MOCK TEST PAPER –2

INTERMEDIATE: GROUP – II

PAPER – 8: FINANCIAL MANAGEMENT & ECONOMICS FOR FINANCE

8A : FINANCIAL MANAGEMENT

Suggested Answers/ Hints

The solutions contained herein may be based on certain assumptions. Therefore, Question may be solved based on any other logical alternative assumption/ approach/ presentation.

1. (a) Option I: Purchase Machinery and Service Part at the end of Year 2 and 4.

Net Present value of cash flow @ 12% per annum discount rate.

NPV (in ₹) = - 10,00,000 + 2,56,000 x (0.8928+0.7972+0.7118+0.6355+0.5674) – (1,00,000 x 0.7972+1,00,000 x 0.6355) + (76,000 x 0.5674)

= - 10,00,000 + (2,56,000 x 3.6047) – 1,43,270+43,122.4

= - 10,00,000 + 9,22,803.2 – 1,43,270+ 43,122.4

NPV = - 1,77,344.4

Since Net Present Value is negative; therefore, this option is not to be considered.

If Supplier gives a discount of ₹ 90,000, then:

NPV (in ₹) = + 90,000 - 1,77,344.4 = -87,344.4

In this case, Net Present Value is still negative; therefore, this option may not be advisable

Option II: Purchase Machinery and Replace Part at the end of Year 2.

NPV (in ₹)= - 10,00,000 + 2,56,000 x (0.8928+0.7972+0.7118+0.6355+0.5674) – (3,00,000 x 0.7118) + (1,86,000 x 0.5066+1,36,000 x 0.5066)

= - 10,00,000 + (2,56,000 x 3.6047) – 2,13,540+1,63,125.2

= - 10,00,000 + 9,22,803.2 – 2,13,540+1,63,125.2

NPV = - 1,27,611.6

Net Present Value is negative, the machinery should not be purchased.

If the Supplier gives a discount of ₹ 90,000, then:

NPV (in ₹) = 90,000 - 1,27,611.6 = - 37,611.6

In this case, Net Present Value is still negative; therefore, this option may not be advisable.

Decision: The Machinery should not be purchased as it will earn a negative NPV in both options of repair and replacement.

(b) (i) Bank Loan: As the minimum average balance more than ₹ 50,000 need not be kept if loan is not undertaken, the incremental money made available by bank through bank loan is ₹ 2,30,00,000- (15% x ₹ 2,30,00,000-₹ 50,000) = ₹ 1,96,00,000. Real annual cost of bank loan = (₹ 2.3 crores x 12%) / ₹ 1.96 crores = 14.08%.

(ii) Trade Credit: The real annual cost of trade credit will be 2/98 x 360/60 x 100 = 12.24%.

(iii) Factoring:

Commission charges per year = 2% x 2.5 crores x 12 = ₹ 60,00,000

Savings per year = (1,75,000+2,25,000) x 12 = ₹ 48,00,000

Net Factoring cost per year = ₹ 60,00,000 – ₹ 48,00,000 = ₹12,00,000

Annual cost of borrowing ₹ 2.5 crores x 75% i.e. ₹ 1,87,50,000 will be

$$\frac{1,87,50,000 \times 14\% + ₹\ 12,00,000}{1,87,50,000} = 20.4\%$$

Conclusion: The company should select trade credit as a preferred mode of financing the working capital requirement as it results in lowest cost on an annual basis.

(c)

Particulars	Manchow Ltd (₹)	Noodle Ltd (₹)
Sales	2,10,93,750	1,08,00,000
Less: Variable Cost	1,26,56,250	54,00,000
Contribution	84,37,500	54,00,000
Less: Fixed Cost	50,62,500	27,00,000
EBIT	33,75,000	27,00,000
Less: Interest	22,50,000	13,50,000
EBT	11,25,000	13,50,000
Less: Tax	3,37,500	4,05,000
PAT	7,87,500	9,45,000

Workings:

(i) Margin of Safety

For Manchow Ltd= 0.4

For Noodles Ltd= 0.4 x 1.25 = 0.5

(ii) Interest Expense

For Manchow Ltd = ₹ 22,50,000

For Noodles Ltd = ₹ 22,50,000 x 60%= ₹ 13,50,000

(iii) For Manchow Ltd:

Financial Leverage = 3

$$\frac{EBIT}{EBT} = \frac{EBIT}{EBIT\text{-}Interest} = 3$$

$$\frac{EBIT}{EBIT - 22,50,000} = 3$$

EBIT = 3 EBIT- 67,50,000

67,50,000 = 2 EBIT

EBIT = 33,75,000

For Noodles Ltd:

