

# TOPPER'S INSTITUTE

## CA INTER-FM - RTP

**Q1.** is compulsory, Attempt any **Five** questions from the remaining **Six** questions

**Working Notes should form part of the Answers**

**Q.1 Answer the following:**

**[4 × 5 = 20 Marks]**

- (a) Company P and Q are identical in all respects including risk factors except for debt/equity, company P having issued 10% debentures of ₹ 18 lakhs while company Q is unlevered. Both the companies earn 20% before interest and taxes on their total assets of ₹ 30 lakhs. Assuming a tax rate of 50% and capitalization rate of 15% from an all-equity company.

Required:

CALCULATE the value of companies' P and Q using (i) Net Income Approach and (ii) Net Operating Income Approach.

- (b) Navya Limited wishes to raise additional capital of Rs.10 lakhs for meeting its modernization plan. It has ₹ 3,00,000 in the form of retained earning available for investments purposes.

The following are the further details:

Debt/ equity mix	40% / 60%
Cost of debt (before tax)	
Upto ₹ 1,80,000	10%
Beyond ₹ 1,80,000	16%
Earning per share	₹ 4
Dividend pay out	₹ 2
Expected growth rate in dividend	10%
Current market price per share	₹ 44
Tax rate	50%

**Required:**

- (i) To DETERMINE the pattern for raising the additional finance.
- (ii) To CALCULATE the post-tax average cost of additional debt.
- (iii) To CALCULATE the cost of retained earnings and cost of equity, and
- (iv) To DETERMINE the overall weighted average cost of capital (after tax).
- (c) The present credit terms of P Company are 1/10 net 30. Its annual sales are ₹ 80 lakhs, its average collection period is 20 days. Its variable cost and average total costs to sales are 0.85 and 0.95 respectively and its cost of capital is 10 per cent. The proportion of sales on which customers currently take discount is 0.5. P company is considering relaxing its discount terms to 2/10 net 30. Such relaxation is expected to increase sales by ₹ 5 lakhs, reduce the average collection period to 14 days and increase the proportion of discount sales to 0.8. What will be the effect of relaxing the discount policy on company's profit? Take year as 360 days.
- (d) Compute the return on capital employed (total assets basis) from the following information relating to companies A and B.

	Company A	Company B
Net Sales for the year	₹ 2,75,000	?
Total Assets	?	Rs.42,500
Net Profit on Sales	4%	19%
Turnover of total assets	6 times	?
Gross Margin	38%	Rs. 4,680 (25%)

**Q.2(a)** A company has to make a choice between two projects namely A and B. The initial capital outlay of two projects are Rs.1,35,000 and Rs.2,40,000 respectively for A and B. There will be no scrap value at the end of the life of both the projects. The opportunity cost of capital of the company is 16%. The annual incomes are as under.

**(b)** XYZ Ltd. Is considering three financial plans for which the key information is as below:

(i) Total investment to be raised ₹ 4,00,000.

(ii) Plans of Financing Proportion:

Plans	Equity	Debt	Preference shares
A	100%	-	-
B	50%	50%	-
C	50%	-	50%

(iii) Cost of debt 8%

Cost of preference shares 8%

(iv) Tax Rate 50%

(v) Equity shares of the face value of ₹ 10 each will be issued at a premium of ₹ 10 per share.

(vi) Expected EBIT is ₹ 1,60,000

**Determine for each plan: -**

(a) Earnings per share (EPS)

(b) Financial break-even point.

(c) Compute the EBIT range among the plans A and C for point of indifference

[2 × 8 = 16 Marks]

**Q.3 (a)** Following figures are available in the books Tirupati Ltd.

Fixed assets turnover ratio	8 times
Capital turnover ratio	2 times
Inventory Turnover	8 times
Receivable turnover	4 times
Payable turnover	6 times
G P Ratio	25%

Gross profit during the year amounts to ₹ 8,00,000. There is no long-term loan or overdraft. Reserve and surplus amount to ₹ 2,00,000. Ending inventory of the year is 20,000 above the beginning inventory.

**Required:**

CALCULATE various assets and liabilities and PREPARE a Balance sheet of Tirupati Ltd.

**(b)** Following are the data on a capital project being evaluated by the management of X Ltd.:

	Project M
Annual cost saving	40,000
Useful life	4 Years
I.RR	15%
Profitability index (PI)	1.064

NPV	?
Cost of capital	?
Cost of project	?
Payback	?
Salvage value	0

Find the missing values considering the following table of discount factor only:

Discount factor	15%	14%	13%	12%
	0.869	0.877	0.885	0.893
	0.756	0.769	0.783	0.797
	0.658	0.675	0.693	0.712
	0.572	0.592	0.613	0.636
	2.855	2.913	2.974	3.038

[2 × 8 = 16 Marks]

#### Q.4

- (a) A Company is planning to acquire a machine costing ₹ 5,00,000. Effective life of the machine is 5 years. The Company is considering two options, one is to take the machine on lease and the other is to borrow ₹ 5,00,000 from its bankers at 10% interest p.a. The Principal amount of loan will be paid in 5 equal instalments to be paid annually. The machine will be sold at ₹50,000 at the end of 5th year. Following further information are given:

- Principal, interest, lease rentals are payable on the last day of each year.
- The machine will be fully depreciated over its effective life.
- Tax rate is 30% and after tax. Cost of capital is 8%.

Required:

COMPUTE the lease rentals payable which will make the firm indifferent to the loan option.

