INTER CA – MAY 2018

PAPER 8 : FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE

Branch: Multiple Date:

PART- A : FINANCIAL MANAGEMENT (60 marks)

Note: Question 1 is compulsory. Attempt any five from the rest.

Question 1

A) Effect of Alternative Working Capital Policies(3 marks)

Working Capital Policy	Conservative	Moderate	Aggressive
Sales	` 20,00,000	` 20,00,000	` 20,00,000
EBIT	` 2,00,000	` 2,00,000	` 2,00,000
Current Assets	` 5,00,000	` 4,00,000	` 3,00,000
Fixed Assets	` 5,00,000	` 5,00,000	` 5,00,000
Total Assets	` 10,00,000	` 9,00,000	` 8,00,000
Return on Total Assets = $\frac{EBIT}{Total\ Assets}$	20.00%	22.22%	25.00%
Ratio of CA to FA = $\frac{Current\ Assets}{Fixed\ Assets}$	1.00	0.80	0.60

Observations: The Firm should balance its objectives of Liquidity and Profitability with the above financing approaches.(2 marks)

- The Conservative Policy (i.e. higher amount of Current Assets) provides greater liquidity and solvency to the Firm, but provides lower Return on Total Assets.
- the Aggressive Policy (i.e. lower amount of Current Assets) gives higher ROA, but has low liquidity and is very risky.
- The Moderate Policy has an ROA higher than Conservative Policy but lower than Aggressive Policy. This is less risky than Aggressive Policy but more risky than Conservative Policy.

B) Income Statement – (2.5 mrks for each company)

Particulars	Company A	Company B
Sales	(reverse working) (Contrib + V Cost) 91,000	(Given) 1,05,000
Less: Variable Cost	(Given) 56,000	(60% of 1,05,000) 63,000
Contribution	(reverse working) (EBIT + Fixed Cost) 35,000	(Sales - V Cost) 42,000
Less: Fixed Cost	(Given) 20,000	(b/fig) = (Contrib. - EBIT) 31,500
EBIT	(reverse working) (EBT + Interest) 15,000	(See Note below) 10,500
Less: Interest	(Given) 12,000	(Given) 9,000
EBT	(See Note below) 3,000	(EBIT - Interest) 1,500
Less: Tax	(30% on EBT) 900	(30% on EBT) 450
EAT	(EBT - Tax) 2,100	(EBT - Tax) 1,050
Note: Computation	DFL = $\frac{EBIT}{EBT} = \frac{EBT+Interest}{EBT}$ = 5 times So, $\frac{EBIT+` 12,000}{EBIT}$ = 5. On solving, EBT = 3,000	DOL = $\frac{Contribution}{EBIT} = \frac{` 42,000}{EBT}$ = 4 times On solving, we have. EBIT = 10,500

C) Computation of WACC (Book Value Weights)(5 marks)

Component	`	%	Individual Cost	WACC
Equity Shares	30,00,000	50.00%	Ke (Given) = 15.00%	7.50%
Preference Shares	8,00,000	13.33%	K_p (Given) = 8.00%	1.07%
Retained Earnings	12,00,000	20.00%	K_r (Given) = 11.00%	2.20%
Debentures	10,00,000	16.67%	Kd =9% x (100% - 30%) = 6.30%	1.05%
Total	60,00,000	100.00%	WACC = Kq =	11.82%

D) (1 mark for each step of calculation)

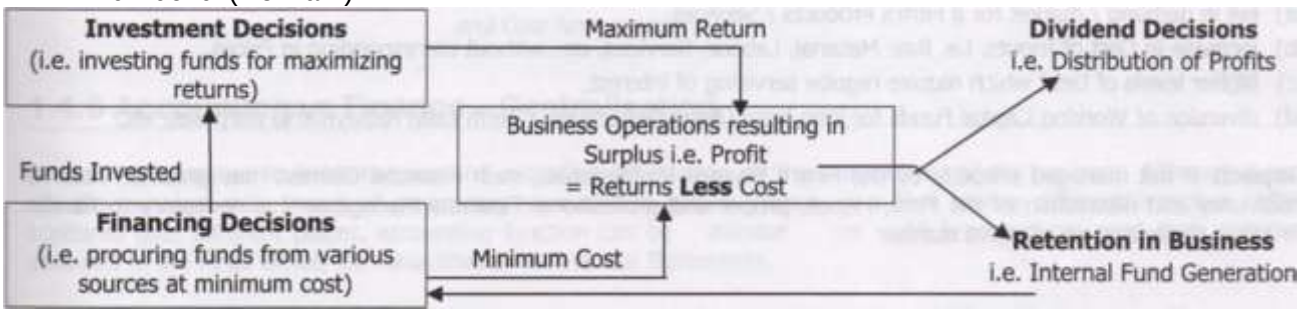
Solution: Computation of Risk Adjusted Net Present Value

Particulars		Project X	Project Y	Project Z
Co-efficient of Variation		1.8	0.80	0.40
Therefore, Risk Adjusted Rate of Return		16%	14%	12%
PV of Annuity Factor for 5 Years		3.274	3.433	3.605
Annual Cash Inflows		₹ 70,000	₹ 42,000	₹ 30,000
	PV of Cash Inflows	2,29,180	1,44,186	1,08,150
	[Annual Cash Inflow × PV of Annuity Factor]	[70 × 3.274]	[42 × 3.433]	[30 × 3.605]
Less:	Investment in Year 0	(2,10,000)	(1,8,000)	(1,00,000)
	Net Present Value	**19,180**	**24,186**	**8,150**

Question 2

A)