Financial Leverage = 2

$$\frac{EBIT}{EBT} = \frac{EBIT}{EBIT\text{-Interest}} = 2$$

$$\frac{EBIT}{EBIT\text{-}13,50,000} = 2$$

EBIT = 2 EBIT-27,00,000

EBIT =27,00,000

(iv) Contribution:

For Manchow Ltd

Operating Leverage = 1/ Margin of Safety

= 1/0.4

= 2.5

Operating Leverage = Contribution/EBIT

2.5 = Contribution/33,75,000

Contribution = 84,37,500

For Noodles Ltd

Operating Leverage = 1/ Margin of Safety

= 1/0.5

= 2

Operating Leverage = Contribution/EBIT

2 = Contribution/27,00,000

Contribution = 54,00,000

(v) Sales:

For Manchow Ltd

P/V Ratio	= 40%
P/V Ratio	= Contribution/Sales
0.4	= 84,37,500/Sales
Sales	= 2,10,93,750

For Noodles Ltd

P/V Ratio	= 50%
P/V Ratio	= Contribution/Sales
0.5	= 54,00,000/Sales
Sales	= 1,08,00,000

(d) Working Notes:

(i) Long term Debt

Long Term Debt/ Net worth = 0.25

Long Term Debt/ (8,00,000+16,00,000) = 0.25

Long term debt = 6,00,000

(ii) Total assets

Total liabilities and Equity = Notes and payables + Long-term debt + Common stock + Retained earnings

= 2,50,000+6,00,000+8,00,000+16,00,000

Total assets = Total liabilities and Equity = 32,50,000

(iii) Sales and Cost of Goods sold

Total asset turnover = 3 = Sales/ Total Assets = Sales/32,50,000

Sales = 97,50,000

Cost of goods sold = (100% - Gross Profit margin) x Sales

= (100% - 20%) x 97,50,000 =78,00,000.

(iv) Current Assets

Inventory turnover = 13 = COGS/ Inventory = 78,00,000/Inventory

Inventory = ₹ 6,00,000

Average collection period = 9 = Receivables/Sales x 360 = Receivables/ 97,50,000 x 360

Accounts receivables = 2,43,750

Acid-test ratio = 1.5 = (Cash+ Accounts Receivables) /Notes and Payables

= (Cash +2,43,750)/2,50,000 = 1.5

Cash = 1,31,250

(v) Plant and equipment

= Total Assets - Current Assets

= 32,50,000 - (1,31,250+2,43,750+6,00,000) = 22,75,000

Balance Sheet

Liabilities	**₹**	**Assets**	**₹**
Notes and payables	2,50,000	Cash	1,31,250
Long-term debt	6,00,000	Accounts receivable	2,43,750
Common stock	8,00,000	Inventory	6,00,000
Retained earnings	16,00,000	Plant and equipment	22,75,000
Total liabilities and equity	**32,50,000**	**Total assets**	**32,50,000**

2.

Computation of CFAT (year 1 to year 4)					
Sr. No.	**Particulars**	**Original Case**	**Sales Units reduced by 10%**	**SP reduced by 10%**	**Variable Cost increased by 10%**
A	Sale Price p.u.	₹ 250	₹ 250	₹ 225	₹ 250
B	Sale units	6000	5400	6000	6000
C	Sales (A x B)	₹ 15,00,000	₹ 13,50,000	₹ 13,50,000	₹ 15,00,000
D	Variable Cost p.u.	₹ 80	₹ 80	₹ 80	₹ 88
E	Variable Cost (B x D)	₹ 4,80,000	₹ 4,32,000	₹ 4,80,000	₹ 5,28,000
F	Contribution (C - E)	₹ 10,20,000	₹ 9,18,000	₹ 8,70,000	₹ 9,72,000
G	Less: Fixed Cost	₹ -2,00,000	₹ -2,00,000	₹ -2,00,000	₹ -2,00,000
H	PBDT (F-G)	₹ 8,20,000	₹ 7,18,000	₹ 6,70,000	₹ 7,72,000
I	Less: Depreciation				
	(1500000-150000)/4	₹ -3,37,500	₹ -3,37,500	₹ -3,37,500	₹ -3,37,500
	(1600000-150000)/4	-	-	-	-
J	PBT	₹ 4,82,500	₹ 3,80,500	₹ 3,32,500	₹ 4,34,500
K	Less: Taxes @ 30%	₹ -1,44,750	₹ -1,14,150	₹ -99,750	₹ -1,30,350
L	PAT	₹ 3,37,750	₹ 2,66,350	₹ 2,32,750	₹ 3,04,150
M	Add: Depreciation	₹ 3,37,500	₹ 3,37,500	₹ 3,37,500	₹ 3,37,500
N	CFAT	₹ 6,75,250	₹ 6,03,850	₹ 5,70,250	₹ 6,41,650

