \times 100 = 50\%$	

5. Calculation of Net Cash flows

Contribution = (400 – 375) × 80,000 = ₹ 20,00,000

Fixed costs = 10,40,000 – [(40,00,000 – 5,00,000)/5] = ₹ 3,40,000

Year	Capital (₹)	Contribution (₹)	Fixed costs (₹)	Promotion (₹)	Net cash flow (₹)
0	(32,00,000)				(32,00,000)
1	(8,00,000)	20,00,000	(3,40,000)	(1,25,000)	7,35,000
2		20,00,000	(3,40,000)	(1,75,000)	14,85,000
3		20,00,000	(3,40,000)		16,60,000
4		20,00,000	(3,40,000)		16,60,000
5	5,00,000	20,00,000	(3,40,000)		21,60,000

Calculation of Net Present Value

Year	Net cash flow (₹)	12% discount factor	Present value (₹)
0	(32,00,000)	1.000	(32,00,000)
1	7,35,000	0.893	6,56,355
2	14,85,000	0.797	11,83,545

3	16,60,000	0.712	11,81,920
4	16,60,000	0.636	10,55,760
5	21,60,000	0.567	12,24,720
			21,02,300

The net present value of the project is ₹**21,02,300**.

6. Statement showing the Evaluation of credit Policies

Particulars	Proposed Policy ₹
A. Expected Profit:	
(a) Credit Sales	**40,00,000**
(b) Total Cost	
(i) Variable Costs (₹ 380 x 10000 units)	38,00,000
(ii) Recurring Costs	20,000
	38,20,000
(c) Bad Debts	**80,000**
(d) Expected Profit [(a) – (b) – (c)]	**1,00,000**
B. Opportunity Cost of Investments in Receivables	**1,31,790**
C. Net Benefits (A – B)	**(31,790)**

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

$$\text{Opportunity Cost} = \text{Total Cost} \times \frac{\text{Collection period}}{360} \times \frac{\text{Rate of Return}}{100}$$

Particulars	20%	30%	30%	18%	Total
A. Total Cost	7,64,000	11,46,000	11,46,000	6,87,600	**37,43,600**
B. Collection period	30/360	60/360	90/360	100/360	
C. Required Rate of Return	18%	18%	18%	18%	
D. Opportunity Cost (A × B × C)	11,460	34,380	51,570	34,380	**1,31,790**

7. The Present Value of the Cash Flows for all the years by discounting the cash flow at 7% is calculated as below:

Year	Cash flows ₹In lakhs	Discounting Factor@7%	Present value of Cash Flows ₹ In Lakhs
1	50	0.935	46.75
2	120	0.873	104.76
3	150	0.816	122.40
4	160	0.763	122.08
5	130	0.713	92.69
Total of present value of Cash flow			488.68
Less: Initial investment			(200.00)
Net Present Value (NPV)			288.68

Now, the risk-free rate is 7 % and the risk premium expected by the Management is 7 %. So, the risk adjusted discount rate is 7 % + 7 % =14%.

Discounting the above cash flows using the Risk Adjusted Discount Rate would be as below:

Year	Cash flows ₹ in Lakhs	Discounting Factor@14%	Present Value of Cash Flows ₹ in lakhs
1	50	0.877	43.85
2	120	0.769	92.28
3	150	0.675	101.25
4	160	0.592	94.72
5	130	0.519	67.47
Total of present value of Cash flow			399.57
Initial investment			(200.00)
Net present value (NPV)			199.79

8. Market price using Gordon's formula

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

D_0 = 2.5×4 = 10 per share (annual)

g = br or retention ratio x rate of return

Calculation of expected retention ratio

Situation	Prob.	Retention Ratio	Expected Retention Ratio
A	30%	50%	0.15
B	40%	60%	0.24
C	30%	50%	0.15
Total			**0.54**

g = 0.54 × 0.10= 0.054 or 5.4%

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

$$P_0 = \frac{10(1+0.054)}{0.0885-0.054} = \frac{10.54}{0.0345} = 305.51$$

K_e = Risk free rate + (Beta x Risk Premium)

= 3.75% + (1.2 x 4.25%) = 8.85%

9. Working Notes:

(i) Cost of Goods Sold = Sales – Gross Profit (35% of Sales)