1. Objective: The underlying objective of all the three decisions viz. - Investment, Financing and Dividend decisions, is "maximization of Shareholders' wealth". The Finance Manager has to consider the joint impact of these three decisions on the market price of the Company's Shares. (1 mark)
2. Linkage:
   (a) A new project (investment) needs finance. Also, a Company may have to expand / develop its operations, which require funds. Hence Investment Decisions is based on the Financing Decision.
   (b) The Financing decision is influenced by, and influences the Dividend decision, since Retained Earnings used in internal financing means reduction in dividends paid to Shareholders.
   (c) So, the inter-relationship between the three types of decisions should be analysed jointly, in order to maximize the Shareholders' wealth. (1 mark)
3. Decision-Making: The three decisions can be linked to maximize Shareholders' Wealth, in the following manner -
   (a) Investment Decisions: Investment in Long Term Projects should be made after Capital Budgeting and uncertainty analysis. Projects which give reasonable returns (higher than cost) in order to add to the surplus of the Shareholders', should be selected. The returns should be high enough as to distribute reasonable dividends and also retain adequate resources for the Company's growth prospects.
   (b) Financing Decisions: Proper balancing between long-term and short-term funds, as well as own funds and loan funds, will help the Firm to minimize its overall cost of capital and increase its wealth / value. Low cost of funds will mean higher profit margins, which can be used for dividend distribution as well as internal financing of new projects / growth plans.
   (c) Dividend Decisions: The optimum dividend pay-out ratio ensures that shareholders' wealth is optimized. Where the funds at the disposal of the Company earn a higher return than if distributed to shareholders, wealth maximization can be achieved by retaining the funds, rather than declaration of dividend. (1.5 mark)



B) Maturity Value of an Annuity = Annuity Amount x $\frac{[(1+R)^n-1]}{R}$

Here, Annuity Amount = ` 10,000,
n = Number of years = 30
R = Rate of Interest = 10%

Thus, Maturity Value = 10,000 x $\frac{[(1+0.10)^{30}-1]}{0.10}$ = 10,000 X 164.49 = ` 16,44,900 (4 marks)

Question 3 (5 mark for required ratios and 3 marks for working)

Solution:

1. Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$ = 2.5 times. So, Current Assets = 2.5 × Current Liabilities.

Net Working Capital = Current Assets – Current Liabilities = ₹ 4,50,000.

2.5 × Current Liabilities – Current Liabilities = ₹ 4,50,000. So, 1.5 × Current Liabilities = ₹ 4,50,000

Hence, Current Liabilities = $\frac{₹\ 4,50,000}{1.5}$ = **₹ 3,00,000**. Therefore, Current Assets = 2.5 × 3,00,000 = **₹ 7,50,000**

2. Total Assets T/O= $\frac{\text{Sales}}{\text{Fixed Assets + Current Assets}}$ = 2 times. So, $\frac{\text{Sales}}{₹\ 10,00,000 + ₹\ 7,50,000}$ = 2.

Hence, Sales = 2 × 17,50,000 = **₹ 35,00,000**

3. Stock T/O= $\frac{\text{COGS}}{\text{Average Stock}} = \frac{\text{Sales – GP}}{\text{Average Stock}} = \frac{(₹\ 35,00,000 - 20\%)}{\text{Average Stock}}$ = 7 times.

Hence, Average Stock = $\frac{₹\ 28,00,000}{7}$ = **₹ 4,00,000**

4. Average Stock = $\frac{\text{Closing Stock + Opening Stock}}{2}$ =₹ 4,00,000. So, $\frac{\text{Closing Stock + 3,80,000}}{2}$ = ₹ 4,00,000

Hence, Closing Stock = ₹ 8,00,000 – ₹ 3,80,000 = **₹ 4,20,000**

5. Quick Ratio= $\frac{\text{Current Assets – Closing Stock}}{\text{Current Liabilities}} = \frac{7,50,000 - 4,20,000}{3,00,000}$ = **1:1**

Note: It is assumed that there is no Bank Overdraft, Cash Credit and Prepaid Expenses.

6. Fixed Assets T/O = $\frac{\text{Sales}}{\text{Fixed Assets}} = \frac{₹\ 35,00,000}{₹\ 10,00,000}$ = **3.5 times.**

7. **Total Funds** = Fixed Assets + Net Working Capital = ₹ 10,00,000 + ₹ 4,50,000
= ₹ 14,50,000 = **Capital Employed** = Debt + Equity

Debt – Equity Ratio is 1: 1.5, so apportioned as under –

Debt = ₹ 14,50,000 × $\frac{1}{2.5}$ = ₹ 5,80,000

Equity = ₹ 14,50,000 × $\frac{1.5}{2.5}$ = ₹ 8,70,000

Equity Capital	**Preference Capital**	**Reserves & Surplus**
= 60,000×10= ₹ 6,00,000	= 20,000×10= ₹ 2,00,000	= bal. fig.= **₹ 70,000**

8. Proprietary Ratio = $\frac{\text{Proprietary Funds}}{\text{Total Assets}} = \frac{\text{Equity}}{\text{Fixed Assets + Current Assets}} = \frac{₹\ 8,70,000}{₹\ 17,50,000}$ = **0.50 times.**

9.	EAT = 15% on Total Assets	= 15% on ₹ 17,50,000 =	₹ 2,62,500
Less:	Preference Dividend	= 9% on ₹ 2,00,000 =	₹ 18,000
	Residual Earnings		**₹ 2,44,500**

EPS= $\frac{\text{Residual Earnings}}{\text{Number of Equity Shares}} = \frac{₹\ 2,44,500}{60,000\ \text{Shares}}$ = **₹ 4.075**

10. PE Ratio = $\frac{\text{Market Price per Share}}{\text{Earnings per Share}} = \frac{₹\ 16}{₹\ 4.075}$ = **3.93 times.**

Question 4

A)

1. Meaning: Venture Capital Financing refers to financing of high risk ventures promoted by new, qualified entrepreneurs who require funds to give shape to their ideas. Here, a Financier (called Venture Capitalist) invests in the Equity or Debt of an Enterpreneur (Promoter / Venture Capital Undertaking) who has a potentially successful business idea, but does not have the desired track record or financial backing.(1 mark)

Generally, Venture Capital Funding is associated with - (a) heavy initial investment businesses, e.g. energy conservation, quality upgradation, or (b) sunrise sectors like information technology.