Sr. No.	**Particulars**	**Fixed Cost increased by 10%**	**Initial Investment increased by 10%**
A	Sale Price p.u.	₹ 250	₹ 250
B	Sale units	6000	6000
C	Sales (A x B)	₹ 15,00,000	₹ 15,00,000
D	Variable Cost p.u.	₹ 80	₹ 80
E	Variable Cost (B x D)	₹ 4,80,000	₹ 4,80,000
F	Contribution (C - E)	₹ 10,20,000	₹ 10,20,000
G	Less: Fixed Cost	₹ -2,20,000	₹ -2,00,000
H	PBDT (F-G)	₹ 8,00,000	₹ 8,20,000
I	Less: Depreciation		
	(1500000-150000)/4	₹ -3,37,500	-
	(1600000-150000)/4	-	₹ -3,62,500
J	PBT	₹ 4,62,500	₹ 4,57,500
K	Less: Taxes @ 30%	₹ -1,38,750	₹ -1,37,250
L	PAT	₹ 3,23,750	₹ 3,20,250
M	Add: Depreciation	₹ 3,37,500	₹ 3,62,500
N	CFAT	₹ 6,61,250	₹ 6,82,750

Calculation of NPV and sensitivity analysis					
Sr. No.	**Particulars**	**Original Case**	**Sales Units reduced by 10%**	**SP reduced by 10%**	**Variable Cost increased by 10%**
I	CFAT	₹ 6,75,250	₹ 6,03,850	₹ 5,70,250	₹ 6,41,650
II	PVAF @ 14%	2.9138	2.9138	2.9138	2.9138
III	PV of CFATs (I x II)	₹ 19,67,543	₹ 17,59,498	₹ 16,61,594	₹ 18,69,640
IV	Salvage	₹ 1,50,000	₹ 1,50,000	₹ 1,50,000	₹ 1,50,000
V	PVF @ 14%	0.5921	0.5921	0.5921	0.5921
VI	PV of Salvage (IV x V)	₹ 88,815	₹ 88,815	₹ 88,815	₹ 88,815
VII	Initial Investment	₹ 15,00,000	₹ 15,00,000	₹ 15,00,000	₹ 15,00,000
VIII	NPV (III+VI-VII)	₹ 5,56,358	₹ 3,48,313	₹ 2,50,409	₹ 4,58,455
IX	Sensitivity (Case NPV-Original NPV)/ Original NPV		-37.39%	-54.99%	-17.60%
				Most sensitive	

Sr. No.	**Particulars**	**Fixed Cost increased by 10%**	**Initial Investment increased by 10%**
I	CFAT	₹ 6,61,250	₹ 6,82,750
II	PVAF @ 14%	2.9138	2.9138
III	PV of CFATs (I x II)	₹ 19,26,750	₹ 19,89,397
IV	Salvage	₹ 1,50,000	₹ 1,50,000
V	PVF @ 14%	0.5921	0.5921
VI	PV of Salvage (IV x V)	₹ 88,815	₹ 88,815
VII	Initial Investment	₹ 15,00,000	₹ 16,50,000
VIII	NPV (III+VI-VII)	₹ 5,15,565	₹ 4,28,212
IX	Sensitivity Sensitivity (Case NPV-Original NPV)/ Original NPV	-7.33%	-23.03%
		Least sensitive	

3. (a) (i) Calculation of market price per share

According to Miller – Modigliani (MM) Approach:

$$P_o = \frac{P_1 + D_1}{1 + K_e}$$

Where,

Existing market price (P_o) = ₹ 300

Expected dividend per share (D_1) = ₹ 20

Capitalization rate (k_e) = 0.20 Market price at year end (P_1) = ?

a. If expected dividends are declared, then

300=(P1+20)/(1+0.2)

300 x 1.2 = P1+20

P1= 340

b. If expected dividends are not declared, then

300=(P1+0)/(1+0.2)

300 x 1.2 = P1

P1= 360

(ii) Calculation of number of shares to be issued

	(a)	(b)
	Dividends are declared. (₹ lakh)	**Dividends are not Declared (₹ lakh)**
Net income	500	500
Total dividends	(400)	-
Retained earnings	100	500
Investment budget	800	800
Amount to be raised by new issues	700	300
Relevant market price (₹ per share)	340	360
No. of new shares to be issued (in lakh) (₹ 700 ÷ 340; ₹ 300 ÷ 360)	2.0588	0.8333

(iii) Calculation of market value of the shares

	(a)	(b)
Particulars	**Dividends are declared**	**Dividends are not Declared**
Existing shares (in lakhs)	20.00	20.00
New shares (in lakhs)	2.0588	0.8333
Total shares (in lakhs)	22.0588	20.8333
Market price per share (₹)	340	360
Total market value of shares at the end of the year (₹ in lakh)	22.0588 × 340 = 7,500 (approx.)	20.8333 × 360 = 7,500 (approx.)