= ₹ 1,05,00,000 – ₹ 36,75,000

= ₹ 68,25,000

(ii) Closing Stock = Cost of Goods Sold / Stock Turnover

$$= \frac{₹\,68,25,000}{6}\,₹ = ₹\ 11,37,500$$

(iii) Fixed Assets = Cost of Goods Sold / Fixed Assets Turnover

$$= \frac{₹\,68,25,000}{1.5}\,₹$$

= ₹ 45,50,000

(iv) Current Assets:

Current Ratio = 2.5 and Liquid Ratio = 1.5

Inventories (Stock) = 2.5 – 1.5 = 1

Current Assets $= \text{Amount of Inventories (Stock)} \times \frac{2.5}{1}$

$= ₹11,37,500 \text{ x } \frac{2.5}{1} = ₹\ 28,43,750$

(v) Liquid Assets (Receivables and Cash)

= Current Assets – Inventories (Stock)

= ₹ 28,43,750 – ₹ 11,37,500

= ₹ 17,06,250

(vi) Receivables (Debtors) $= \text{Sales x } \frac{\text{Debtors Collection period}}{12}$

$= ₹1,05,00,000 \times \frac{1}{12}$

= ₹ 8,75,000

(vii) Cash = Liquid Assets – Receivables (Debtors)

= ₹ 17,06,250 – ₹ 8,75,000 = ₹ 8,31,250

(viii) Net worth $= \frac{\text{Fixed Assets}}{1.3}$

$= \frac{₹45,50,000}{1.3} = ₹\ 35,00,000$

(ix) Reserves and Surplus

Reserves and Share Capital = Net worth

Net worth = 1 + 1.5 = 2.5

Reserves and Surplus $= ₹35,00,000 \text{ x } \frac{1}{2.5}$

= ₹ 14,00,000

(x) Share Capital = Net worth – Reserves and Surplus

= ₹ 35,00,000 – ₹ 14,00,000

= ₹ 21,00,000

(xi) Current Liabilities = Current Assets/ Current Ratio

$= \frac{₹28,43,750}{2.5} = ₹\ 11,37,500$

(xii) Long-term Debts

Capital Gearing Ratio = Long-term Debts / Equity Shareholders' Fund

Long-term Debts = ₹ 35,00,000 × 0.7875 = ₹ 27,56,250

(a) Balance Sheet

Particulars	Figures as at 31-03-2022 (₹)	Figures as at 31-03-2021 (₹)
I. EQUITY AND LIABILITIES		
Shareholders' funds		
(a) Share capital	21,00,000	-
(b) Reserves and surplus	14,00,000	-
Non-current liabilities		
(a) Long-term borrowings	27,56,250	-
Current liabilities	11,37,500	-
TOTAL	**73,93,750**	**-**
II. ASSETS		
Non-current assets		
Fixed assets	45,50,000	-
Current assets		
Inventories	11,37,500	-
Trade receivables	8,75,000	-
Cash and cash equivalents	8,31,250	-
TOTAL	**73,93,750**	**-**

(b) Statement Showing Working Capital Requirement

Particulars	(₹)	(₹)
A. Current Assets		
(i) Inventories (Stocks)		11,37,500
(ii) Receivables (Debtors)		8,75,000
(iii) Cash in hand & at bank		8,31,250
Total Current Assets		28,43,750

B. Current Liabilities:		
Total Current Liabilities		11,37,500
Net Working Capital (A – B)		17,06,250
Add: Provision for contingencies (14% of Net Working Capital)		2,38,875
Working capital requirement		19,45,125

10. (a) Though in a sole proprietorship firm, partnership etc., owners participate in management but in corporates, 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 means that there is a chance 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.

Addressing the agency problem

The agency problem arises if manager's interests are not aligned to the interests of the debt lender and equity investors. The agency problem of debt lender would be addressed by imposing negative covenants i.e. the managers cannot borrow beyond a point. This is one of the most important concepts of modern day finance and the application of this would be applied in the Credit Risk Management of Bank, Fund Raising, Valuing distressed companies.

Agency problem between the managers and shareholders can be addressed if the interests of the managers are aligned to the interests of the shareholders. It is easier said than done.

However, following efforts have been made to address these issues:

- Managerial compensation is linked to profit of the company to some extent and also with the long term objectives of the company.
- Employee is also designed to address the issue with the underlying assumption that maximisation of the stock price is the objective of the investors.
- Effecting monitoring can be done.