Venture Capital Company (VCC) *Investor*	Venture Capital Assistance	Venture Capital Undertaking (VCU) *Promoter / Enterpreneur*

2. Methods of Venture Capital Financing: (1.5 marks, student may answer in short)
   (a) Equity Financing: VCU's generally require funds for a longer period but may not be able to provide returns to the investors during initial stages. Hence, Equity Share Capital financing is advantageous. The Investor's contribution does not exceed 49% of the total Equity Capital of the VCU. Hence, the effective control and ownership remains with the entrepreneur.
   (b) Conditional Loan: A Conditional Loan is repayable in the form of a royalty after the venture is able to generate sales. No interest is paid on such loans. The rate of royalty (say 2% to 15%) may be based on factors like - (i) gestation period, (ii) cash flow patterns, (iii) extent of risk, etc. Sometimes, the VCU has a choice of paying a high rate of interest (say 20%) instead of royalty on sales once the activity becomes commercially sound.
   (c) Income Note: It is a hybrid type of finance, which combines the features of both conventional loan & conditional loan. The VCU has to pay both interest and royalty on sales but at substantially low rates.
   (d) Participating Debentures: Interest on such debentures is payable at three different rates based on the phase of operations - (i) Start-up and commissioning phase - NIL Interest, (ii) Initial Operations Stage - Low rate of interest, and (iii) After a particular level of operations - High rate of interest.
3. Factors considered by a Venture Capitalist before Financing: (1.5 marks, student may answer in short)
   (a) Expertise of Company's Management: The success of a new project is highly dependent on the quality of the VCU's management team. VCC's expect that the VCU / Promoter / Entrepreneur should have a skilled team of Managers. Managements are also required to show a high level of commitments to the project.
   (b) Expertise in production: The Venture Capitalist should ensure that the Entrepreneur and his team should have necessary technical ability to be able to develop and produce new product /service.
   (c) Nature of new product / service: The Venture Capitalist should consider whether the development and production of new product / service is technically feasible. They should employ experts in their respective fields to examine the idea proposed by the entrepreneur.
   (d) Future Prospects: Since the degree of risk involved in investing in the VCU is quite fairly high, the Venture Capitalist should seek to ensure that the prospects for future profits compensate for the risk. Therefore, they should see a detailed business plan setting out the future business strategy.
   (e) Competition: The Venture Capitalist should seek assurance that there is actually a market for the new product. Further, the Venture Capitalist should review the Market Research work carried out by the Entrepreneur.
   (f) Risk borne by Entrepreneur: The Venture Capitalist is expected to see that the Entrepreneur bears a high degree of risk. This will assure them that the Entrepreneur has the sufficient level of the commitment to project as they themselves will have a lot of loss, should the project fail.
   (g) Exit Route: The Venture Capitalist should try to establish a number of exit routes. These may include a sale of shares to the public, sale of shares to another business, or sale of share of original owners, etc.
   (h) Board Membership: In case of Companies, to ensure proper protection of their investment, the Venture Capitalist should require a place on the Board of Directors. This will enable them to have their say on all significant matters affecting the business.

B)

Note: In the absence of information about the rate of dividend for the year preceding the growth stage (i.e. year ending at T_0), it is presumed at 10% of Face Value of Equity Shares.

1. Growth Rate of Dividends:
   (a) Growth Stage: 18% (presumed to be the same for both the years)
   (b) Transition Stage: From 18% to 9% over three years → 15% for Year 1 of Transition, 12% for Year 2 of Transition and 9% for Year 3 of Transition.(i.e. uniformly distributed)
   (c) Maturity Stage: Not Available (1 mark)
2. Rate of Dividend (Assuming 10% Dividend in T0, year before 1st year of growth): (3 marks)

Stage	Year	Rate of Dividend
Growth	1	10% + 18% of 10% = 11.800%
Growth	2	11.8% + 18% of 11.8% = 13.924%

Transition	1	13.924% + 15% of 13.924% = 16.013%

Rate of Dividend at the end of Year 1 of Transition = 16.013% of Face Value

Alternatively: Rate of Dividend at the end of Year 1 of Transition can be computed as 18% - $\left(\frac{9}{18}\right)^{1/3}$ = 17.21%.

Question 5 (2 marks for each calculation)

Solution:

	Particulars	Computation	Result
1.	Incremental Contribution	(8% × 21,000 units) × (SP ₹ 40 – VC ₹ 25)	**₹ 25,200**
2.	Incremental Investment in Debtors, on Variable Cost basis	Proposed: (21,000 units + 8%) × VC ₹ 25 × $\frac{2}{12}$ = **₹ 94,500** Present: 21,000 units × VC ₹ 25 × $\frac{1}{12}$ = **₹ 43,760**	Incremental funds blocked =**₹ 50,750**
	Incremental Investment in Debtors, on Total Cost basis (**See Note**)	Proposed: [(21,000 uts+8%)×VC ₹ 25 + FC ₹ 2,10,000]× $\frac{2}{12}$ =**₹ 1,29,500** Present: [(21,000 units × VC ₹ 25) + FC ₹ 2,10,000] × $\frac{1}{12}$ = **₹ 61,250**	Incremental funds blocked =**₹ 68,250**
3.	Effective Return on Invt	$\frac{\text{Incremental Contribution}}{\text{Incremental Investment}} = \frac{25,200}{50,750}$ (VC basis) or $\frac{25,200}{68,250}$ (TC basis)	**49.66%** (or) **36.92%**
4.	Conclusion	The proposed Return on Investment (under both Variable and Total Cost Approaches) is higher than the required Return 25%. Hence, the proposal is	**acceptable**

Note: **Fixed Costs** = 21,000 units × (Total Cost ₹ 35 – VC ₹ 25) = ₹ 2,10,000, which amount will remain constant in present and proposed levels.

Question 6 (2 marks for each calculation)

Solution: 1. Computation of Annual Lease Payments [From Lessor's Perspective] [Yield / Return = 10%]

(a) Since, the Lessor requires a yield of 10% and wishes to amortize the asset completely, the Present Value of Future Cash Inflows should be equal to Cost of the Asset.