Hence, it is proved that the total market value of shares remains unchanged irrespective of whether dividends are declared, or not declared.

(iv) P0=D1/(Ke-g)

300 = 20/(0.2-g)

0.2-g = 20/300

0.2-g = 0.0667

G = 0.133333

g = 13.3333%

4. (I). Valuation of firms

Particulars	Dumbo Ltd (₹)	Jumbo Ltd (₹)
EBIT	2,40,000	2,40,000
Less: Interest on debt (12% × ₹ 4,00,000)	48,000	Nil
Earnings available to Equity shareholders	1,92,000	2,40,000
K_e	15%	15%
Value of Equity (S) (Earnings available to Equity shareholders/K_e)	12,80,000	16,00,000
Debt (D)	4,00,000	Nil
Value of Firm (V) = S + D	16,80,000	16,00,000

Value of Levered company is more than that of unlevered company. Therefore, investor will sell his shares in levered company and buy shares in unlevered company. To maintain the level of risk he will borrow proportionate amount and invest that amount also in shares of unlevered company

(II). Investment & Borrowings

	₹
Sell shares in Levered company (12,80,000 x 20%)	2,56,000
Borrow money (4,00,000 x 20%)	80,000
Buy shares in Unlevered company	3,36,000

(III). Change in Return

	₹
Income from shares in Unlevered company	
(2,40,000 x 3,36,000/16,00,000)	50,400
Less: Interest on loan (80,000 x 12%)	9,600
Net Income from unlevered firm	40,800
Less: Income from Levered firm (1,92,000 x 20%)	38,400
Incremental Income due to arbitrage	2,400

Arbitrage process if Ke = 20%

(I). Valuation of firms

Particulars	Dumbo Ltd (₹)	Jumbo Ltd (₹)
EBIT	2,40,000	2,40,000
Less: Interest on debt (12% × ₹ 4,00,000)	48,000	Nil
Earnings available to Equity shareholders	1,92,000	2,40,000
K_e	20%	15%
Value of Equity (S) (Earnings available to Equity shareholders/K_e)	9,60,000	16,00,000

Debt (D)	4,00,000	Nil
Value of Firm (V) = S + D	13,80,000	16,00,000

Value of unlevered company is more than that of levered company. Therefore, investor will sell his shares in unlevered company and buy proportionate shares and debt in levered company i.e. 20% share.

(II). Investment & Borrowings

	₹
Sell shares in unlevered company (16,00,000 x 20%)	3,20,000
Buy shares in levered company (9,60,000 x 20%)	1,92,000
Buy Debt of levered company	1,28,000

(III). Change in Return

	₹
Income from shares in levered company (1,92,000 x 20%)	38,400
Add: Interest on debt of levered (1,28,000 x 12%)	15,360
Net Income from levered firm	53,760
Less: Income from unlevered firm (2,40,000 x 20%)	48,000
Incremental Income due to arbitrage	5,760

5. Cost of Equity

Ke = Rf + Beta * (Rm – Rf)

Ke = 8% + 1.6 * (14% - 8%)

Ke = 8% + (1.6 * 6%)

Ke = 17.6%

1. Cost of Redeemable Debentures (Post-Tax)

$$Kd = \frac{Int\ (1-t) + \frac{(RV - NP)}{n}}{\frac{(RV + NP)}{2}}$$

$$Kd = \frac{12,00,000 * (1 - 30\%) + ((1,00,00,000 - 90,00,000) / 10)}{(1,00,00,000 + 90,00,000) / 2}$$

$$Kd = \frac{8,40,000 + 1,00,000}{95,00,000}$$

Kd = 9.89%

2. Cost of Redeemable Preference Shares

$$Kp = \frac{PD + \frac{(RV - NP)}{n}}{\frac{(RV + NP)}{2}}$$

2

Kp = $\frac{(62,50,000 * 15\%) + ((62,50,000 – 60,00,000) / 10)}{(62,50,000 + 60,00,000) / 2}$

Kp = $\frac{9,37,500 + 25,000}{61,25,000}$

Kp = 15.71%

3. Weighted Average Cost of Capital (WACC) – Book Value Method

Source of Capital	Market Value	Weights	After Tax Cost of Capital	WACC
Equity Share Capital	1,50,00,000	0.5	17.6%	0.088
Debentures	90,00,000	0.3	9.89%	0.030
Preference Share Capital	60,00,000	0.2	15.71%	0.031
	3,00,00,000	**1.000**		**0.149**