(b) Inter-relationship between Investment, Financing and Dividend Decisions

The finance functions are divided into three major decisions, viz., investment, financing, and dividend decisions. It is correct to say that these decisions are inter-related because the underlying objective of these three decisions is the same, i.e., maximisation of shareholders' wealth. Since investment, financing and dividend decisions are all interrelated, one must consider the joint impact of these decisions on the market price of the company's shares and these decisions should also be solved jointly. The decision to invest in a new project needs the finance for the investment. The financing decision, in turn, is influenced by and influences dividend decision because retained earnings used in internal financing deprive shareholders of their dividends. An efficient financial management can ensure optimal joint decisions. This is possible by evaluating each decision in relation to its effect on the shareholders' wealth.

The above three decisions are briefly examined below in the light of their inter-relationship and to see how they can help in maximising the shareholders' wealth i.e., market price of the company's shares.

Investment decision: The investment of long-term funds is made after a careful assessment of the various projects through capital budgeting and uncertainty analysis. However, only that investment proposal is to be accepted which is expected to yield at least so much return as is adequate to meet its cost of financing. This has an influence on the profitability of the company and ultimately on its wealth.

Financing decision: Funds can be raised from various sources. Each source of funds involves different issues. The finance manager must maintain a proper balance between long-term and short-term funds. With the total volume of long-term funds, he must ensure a proper mix of loan funds and owner's funds. The optimum financing mix will increase return to equity shareholders and thus maximise their wealth.

Dividend decision: The finance manager is also concerned with the decision to pay or declare dividend. He assists the top management in deciding as to what portion of the profit should be paid to the shareholders by way of dividends and what portion should be retained in the business. An optimal dividend pay-out ratio maximises shareholders' wealth.

The above discussion makes it clear that investment, financing, and dividend decisions are interrelated and are to be taken jointly keeping in view their joint effect on the shareholders' wealth.

(c) Debt Securitisation: It is a method of recycling of funds. It is especially beneficial to financial intermediaries to support the lending volumes. Assets generating steady cash flows are packaged together and against this asset pool, market securities can be issued, e.g., housing finance, auto loans, and credit card receivables.

Process of Debt Securitisation

(i) *The origination function* – A borrower seeks a loan from a finance company, bank. The credit worthiness of borrower is evaluated, and contract is entered into with repayment schedule structured over the life of the loan.

(ii) *The pooling function* – Similar loans on receivables are clubbed together to create an underlying pool of assets. The pool is transferred in favour of Special purpose Vehicle (SPV), which acts as a trustee for investors.

(iii) *The securitisation function* – SPV will structure, and issue securities based on asset pool. The securities carry a coupon and expected maturity which can be asset-based/mortgage based. These are generally sold to investors through merchant bankers. Investors are – pension funds, mutual funds, insurance funds.

SECTION B: ECONOMICS FOR FINANCE

QUESTIONS

1. (a) Explain the distinction between GDP and GNP in the treatment of international transaction?

   (b) Calculate value of output from the following data:

S. No.	Particulars	₹ In lakhs
1.	Net value added at factor cost	900
2.	Intermediate consumption	650
3.	Excise duty	300
4.	Subsidy	60
5.	Depreciation	110

   (c) Suppose in an economy:

Consumption Function	C = 150 + 0.75 Yd
Investment Spending	I = 100
Government Spending	G = 115
Tax	Tx = 20 + 0.20 Y
Transfer Payments	Tr = 40
Exports	X = 35
Imports	M = 15 + 0.1Y

   Where, Y and Yd are National Income and Personal Disposable Income respectively. All figures arein rupees.

   Find:

   (i) The equilibrium level of National Income

   (ii) Consumption at equilibrium level

2. (a) According to Keynes what had happened during the great depression?

   (b) Describe the rationale behind multiplier? What are the factors that weakens the multiplier?

   (c) Why should government perform the allocation function is an economy?

   (d) Describe how the efficiency of market is affected by monopoly power?

3. (a) What do you understand by the term tragedy of the commons?

   (b) What are the limitation of Fiscal Policy?

(c) What determine the size of the money multiplier?

(d) What is measured by different method of National Income Calculation?

4. (a) What is Circular flow in a simple two sector model?

(b) Differentiate between excess demand and deficient demand?

(c) What is the distinction between bound tariff and applied tariffs?