(b) Let Lease Rental = ₹ x p.a. So, Post Tax Lease Rentals = 0.5x.

(c) Depreciation p.a. = $\frac{\text{Cost of Assets}}{\text{Life in Years}} = \frac{20,00,000}{10 \text{ Years}}$ = ₹ 2,00,000. Tax Savings thereon at 50% = ₹ 1,00,000.

(d) Since, Lease Payments are to be made at the beginning of the year for the next 10 years, relevant Annuity Factor for the purpose of computing Annual Cash Inflow is 1 + Annuity Factor at 10% for 9 Years = 1 + 5.759 = 6.759.

(e) From Lessor's Viewpoint, Cost of Asset = PV of Lease Rentals + PV of Tax Savings on Depreciation

So, ₹ 20,00,000 = 0.5x × 6.759 + (₹ 1,00,000 × 6.759)

₹ 20,00,000 = 3.3795x + 6,75,900.

So, 3.3795× = 13,24,100. So x = $\frac{13,24,100}{3.3795}$ = **₹ 3,91,804**. [= Break Even Lease Rentals BELR]

Note: Discount Factor for Lessee's perspective = After Tax Cost of Debt = 16% × 50% = **8%**.

2. PV under Leasing Option	
Annual Lease Rentals	3,91,804
Less: Tax @ 50%	(1,95,902)
Annual Cost	**1,95,902**
PVAF @ 8%, 10 Years *	7.247
PV of Cash Outflow	**14,19,702**

3. Annual Instalment	
Loan Required	20,00,000
PVAF @ 16% 10 Yrs	
= 4.607 + 1	5.607
EMI = Loan ÷ PVAF	**3,56,697**

4. Tax Savings on Depreciation	
Depreciation ₹ 20,00,000 / 10 Years	2,00,000
Tax Saving on Depn @ 50%	1,00,000
PVAF @ 8%, 10 Years	7.246
PV of Tax Savings	**7,24,600**

Note *: Lease Payments and Loan EMI will be paid in the beginning of the year. PVAF for 10 Years = PVAF for 9 Years + 1. It is assumed that all the Cash Flows and their tax effects occur at the same point of time.

5. PV of Loan Option

Yr (1)	Opening (2)	Interest @ 16% (3)	Closing (5) = (2) + (3) – ₹ 3,56,697	Tax Savings on Int. (4) = (3) × 0.50	Cash Flow (5) = ₹ 3,56,697 – (4)	PVF at 8%	DCF
0	20,00,000	–	16,43,303	–	3,56,697	1.000	3,56,697
1	16,43,303	2,62,928	15,49,534	1,31,464	2,25,233	0.926	2,08,566
2	15,49,534	2,47,925	14,40,762	1,23,962	2,32,735	0.857	1,99,454
3	14,40,762	2,30,522	13,14,587	1,15,261	2,41,436	0.794	1,91,700
4	13,14,587	2,10,334	11,68,224	1,05,167	2,51,530	0.735	1,84,875
5	11,68,224	1,86,916	9,98,443	93,458	263,239	0.681	1,79,266
6	9,98,443	1,59,751	8,01,497	79,876	2,76,821	0.630	1,74,397
7	8,01,497	1,28,240	5,73,040	64,120	2,92,577	0.583	1,70,572
8	5,73,040	91,686	3,08,029	45,843	3,10,854	0.540	1,67,861
9	3,08,029	48,668	–	24,334	3,32,363	0.500	1,66,182
	PV of Cash Outflows						**19,99,570**
Less:	PV of Tax Savings on Depreciation						(7,24,600)
	PV of Cash Outflows						**12,74,970**

5. Evaluation [Lease vs. Borrowing]

If Lease Rent p.a. is	Lessor's viewpoint	Lessee's viewpoint
₹ 3,91,804	This constitutes BELR at 10% yield. Hence Lessor will be interested in leasing the asset.	Since PV of Lease ₹ 14,19,702 is higher than PV of loan ₹ 12,74,968, Lessee will not opt for Lease.
₹ 3,50,000	Since this is below BELR ₹ 3,91,804, Lessor will not be interested in leasing the asset.	PV of Lease = ₹ 3,50,000 × (1 – 0.5) × 7.247 = ₹ 12,68,225. Since this is lower than Loan Option, Lessee will be interested in the lease.

Question 7 (1 -2 marks, 2- 2 marks, 3 – 4 marks)

Solution: **1. Computation of Future Value, i.e. Terminal Value (amounts in ₹)**

Yr	No. of years reinvested	Re–Invt Factor 10%	Terminal Cash flows of Streams			
			A	B	C	D
1	4	$(1.1)^4$=1.4641	100×1.4641=146.41	600×1.464=878.46	–	200×1.4641=292.82
2	3	$(1.1)^3$=1.3310	200×1.3310=266.20	–	–	–
3	2	$(1.1)^2$=1.2100	200×1.2100=242.00	–	–	500×1.2100=605.00
4	1	$(1.1)^1$=1.1100	300×1.1100=330.00	–	–	–
5	0	$(1.1)^0$=1.0000	300×1.0000=300.00	–	1200×1.000=1200	300 × 1 = 300.00
Total			1284.60	878.46	1200.00	1197.82

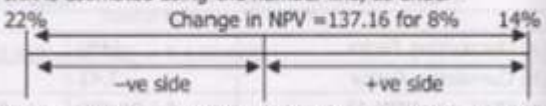
2. Computation of Present Value (amounts in ₹)

Yr	PVF at 14%	A		B		C		D	
		Cash flow	DCF	Cash flow	DCF	Cash flow	DCF	Cash flow	DCF
1	0.8772	100.00	87.72	600.00	526.32	–	–	200.00	175.43
2	0.7695	200.00	153.90	–	–	–	–	–	–
3	0.6750	200.00	135.00	–	–	–	–	500.00	337.48
4	0.5921	300.00	177.63	–	–	–	–	–	–
5	0.5194	300.00	155.82	–	–	1200.00	623.28	300.00	155.81
Total Present Values			710.07		526.32		623.28		668.73