WACC = 14.9%

4. Computation of CFAT

	(year 1 to year 4)					
Sr. No.	**Particulars / Year**	**1**	**2**	**3-5**	**6-8**	**9-10**
A	Sale Price p.u.	300	300	300	300	300
	Sale units	70,000	98,000	2,10,000	2,50,000	1,20,000
C	Sales (A x B)	2,10,00,000	2,94,00,000	6,30,00,000	7,50,00,000	3,60,00,000
D	Variable Cost p.u.	180	180	180	180	180
E	Variable Cost (B x D)	1,26,00,000	1,76,40,000	3,78,00,000	4,50,00,000	2,16,00,000
F	Contribution (C - E)	84,00,000	1,17,60,000	2,52,00,000	3,00,00,000	1,44,00,000
G	Less: Fixed Cost	40,00,000	40,00,000	40,00,000	40,00,000	40,00,000
H	PBDT (F-G)	44,00,000	77,60,000	2,12,00,000	2,60,00,000	1,04,00,000
I	Less: Depreciation (2,50,00,000-50,00,000) / 10	20,00,000	20,00,000	20,00,000	20,00,000	20,00,000
J	PBT	24,00,000	57,60,000	1,92,00,000	2,40,00,000	84,00,000
K	Less: Taxes @ 30%	7,20,000	17,28,000	57,60,000	72,00,000	25,20,000
L	PAT	16,80,000	40,32,000	1,34,40,000	1,68,00,000	58,80,000
M	Add: Depreciation	20,00,000	20,00,000	20,00,000	20,00,000	20,00,000
N	CFAT	36,80,000	60,32,000	1,54,40,000	1,88,00,000	78,80,000

5. Computation of NPV

Sr. No.	Particulars / Year	1	2	3-5	6-8	9-10
I	CFAT	36,80,000	60,32,000	1,54,40,000	1,88,00,000	78,80,000
II	PVAF @ 14.9%	0.87	0.76	(0.66+0.57+ 0.50) = 1.73	(0.43+0.38+0.33) = 1.14	(0.29+0.25) = 0.54
III	PV of CFATs (I x II)	32,01,600	45,84,320	2,67,11,200	2,14,32,000	42,55,200

IV	Salvage + Release of WC					80,00,000
V	PVF @ 14.9%					0.25
VI	PV of Salvage (IV x V)					20,00,000

PV of Inflows = 32,01,600 + 45,84,320 + 2,67,11,200 + 2,14,32,000 + 42,55,200 + 20,00,000

PV of Inflows = 6,21,84,320

PV of Outflows = Investment + Introduction of Working Capital

PV of Outflows = 2,50,00,000 + 30,00,000

PV of Outflows = 2,80,00,000

NPV = PV of Inflows – PV of Outflows

NPV = 6,21,84,320 - 2,80,00,000

NPV = 3,41,84,320

The management should consider taking up the project as the Net Present Value of the Project is Positive.

6. (i) It has traditionally been argued that the primary objective of a company is to earn profit; hence the objective of financial management is also profit maximisation. This implies that the finance manager has to make his decisions in a manner so that the profits of the concern are maximised. Each alternative, therefore, is to be seen as to whether or not it gives maximum profit.

However, profit maximisation cannot be the sole objective of a company. It is at best a limited objective. If profit is given undue importance, a number of problems can arise. Some of these have been discussed below:

(i) The term profit is vague. **It does not clarify what exactly it means.** It conveys a different meaning to different people. For example, profit may be in short term or long term period; it may be total profit or rate of profit etc.

(ii) Profit maximisation has to be attempted with a realisation of risks involved. There is a direct relationship between risk and profit. Many risky propositions yield high profit. Higher the risk, higher is the possibility of profits. If profit maximisation is the only goal, then risk factor is altogether ignored. This implies that finance manager will accept highly risky proposals also, if they give high profits. In practice, however, risk is very important consideration and has to be balanced with the profit objective.

(iii) Profit maximisation as an objective does not take into account the time pattern of returns. Proposal A may give a higher amount of profits as compared to proposal B, yet if the returns of proposal A begin to flow say 10 years later, proposal B may be preferred which may have lower overall profit but the returns flow is more early and quick.

(iv) Profit maximisation as an objective is too narrow. It fails to take into account the social considerations as also the obligations to various interests of workers, consumers, society, as well as ethical trade practices. If these factors are ignored, a company cannot survive for long. Profit maximization at the cost of social and moral obligations is a short sighted policy.

Wealth / Value Maximisation

We will first like to define what is Wealth / Value Maximization Model. Shareholders wealth are the result of cost benefit analysis adjusted with their timing and risk i.e. time value of money.