(d) What is the main advantage of a fixed rate regime?

5. (a) Suppose nominal GNP of a country in the year 2015 is given as £ 700 crore and price index is given as base year 2015 is 100. Now let the nominal GDP increase to ₹ 1400 crore in year 2020 and the price index rises to 120, find out real GDP?

(b) What are the major guiding principles of the WTO?

(c) What is the limitation of Ricardian theory of comparative advantage?

(d) What are the explicit objective the monetary policy of developing countries should incorporate?

OR

What is the marginal standing facility?

ANSWERS

1. (a) The two concepts GDP and GNP differ in their treatment of international transactions. The term national refers to normal residents of a country who may be within or outside the domestic territory of a country and is a broader concept compared to the term domestic. For example, GNP includes earnings of Indian corporation overseas and Indian resident working overseas but GDP does not include these. In other words, GDP excludes net factor income from abroad. Conversely GDP includes earnings from current production in India that accrue to foreign residents and foreign owned firms GNP excluded those items.

(b) NVA at FC = Value of Output – Intermediate Consumption – Depreciation – (Excise Duty – Subsidy)

Thus, Value of output = Net value added at factor cost + Intermediate consumption + Depreciation + (Excise Duty - Subsidy)

= 900 + 650 + 110 + (300-60)

= ₹ 1900 lakhs

(c) The consumption function is C = 150 + 0.75Yd

Level of Disposable Income Yd is given by.

Yd = Y – Tax + Transfer Payments, Where, Transfer Payment = Tr = 40

= Y - (20 + 0.20Y) + 40 = Y – 20 - 0.20Y + 40

= Y - 0.2Y – 20 + 40

Yd = 20+0.8Y and C = 150+0.75Yd

C = 150 + 0.75(20 + 0.8Y) where Yd = (20+0.8Y)C = 150+15+0.6Y

C= 165+0.6Y

(i) The equilibrium level of national incomeY = C + I + G + (X - M)

Y = 165 + 0.6Y + 100 + 115 + [35 - (15 + 0.1Y)]

= 165 + 0.6Y + 100 + 115 + [35 – 15 - 0.1Y]

= 165 + 0.6Y + 215 + 35 – 15 - 0.1YY = 400 + 0.5Y

Y - 0.5Y = 400; 0.5Y = 400Y

= 400/0.5 = 800

The equilibrium level of national income is ₹800.

(ii) Consumption at equilibrium level of national income of ₹800C = 165 + 0.6Y

C = 165 + 0.6(800)

C = 165 +480 = 645

Consumption at equilibrium level = ₹645

2. (a) In the Keynesian model nether wages nor internal rate will decline in the face of abnormally high unemployment and excess capacity. Therefore, output will remain at less than the full employment rate as long as there is insufficient spending in the economy. Keynes argued that this was precisely what was happening during the Great Depression.

(b) The multiplier concept is central to keyne's theory because if explains how shifts in investment caused by changes in business expectation set off a process that causes not only investment but also consumption to vary. The multiplier shows how shocks to one sector are transmitted throughout the economy.

Increase in income due to increase in initial investment does not go on endlessly. The process of income propagation slows down and ultimately comes to a halt. Causes responsible for the decline in income are called leakages. Income that is not spend on currently produced consumption goods and services may be regarded as having leaked out of income stream. If the increased income goes out of the cycle of consumption expenditure, there is a leakage from income stream which reduces the effect of multiplier. The more powerful these leakages are the smaller will be the value of multiplier.

(c) The resource allocation of government's fiscal policy focuses on the potential for the government to improve economic performance through its expenditure and tax policies. The allocative function in budgeting determines who and what will be taxed as well as how and on what the government revenue will be spend. It is concerned with the provision of public goods and the process by which the total resources of the economy are divided among various uses and an optimum mix of various social goods (both public goods and merit goods) of the allocation functions also involves the reallocation of society's resources from private to public use.

(d) The presence of monopoly power affects the efficiently of markets in different degrees leading to under production and higher prices than would exist under condition of competition This distort the choices available to consumers and reduce their welfare.

3. (a) Economists use the term 'tragedy of the commons' to describe the problem which occurs when rivalrous but non excludable goods are overused to the disadvantage of the entire universe. For example, everyone has access to a commonly held pasture there are no rules above sustainable, numbers for grazing. The outcome of the individual rational economic decisions of cattle owners would be market failure because these actions result in the degradation, depletion or even destruction of the resources leading to welfare loss for the entire society.