3. Computation of IRR – (a) Project A:

Y	CFAT	PVF 14%	PVF 22%	DCFAT at 14%	DCFAT at 22 %
1	₹ 100	0.8772	0.8197	₹ 87.72	₹ 81.97
2	₹ 200	0.7695	0.6719	₹ 153.90	₹ 134.38
3	₹ 200	0.6750	0.5507	₹ 135.00	₹ 110.14
4	₹ 300	0.5921	0.4514	₹ 177.63	₹ 135.42
5	₹ 300	0.5194	0.3700	₹ 155.82	₹ 111.00
Total DCFAT				₹ 710.07	₹ 572.91
Less: Initial Investment				₹ 600.00	₹ 600.00
Net Present Value				₹ 110.07	(₹ 27.09)

From the above, i.e. with one +ve NPV and one –ve NPV, IRR is estimated using the number line, as under –



NPV =– 27.09 NPV = 0 (Zero) NPV= +110.07

Rate Change for 27.09 = $\frac{27.09}{137.16} \times 8\% = 1.58\%$

Rate Change for 110.07 = $\frac{110.07}{137.16} \times 8\% = 6.42\%$

IRR = 22% – 1.58% **(or)** 14% + 6.42% = **20.42%**

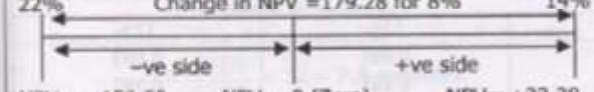
(b) Project B: For this project, the Initial Investment is ₹ 600 which is received in Year 1. Hence IRR = 0%.

(c) Project C and Project D

Yr	PVF at 14%	PVF at 22%	Project C			Project D		
			CFAT	DCFAT at 14%	DCFAT at 22%	CFAT	DCFAT at 14%	DCFAT at 22%
1	0.8772	0.8197	–	–	–	200	175.44	163.94
2	0.7695	0.6719	–	–	–	–	–	–
3	0.6750	0.5507	–	–	–	500	337.50	275.35
4	0.5921	0.4514	–	–	–	–	–	–
5	0.5194	0.3700	1,200	623.28	444.00	300	155.82	111.00
Total DCFAT				623.28	444.00		668.76	550.29
Less: Initial Investment				(600.00)	(600.00)		(600.00)	(600.00)
NPV				23.28	(156.00)		68.76	(49.71)

Project C

From the above, i.e. with one +ve NPV and one –ve NPV, IRR is estimated using the number line, as under –



NPV =– 156.00 NPV = 0 (Zero) NPV= +23.28

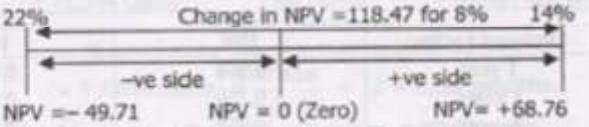
Rate Change for 156.00 = $\frac{156.00}{179.28} \times 8\% = 6.96\%$

Rate Change for 23.28 = $\frac{23.28}{179.28} \times 8\% = 1.04\%$

IRR = 22% – 6.96% **(or)** 14% + 1.04% = **15.04%**

Project D

From the above, i.e. with one +ve NPV and one –ve NPV, IRR is estimated using the number line, as under –



NPV =– 49.71 NPV = 0 (Zero) NPV= +68.76

Rate Change for 49.71 = $\frac{49.71}{118.47} \times 8\% = 3.36\%$

Rate Change for 68.76 = $\frac{68.76}{118.47} \times 8\% = 4.64\%$

IRR = 22% – 3.36% **(or)** 14% + 4.64% = **18.64%**

PART – B: ECONOMICS FOR FINANCE (40 Marks)

Note: Question 1 is compulsory. Attempt any four from the rest.

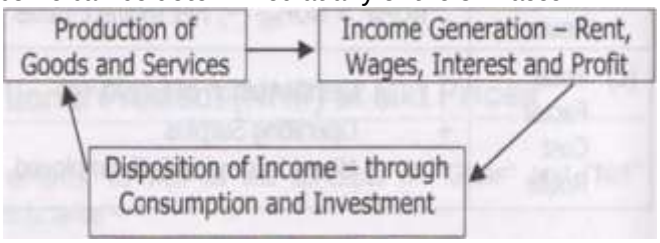
Question 1

A) (2 marks for each point)

1. There is a continuous Circular Flow of Income comprising 3 inter-connected Phases -
   (a) Production of Goods and Services,
   (b) Income Generation / Distribution by way of Factor Incomes/Payments, and

(c) Expenditure or Disposition- Consumption & Savings.

2. Accordingly, National Income can be determined at any of the 3 Phases.



B)

1. Meaning: Monetary Policy refers to the use of Monetary Policy Instruments which are at the disposal of the Central Bank, for the following objectives – (1 mark)
   (a) to regulate the availability, cost and use of Money and Credit,
   (b) to promote economic growth,
   (c) to ensure Price Stability,
   (d) to achieve optimum levels of output and employment,
   (e) to obtain Balance of Payments equilibrium,
   (f) to ensure stable currency, or
   (g) to meet of Government's Economic Policy.

Monetary Policy =	Action Programme of the Monetary Authorities	+	To control and regulate Demand & Supply of Money with the Public and the flow of Credit,	+	For achieving pre-determined Macro-Economic Goals.

2. Supply vs Demand:(1.5 marks)
   (a) Monetary Policy is intended to influence Macro-Economic Variables, e.g. Aggregate Demand, Quantity of Money and Credit, Interest Rates, etc.
   (b) Generally, Monetary Policy encompasses all actions of the Central Bank which are aimed at -
      - directly controlling the Money Supply, and
      - indirectly at regulating the Demand for Money.
   (c) Specifically, Monetary Policy is in the nature of "demand-side" Macro-Economic Policy, and works by stimulating or discouraging Investment and Consumption spending on Goods and Services.
3. Components of Monetary Policy:(1.5 marks) In the execution of Monetary Policy, the Central Bank functions within a specified Monetary Policy Framework which has 3 components as under –

Monetary Policy Objectives	Analytics of Monetary Policy	Operating Procedures
This provides explicit Guidance to the Policy Makers.	This seeks to define the Transmission Mechanisms for implementation.	This focusses on the Operating Targets and Instruments.