So, It is important that benefits measured by the finance manager are in terms of cash flow. Finance manager should emphasis on Cash flow for investment or financing decisions not on Accounting

profit. The shareholder value maximization model holds that the primary goal of the firm is to maximize its market value and implies that business decisions should seek to increase the net present value of the economic profits of the firm. So for measuring and maximising shareholders wealth finance manager should follow:

A) Cash Flow approach not Accounting Profit

B) Cost benefit analysis

C) Application of time value of **money.**

How do we measure the value/wealth of a firm?

According to Van Horne, "Value of a firm is represented by the market price of the company's common stock. The market price of a firm's stock represents the focal judgment of all market participants as to what the value of the particular firm is. It takes into account present and prospective future earnings per share, the timing and risk of these earnings, the dividend policy of the firm and many other factors that bear upon the market price of the stock. The market price serves as a performance index or report card of the firm's progress. It indicates how well management is doing on behalf of stockholder's".

Why Wealth Maximization Works? Before we answer this question it is important to first understand and know what other goals a business enterprise may have. Some of the other goals a business enterprise may follow are:-

A) Achieving a higher growth rate

B) Attaining a larger market share

C) Gaining leadership in the market in terms of products and technology

D) Promoting employee welfare

E) Increasing customer satisfaction

F) Improving community life, supporting education and research, solving societal problems, etc.

Though, the above goals are important but the primary goal remains to be wealth maximization, as it is critical for the very existence of the business enterprise. If this goal is not met, public/institutions would lose confidence in the enterprise and will not invest further in the growth of the organization. If the growth of the organization is restricted than the other goals like community welfare will not get fulfilled.

Conflicts in Profit vs. Value maximisation principle

In any company, the management is the decision taking authority. As a normal tendency the management may pursue its own personal goals (profit maximization). But in an organization where there is a significant outside participation (shareholding, lenders etc.), the management may not be able to exclusively pursue its personal goals due to the constant supervision of the various stakeholders of the company-employees, creditors, customers, government, etc.

Every entity associated with the company will evaluate the performance of the management from the fulfilment of its own objective. The survival of the management will be threatened if the objective of any of the entities remains unfulfilled.

The wealth maximization objective is generally in accord with the interests of the various groups such as owners, employees, creditors and society, and thus, it may be consistent with the management objective of survival.

Owing to limitation (timing, social consideration etc.) in profit maximization, in today's real world situations which is uncertain and multi-period in nature, wealth maximization is a better objective. Where the time period is short and degree of uncertainty is not great, wealth maximization and profit maximization amount to essentially the same.

The table below highlights some of the advantages and disadvantages of both profit maximization and wealth maximization goals:-

Goal	Objective	Advantages	Disadvantages
Profit Maximization	Large amount of profits	(i) Easy to calculate profits (ii) Easy to determine the link between financial decisions and profits.	(i) Emphasizes the short term gains (ii) Ignores risk or uncertainty (iii) Ignores the timing of returns (iv) Requires immediate resources.
Shareholders Wealth Maximisation	Highest market value of shares.	(i) Emphasizes the long term gains (ii) Recognises risk or uncertainty (iii) Recognises the timing of returns (iv) Considers shareholders' return.	(i) Offers no clear relationship between financial decisions and share price. (ii) Can lead to management anxiety and frustration.

Example: Profit maximization can be achieved in the short term at the expense of the long term goal, that is, wealth maximization. For example, a costly investment may experience losses in the short term but yield substantial profits in the long term. Also, a firm that wants to show a short term profit may, for example, postpone major repairs or replacement, although such postponement is likely to hurt its long term profitability.

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

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 share- holders. It is easier said than done.

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

(A) Managerial compensation is linked to profit of the company to some extent and also with the long term objectives of the company.

(B) Employee is also designed to address the issue with the underlying assumption that maximisation of the stock price is the objective of the investo₹

(C) Effecting monitoring can be done.

(iii) The dividend policy is affected by the following factors:

1. **Availability of funds:** If the business is in requirement of funds, then retained earnings could be a good source. The reason being the saving of floatation cost and prevention of dilution of control which happens in case of new issue of equity shares to public.
2. **Cost of capital:** If the financing requirements are to be executed through debt (relatively cheaper source of finance), then it would be preferable to distribute more dividend. On the other hand, if the financing is to be done through fresh issue of equity shares, then it is better to use retained earnings as much as possible.
3. **Capital structure:** An optimum Debt Equity ratio should also be considered for the dividend decision.
4. **Stock price:** Stock price here means market price of the shares. Generally, higher dividends increase market value of shares and low dividends decrease the value.
5. **Investment opportunities in hand:** The dividend decision is also affected if there are investment opportunities in hand. In that situation, the company may prefer to retain more earnings.
6. **Internal rate of return (IRR):** If the internal rate of return (IRR) is more than the cost of retained earnings (K_r), it is better to distribute the earnings as much as possible.
7. **Trend of industry:** The investors depend on some industries for their regular dividend income. Therefore, in such cases, the firms have to pay dividend in order to survive in the market.
8. **Expectation of shareholders:** The shareholders can be categorised into two categories: (i) those who invests for regular income, & (ii) those who invests for growth. Generally, the investor prefers current dividend over the future growth.
9. **Legal constraints:** Section 123 of the Companies Act, 2013 which provides for declaration of dividend sates that Dividend shall be declared or paid by a company for any financial year only:
   (a) out of the profits of the company for that year arrived at after providing for depreciation in accordance with the relevant provisions, or
   (b) out of the profits of the company for any previous financial year or years arrived at after providing for depreciation in accordance with the relevant provisions and remaining undistributed, or
   (c) out of both, or
   (d) out of money provided by the Central Government or a State Government for the payment of dividend by the company in pursuance of a guarantee given by that Government.