(b) Fiscal Policy suffers from limitations such as limitations in respect of choice of appropriate policy, recognition lag, decision lag, implementation lag, impact lag, inappropriate timing, difficulties of forecasting due to uncertainties, possible conflicts between different objectives, possibility of generating disincentives, practical difficulty to reduce government expenditure and the possibility of certain fiscal measures regulating private spending or crowding out private spending.

(c) The money multiplier is the reciprocal of the reserve ratio. Deposits unlike currency need by people keep only a fraction of the high-powered money in reserves and the rent is lent out and culminate in money creation. If R is the reserve ratio in a country of all commercial bank, then each units of (say Rupee) money reserves generate 1/R money. Therefore, for any value of R the money Multiplier is 1/R. For example, if R = 10%, the value of money multiplier will be 10. If the reserve ratio is only 5% then money multiplier is 20. Thus, the higher the reserve ratio, the less of each deposit bank loan out and the smaller the money multiplier.

(d)

Method	What is measured
Product Method	Contribution of production units
Income Method	Relative contribution of factor owners
Expenditure Method	Flow of consumption and investment expenditure

4. **(a)** The Circular flow of income is a process where the national income and expenditure of an economy flows in a Circular manner continuously through time. Savings, expenditures, exports and imports are various components of circular flow of income which are shown in the figure in the form of currents and cross currents in such a manner that national income equals national expenditure.

(b) If the aggregate demand is for an amount of output greater than the full employment level of output then we say there is excess demand. Excess demand gives rise to 'inflationary gap'. On the other hand, if the aggregate demand is for an amount of output less than the full employment level of output then we say there is deficient demand. Deficient demand gives rise to a 'deflationary gap' or 'recessionary gap'. Recessionary gap also known as contractionary gap.

(c) **Bound tariff:** Under this a WTO member binds itself with a legal commitment not to raise tariff rate above a certain level. The bound rates are specific to individual products and represent the maximum level of import duty that can be levied on a product imported by that member. A bound tariff ensures transparency and predictability.

Applied tariff: An applied tariff is the duty that is actually charged on imports on a Most Favoured Nation (MFN) basis. A WTO member can have an applied tariff for a product that differ from the bound tariff for the product as long as the applied level is not higher from the bound level.

(d) In an open economy the main advantage of a fixed rate regime are:

- A fixed exchange rate avoids currency fluctuations and eliminates exchange rate risks and transaction costs that can impede international flow of trade and investment.
- A fixed exchange rate greatly enhances international trade and investment.
- A reduction in speculation on exchange rate movements if everyone believes that exchange rates will not change.
- The government can encourage greater trade and investment as stability encourages investment.
- Exchange rate, Peg can also enhance for creating of the Country's Monetary Policy.

5. **(a)** Real GDP = $\frac{\text{Nominal GDP}}{\text{Price Index}} \times 100$

= 1400 x $\frac{100}{120} = \frac{3500}{3}$

= 1166.66 cr.

(b) The major guiding principles of WTO are:

- Trade without discrimination
- Most Favoured Nation treatment (MFN)
- The National treatment principle (NTP)
- Free Trade
- Predictability
- General Prohibition of quantitative restrictions
- Greater competitiveness
- Tariffs as legitimate measures for protection
- Transparency in decision making.
- Progressive liberalization
- Market access and a transparent effective and verifiable dispute settlement mechanism.

(c) The Ricardian theory of comparative advantage suffers from many limitations. Its emphasis is on supply conditions and excludes demand patterns. Moreover, the theory does not examine why countries have different costs. The theory of comparative advantage also does not answer the important question: Why does a nation have comparative advantage in the production of a commodity and comparative disadvantage in the production of another.

(d) The monetary Policy of the developing countries should incorporate explicit objective such as:

(1) maintenance of economic growth.

(2) ensuring an adequate flow of credit to the productive sector.

(3) Sustaining a moderate structure of interest rate to encourage investment and

(4) creation of an efficient market for government securities.

OR

The Marginal standing facility (MSF) refers to the facility under which scheduled commercial banks can borrow additional amount of oversight money from the central bank over and above what is available to them through the LAF window by dipping into their Statutory Liquidity Ratio (SLR) Portfolio up to a limit.