Question 2

A) The following are the difficulties / shortcomings / limitations in the measurement of National Income - (illustrative list only) (0.5 marks for each point, all point are not compulsory)

1. Operational / Implementation Difficulties:

(a) Incomplete data, inadequacy of data, late availability of data,
(b) Lack of reliability of data,
(c) Omission of certain sectors / units where - (i) Producing Units are not organized, (ii) Transactions are outside the Monetary / Banking System, including Barter, (iii) Data is not available / is difficult to collect,
(d) Double Counting of Incomes / Payments in certain sectors,
(e) Illiteracy, Ignorance, Reluctance to share data to compile National Accounts,
(f) Lack of proper occupational classification in determining Factor Incomes,
(g) Variation in methods of computing Depreciation Expense, i.e. towards Consumption of Fixed Capital.

2. Measurement Difficulties:

(a) Valuation of Government Services and Transactions,
(b) Valuation of Production for Self-Consumption,
(c) Valuation of New Products / Services at Constant Prices vs Current Prices,
(d) Determination of Services relating to Durable Goods,

(e) No Proper differentiation between Intermediate Goods and Final Goods,
(f) Use of Book Value (rather than Replacement Costs) of Inventories which overstates or understates the Actual Inventories.

3. Conceptual Difficulties:

(a) No uniformity / agreement in definition of National Income, and using of multiple measures (GDP, GNP, etc.)
(b) Difficulties of Measuring Some Services in Money Terms, e.g. Services of Housewife, Hobbies of an Individual.
(c) Impact of Illegal Activities in the Economy / Growth of "Black Economy", e.g. Smuggling, Drug Trafficking and all Parallel Market transactions,
(d) Impact of Price Rise, i.e. Increase in National Income due to prices, without any increase in "real" output,
(e) Exclusion of Capital Gains or Losses accruing to Property Owners by increase or decrease in the Market Value of their Assets,
(f) No differentiation between impact of Welfare vs Non Welfare Activities in measurement of National Income,
(g) Over-emphasis on mere Total GDP, rather than Per Capita GDP that signifies real standard of living,
(h) Exclusion of qualitative factors like impact of quality, technology, innovations, etc.
(i) Exclusion of non-market, non-economic contributors to social well-being and welfare,
(j) Focus on "Monetary" welfare, rather than "real welfare" e.g. leisure time, community feeling, etc.

B) Credit Multipiler = $\frac{1}{Required\ Reserve\ Ratio}$ (1 mark)

The Computations are as under. (1 mark each)

If Required Reserve Ratio is	4%	10%	20%
Credit Multiplier	$\frac{1}{4\%}$ = 25 times	$\frac{1}{10\%}$ = 10 times	$\frac{1}{20\%}$ = 5 times
For every ` 1,00,000, Credit Money created by Banks	25 x 1,00,000 = 25,00,000	10 X 1,00,000 = 10,00,000	5 x 1,00,000 = 5,00,000

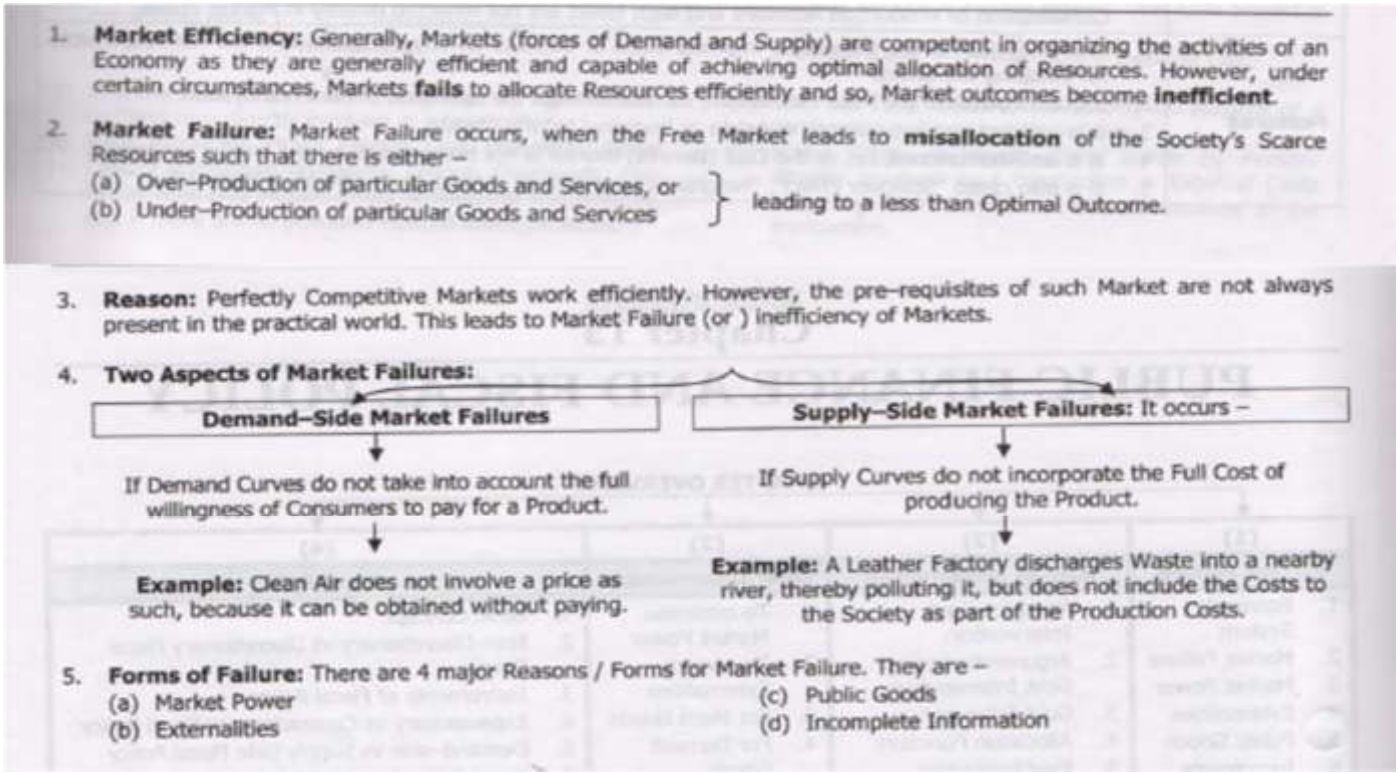
Question 3

A)