It may be noted that, while computing the profits for payment of dividends any amount representing unrealised gains, notional gains or revaluation of assets and any change in carrying amount of an asset or of a liability on measurement of the asset or the liability at fair value shall be excluded.

10. **Taxation:** Before 1st April 2020, as per Section 115-O of Income Tax Act, 1961, dividend was subject to dividend distribution tax (DDT) in the hands of the company. Dividend on which DDT was paid, was to be exempted in the hands of the shareholder u/s 10(34). However, as per amendment made by the Finance Act 2020, the exemption u/s 10(34) shall not apply to dividend received on or after 1st April 2020 and the dividend income from shares held as investment shall be taxable under the head of 'Other income' at the applicable slab rate.

PAPER 8B: ECONOMICS FOR FINANCE

ANSWER

1. (a) While national income is income earned by factors of production, Personal Income is the income received by the household sector including Non-Profit Institutions Serving Households. Thus, national income is a measure of income earned and personal income is a measure of actual current income receipts of persons from all sources which may or may not be earned from productive activities during a given period.

Disposable personal income is a measure of amount of the money in the hands of the individuals that is available for their consumption or savings. Disposable personal income is derived from personal income by subtracting the direct taxes paid by individuals and other compulsory payments made to the government.

(b) Gross Investment is that part of country's total expenditure which is not consumed but added to the nation's fixed tangible assets and stocks. It consists of the acquisition of fixed assets and the accumulation of stocks. The stock accumulation is in the form of changes in stock of raw materials, fuels, finished goods and semi-finished goods awaiting completion. Thus, gross investment includes final expenditure on machinery and equipment and own account production of machinery and equipment, expenditure on construction, expenditure on changes in inventories, and expenditure on the acquisition of valuables such as, jewellery and works of art.

(c) National Income (NNP_{FC}) by Income Method = Compensation of Employees + Rent+ Interest + Profit + Mixed Income of Self Employed + Net Factor Income from abroad

= 200+300+40+230+75+60= ₹ 905 Crore

National Income (NNP_{FC}) by Expenditure Method = Private final consumption expenditure + Government final consumption expenditure + Gross domestic capital formation + Net Exports

= 600 + 165 + 80 + 60

= ₹ 905 crore

2. (a) The classical economists maintained that the economy is self-regulating and is always capable of automatically achieving equilibrium at the 'natural level' of real GDP or output, which is the level of real GDP that is obtained when the economy's resources are fully employed. While circumstances arise from time to time that cause the economy to fall below or to exceed the natural level of real GDP, wage and price flexibility will bring the economy back to the natural level of real GDP. If an excess in the labour force (unemployment) or products exist, the wage or price of these will adjust to absorb the excess. According to them, there will be no involuntary unemployment.

(b) Multiplier refers to the phenomenon whereby a change in an injection of expenditure will lead to a proportionately larger change (or multiple changes) in the equilibrium level of national income. The MPC, on which the multiplier effect of increase in income depends, is high in underdeveloped countries; but ironically the value of multiplier is low. Due to structural inadequacies, increase in consumption expenditure is not generally accompanied by increase in production. E.g., increased demand for industrial goods consequent on increased income does not lead to increase in their real output; rather prices tend to rise.

(c) The government sector adds the following key flows to the model:

(i) Taxes on households and business sector to fund government purchases.

(ii) Transfer payments to household sector and subsidy payments to the business sector.

(iii) Government purchases goods and services from business sector and factors of production from household sector, and

(iv) Government borrowing in financial markets to finance the deficits occurring when taxes fall short of government purchases.

(d) Y = C + I + G + (X-M)

= 800 + 400 + 100 + (200 - 300)

= ₹ 1200 Crores

3. (a) A government subsidy is a market-based approach that changes the price of the product and allows individual consumers to respond to those prices and make their own decisions.