1. Approach: In 1956, Milton Friedman extended Keynes' Theory within the framework of Asset Price Theory. Accordingly, Demand for Money is similar to Demand for Capital Assets.(1 mark)
2. Concept: Money is similar to any other Durable Consumption Good. So, Demand for Money is affected by the same factors as demand for any other Capital Asset, namely -
   (a) Permanent Income. [Note: Keynesian Theory focusses on Current Income, whereas Friedman Theory focusses on Permanent Income as a factor affecting Demand for Money.]
   (b) Relative Returns on Assets, (which incorporate Risk)(1 marks)
3. Explanation: Under Friedman Theory, there are four Determinants of the Demand for Money –(2 marks)

Factors	Description / Nature of Relation
Permanent Income	a) Permanent Income is the present expected value of all Future Income. b) Nominal Demand for Money is a function of Total Wealth. [Total Wealth - $\frac{Permanent\ Income}{Discount\ Rate}$] c) Discount Rate is taken as the Average Return on the five asset classes in the Monetarist Theory World, viz. Money, Bonds, Equity, Physical Capital & Human Capital.
Price Level	a) Nominal Demand for Money is positively related to the Price Level, P. b) If the Price Level rises, the Demand for Money increases and vice-versa.
Opportunity Cost	a) Nominal Demand for Money is inversely related to the Opportunity Costs of Moneyholdings. b) If the Returns on Bonds and Stock declines, Nominal Demand for Money rises and vice-versa.
Inflation	Nominal Demand for Money is influenced by Inflation. A Positive Inflation Rate reduces the Real Value of Money Balances, thereby increasing the Opportunity Costs of Money Holdings.

B) (1 mark for each point)



Question 4

A)

1. Concept: Fiscal Policy- (1.5 marks)
   (a) involves the use of Government Spending, Taxation and Borrowing to influence both the pattern of economic activity and level of growth of Aggregate Demand, Output and Employment.
   (b) Includes any design on the part of the Government to change thr price level, composition or timing of Government expenditure or to alter the burden, structure or frequency of tax payment.
2. Features: Fiscal Policy – (1.5 marks)
   (a) is designed to influence the pattern and level of economic activity in a country.
   (b) is in the nature of a demand-side policy.
   (c) does not assume full employment level. [Note: An economy which is producing at full-employment level does not require Government action in the form of Fiscal Policy.]
   (d) is aimed at managing macro-economic aggregates, but has micro-economic impact also.
3. Objectives: Common Objectives of Fiscal Policy include – (1 mark)

(a) achievement and maintenance of full employment,
(b) maintenance of price stability,
(c) efficiency the allocation of resources,
(d) acceleration of the rate of economic growth and development, and
(e) equitable distribution of income and wealth.

B) (1 mark for each point)

1. Concept:

(a) Adam Smith propounded the Theory of Absolute Cost Advantage as the basis of Foreign Trade.
(b) Under this Theory, an exchange of goods will take place only if each of the two countries can produce one commodity at an absolutely lower production cost than the other country.
(c) Each Country which has an absolute advantage over another Country in the production of an item, can trade such item, and hence gain in terms of International Trade.
(d) Absolute Advantage refers to the ability of a Party (an Individual, or Firm, or Country) to produce more of a good or service than the Competitors, using the same amount of resources.

2. Explanation: Consider two Countries (A and B), and two Products (X and Y). The Countries have different abilities to produce goods, and an accordingly the Production varies as under –

	Product X	Product Y
Country A	30 units per hour	20 units per hour
Country B	5 units per hour	25 units per hour

- Here, Country A is better equipped to produce Product X (30 units vs 5 units), whereas Country B is better equipped to produce Product Y (25 units vs 20 units).
- Both Countries will gain by trading with one another, by which Country A will specialize in Product X, and Country B will specialize in Product Y.
- If specialization takes place but there is international trade, Residents of Country A will not have Product Y, and Residents of Country B will not Product X at all. This situation is avoided by engaging in International Trade.
- Gains may not always be distributed equally between Countries A & B, say if 1 unit of X is traded for 1 unit of Y.

3. Advantages:

(a) Each Country which has an absolute advantage over another Country in the production of an item, can trade such item, and hence gain in terms of International Trade. One Country's Gain need not be another Country's Loss.

(b) This Theory recognises the importance of division of labour, specialization, and consequent benefits.

(c) Global Output is maximized, and all products are available to Consumers of all Countries.

4. Disadvantages:

(a) It is too simplistic a Model to consider. It does not recognise many practical barriers to International Trade.

(b) Labour is considered as the only Factor Input in the analysis of Absolute Advantage.

(c) It does not consider situations where one Country has absolute advantage over another Country in two commodities, and the second Country has absolute disadvantage over the first country in both commodities.

(d) It emphasizes only Supply-side conditions, and ignores domestic demand in respective countries.

Question 5

A) (2 marks for each)

Based on the concepts of "Domestic" and "National" measurements, as well as the concepts of "Gross" and "Net" measurements given above, the following concepts of measurements arise –

	NDP at Market Prices	NNP at Market Prices
1. **Meaning**	NDP_{MP} is the measure of the Market Value of all **final** goods and services, produced within the "domestic" territory of a country, in a year, **after subtracting Depreciation.**	NNP_{MP} is the measure of the Market Value of all **final** goods and services, produced within the "domestic" territory of a country, **after subtracting Depreciation**, in a year, **plus** Net Factor Incomes from Abroad (NFIA).
2. **Formula** (a) "Gross" vs "Net" Route	$NDP_{MP} = GDP_{MP}$ (–) Depreciation	$NNP_{MP} = GNP_{MP}$ (–) Depreciation
(b) "Domestic" vs "National" Route	$NDP_{MP} = NNP_{MP}$ (–) NFIA	$NNP_{MP} = NDP_{MP}$ (+) NFIA i.e. [GDP_{MP} (–) Depreciation] (+) NFIA

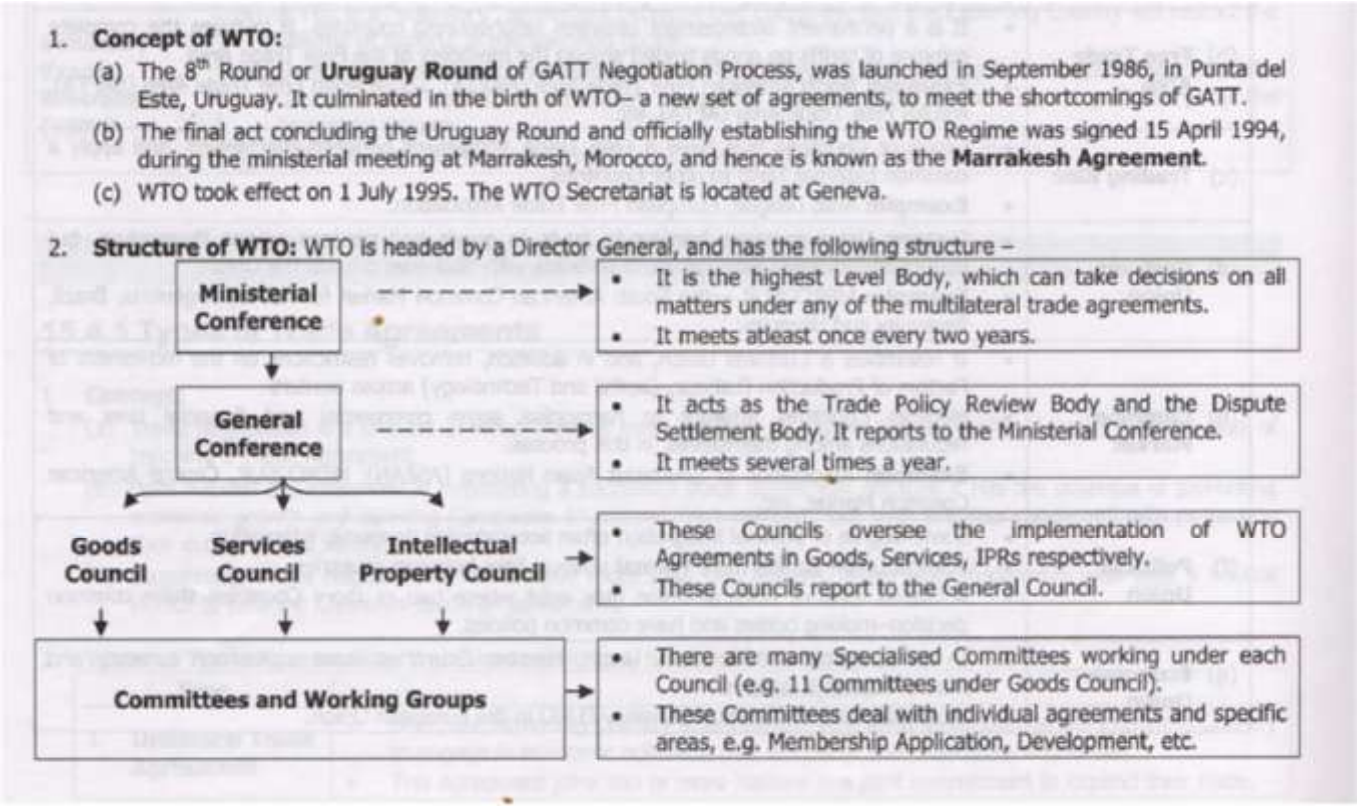
Note: Computation can be made through – (a) "Gross" vs "Net" Route, the difference being Depreciation Expense, or (b) "Domestic" vs "National" Route, the difference being NFIA.

B) appreciation vs Revaluation:

	Appreciation	Revaluation
(a) Meaning	Appreciation is a increase in a Currency's Value (relative to another currency) due to market forces in a Floating Exchange Rate	Devaluation is a deliberate upward adjustment in the value of a Country's currency relative to another currency, group of currencies or standard.
(b) Cause	appreciation is caused due to decrease in Demand, with Supply remaining constant.	Revaluation is caused by the action of the Government / Central Bank / Monetary Authority policy actions.
(c) Regime	Applicable for a Floating Exchange Rate	Applicable for a relatively Fixed Exchange Rate Regime.
(d) Scope	It is due to the interaction of market forces.	It is a monetary policy tool to make an official reduction in the par value of a currency.

Question 6

A) (2 marks for each point)



B) Global Public Goods:

Point	Description
Meaning (1 mark)	a) Public Goods the benefits of which accrue to everyone in the world are called Global Public Goods. b) These goods have widespread indivisible impact on different countries and regions, population groups and generations. c) There is no mechanism (either Market or Government) to ensure an efficient outcome.
WHO Classi Fication (1.5 marks)	WHO identifies two categories of Global Public Goods - a) Final Public Goods which are "outcomes", (e.g. the eradication of polio), and b) Intermediate Public Goods, which contribute to the prevision of Final Public Goods, (e.g. International Health Regulations aimed at stopping the cross-border movement of communicable diseases and thus reducing cross-border health risks).
World Bank Classi-fication (1.5 marks)	The World Bank identifies five areas of Global Public Goods - a) Environmental Commons (including the prevention of climate change and biodiversity), b) Communicable Diseases (including HIV / AIDS, Tuberculosis, Malaria, and Avian Influenza), c) International Trade, d) International Financial Architecture, and e) Global Knowledge for Development.

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