A subsidy on a good which has substantial positive externalities would reduce the marginal private costs of production, increase the supply, shift the supply curve to the right, reduce the price and increase the quantity demanded of the subsidised good. A higher output that would equate marginal social benefit and marginal social cost is socially optimal. There are many forms of subsidies given out by the government. Two of the most common types of individual subsidies are welfare payments and unemployment benefits.

(b) Government initiatives towards negative externalities may be classified as:

1. Direct controls or regulations that openly regulate the actions of those involved in generating negative externalities, and

2. Market-based policies that would provide economic incentives so that the self-interest of the market participants would achieve the socially optimal solution.

Direct controls, also known as command solutions, prohibit specific activities that explicitly create negative externalities or require that the negative externality be limited to a certain level. For example, government may limit the amounts of certain pollutants released into water and air by individual firms or make it mandatory to use pollution control devices. Licensing, production quotas and mandates regarding acceptable production processes are other examples of direct intervention by governments. Production, use and sale of many commodities and services are prohibited in our country. Smoking is completely banned in many public places. Stringent rules are in place in respect of tobacco advertising, packaging and labelling etc.

(c) Depreciation is a decrease in a currency's value (relative to other major currency benchmarks) due to market forces of demand and supply under a floating exchange rate and not due to any government or central bank policy actions. When a country's currency depreciates, foreigners find that its exports are cheaper and domestic residents find that imports from abroad are more expensive.

(d) This instrument 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. (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). Surplus liquidity of a more enduring nature arising from large capital inflows is absorbed through sale of short-dated government securities and treasury bills. 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.

4. **(a)** Non-technical Measures include different types of trade protective measures which are put into operation to neutralize the possible adverse effects of imports in the market of _

- Import Quotas:
- Price Control Measures
- Non-automatic Licensing and Prohibitions
- Financial Measures
- Measures Affecting Competition
- Government Procurement Policies
- Trade-Related Investment Measures
- Distribution Restrictions:
- Restriction on Post-sales Services
- Administrative Procedures
- Rules of origin
- Safeguard Measures
- Embargos

(b) Merit goods are goods which are deemed to be socially desirable and therefore the government deems that its consumption should be encouraged. Substantial positive externalities are involved in the consumption of merit goods. Left to the market, only private benefits and private costs would be reflected in the price paid by consumers. This means, compared to what is socially desirable, people would consume inadequate quantities. Examples of merit goods include education, health care, welfare services, housing, fire protection, waste management, public libraries, museum and public parks.

(c) The speculative motive reflects people's desire to hold cash in order to be equipped to exploit any attractive investment opportunity requiring cash expenditure. According to Keynes, people demand to hold money balances to take advantage of the future changes in the rate of interest, which is the same as future changes in bond prices. It is implicit in Keynes theory, that the 'rate of interest', ***i,*** is really the return on bonds.

(d) Dumping is unfair and constitutes a threat to domestic producers and therefore when dumping is found, anti-dumping measures may be initiated as a safeguard instrument by imposing additional import duties/tariffs so as to offset the foreign firm's unfair price advantage. This is justified only if the domestic industry is seriously injured by import competition, and protection is in the national interest.

Countervailing duties are tariffs that aim to offset the artificially low prices charged by exporters who enjoy export subsidies and tax concessions offered by the governments in their home country. If a foreign country does not have a comparative advantage in a particular good and a government subsidy allows the foreign firm to be an exporter of the product, then the subsidy generates a distortion from the free-trade allocation of resources.

5. **(a)** It measures changes in the price level of market basket of consumer goods and services purchased by households; constructed using the prices of a sample of representative items whose prices are collected periodically.

(b) A free rider is a person who benefits from something without expending effort or paying for it. In other words, free riders are those who utilize goods without paying for their use. Example is Wikipedia, a free encyclopaedia which faces a free rider problem. Hundreds of millions of people use Wikipedia every month but only a small part of users pay to use it. A large majority of Wikipedia users do not pay to use the site but are able to benefit from the information provided by the website. The free-rider problem occurs when everyone enjoys the benefits of a good without paying for it.

(c) MFN tariffs refer to import tariffs which countries promise to impose on imports from other members of the WTO, unless the country is part of a preferential trade agreement (such as a free trade area or customs union). This means that, in practice, MFN rates are the highest (most restrictive) that WTO members charge each other. Some countries impose higher tariffs on countries that are not part of the WTO.

(d) The total costs to the society on account of a production or consumption activity. Social costs are private costs borne by individuals directly involved in a transaction together with the external costs borne by third parties not directly involved in the transaction. Social Cost = Private Cost + External Cost.

OR

'Credit money' refers to the fraction of money supply created by commercial banks in the process of borrowing and lending transactions with the public.