[8 Marks]

- (b) A Company needs ₹ 31,25,000 for the construction of a new plant. The following three plans are feasible:

- The Company may issue 3,12,500 equity shares at ₹ 10 per share.
- The Company may issue 1,56,250 equity shares at ₹ 10 per share and 15,625 debentures of ₹ 100 denomination bearing an 8% rate of interest.
- The Company may issue 1,56,250 equity shares at ₹ 10 per share and 15,625 preference shares at ₹ 100 per share bearing an 8% rate of dividend.
  - If the Company's earnings before interest and taxes are ₹ 62,500, ₹ 1,25,000, ₹ 2,50,000, ₹ 3,75,000 and ₹ 6,25,000, what are the earnings per share under each of three financial plans? Assume a Corporate Income tax rate of 40%.
  - Which alternative would you recommend and why?
  - Determine the EBIT-EPS indifference points by formulae between Financing Plan I and Plan II and Plan I and Plan III.

[8 Marks]

#### Q.5 Answer any four of the following:

- "The profit maximization is not an operationally feasible criterion . DISCUSS
- Explain the relevance of time value of money in financial decisions.
- EXPLAIN the followings:
  - Bridge Finance
  - Floating Rate Bonds
  - Packing Credit.
- "Financial Leverage is a double-edged sword" DISCUSS.
- What is Virtual Banking? State its advantages.

[4 × 4 = 16 Marks]

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## FM - RTP SOLUTIONS

**Ans. 1. (a)**

**(i) Valuation under Net Income Approach**

Particulars	P Amount (₹)	Q Amount (₹)
Earnings before interest & tax (EBIT) (20% of Rs.30,00,000)	6,00,000	6,00,000
Less: Interest (10% of Rs.18,00,000)	1,80,000	
Earnings before Tax (EBT)	4,20,000	6,00,000
Less: Tax @ 50%	2,10,000	3,00,000
Earnings after Tax (EAT) (available to equity holders)	2,10,000	3,00,000
Value of equity (capitalized @ 15%)	14,00,000 (2,10,000 × 100/15)	20,00,000 (3,00,000 × 100/15)
Add: Total Value of debt	18,00,000	Nil
Total value of company	32,00,000	20,00,000

**(ii) Valuation of Companies under Net Operating Income Approach**

Particulars	P Amount (rs.)	Q Amount (rs.)
Capitalization of earnings at 15% 6,00,000 (1-0.5) / 0.15	20,00,000	20,00,000
Less: Value of debt [18,00,000 (1-0.5)]	9,00,000	Nil
Value of equity	11,00,000	20,00,000
Add: Total Value of debt	18,00,000	Nil
Total value of Company	29,00,000	20,00,000

**(b) Pattern of Raising Additional Finance**

$$\text{Equity} = 10,00,000 \times 30/100 = 6,00,000$$

$$\text{Debt} = 10,00,000 \times 40/100 = 4,00,000$$

Capital structure after Raising Additional Finance

Sources of fund	Amount (₹)
Shareholder's fund	
Equity capital (6,00,000 – 3,00,000)	3,00,000
Retained earnings	3,00,000
Debt at 10% p.a.	1,80,000
Debt at 16% p.a. (4,00,000 – 1,80,000)	2,20,000
Total Funds	10,00,000

**(ii) Post – tax Average Cost of Additional Debt**

$$K_d = I(1-t), \text{ where 'K}_d\text{' is cost of debt, 'I' is interest and 't' is tax rate.}$$

$$\text{On ₹ 1,80,000} = 10\% (1-0.5) = 5\% \text{ or } 0.05$$

$$\text{On ₹ 2,20,000} = 16\% (1-0.5) = 8\% \text{ or } 0.08$$

Average Cost of Debt (Post tax) i.e.

$$K_d = \frac{(1,80,000 \times 0.05) + (2,20,000 \times 0.08)}{4,00,000} \times 100 = 6.65\%$$

(iii) Cost of Retained Earnings and Cost of Equity applying Dividend Growth Model

$$k_e = \frac{D_1}{P_0} + g \quad \text{or} \quad \frac{D_0(1+g)}{P_0} + g$$

$$\text{Then, } K_e = \frac{2(1.1)}{44} + 0.10 = \frac{2.2}{44} + 0.10 = 0.15 \text{ or } 15\%$$

(iv) Overall Weighted Average Cost of Capital (WACC) (After Tax)

Particulars	Amount	Weights	Cost of Capital	WACC
Equity (including retained earnings)	6,00,000	0.60	15%	9.00
Debt	4,00,000	0.40	6.65%	2.66
Total	10,00,000	1.00		11.66

(c) Evaluation of effect of relaxing the discount policy on company's profit

**A. Incremental Revenue**

₹

Increase in contribution (5,00,000 × 15%) 75,000

Reduction in investment in receivable × cost of capital

$$\text{Present} \left[ \frac{80 \text{ lacs} \times 0.95 \times 20 \text{ days}}{360 \text{ days}} \right] = 4,22,222$$

Proposed:

$$\left[ \frac{80 \text{ lacs} \times 0.95 + 5 \text{ lacs} \times 14 \text{ days}}{360 \text{ days}} \right] = 3,12,083$$

Reduction in investment in receivable ₹ 1,10,139 (₹ 4,22,222 - 3,12,083)

Cost of savings on investment in receivable (₹ 1,10,139 × 10%)

11,014  
86,014

**B. Incremental Cost**

Increase in discount

Present: (₹ 80 lacs × 1% × 0.5) = 40,000

Proposed: (₹ 85 lacs × 2% × 0.8) = 1,36,000

Net increase in discount = 96,000

**C.** Net effect on profit (A-B) = 86,014 - 96,000  
= (-) 9,986

Since, the proposed discount policy will reduce the profits of the company to the extent of ₹ 9,986. Therefore, it is not advisable for the company to relax the present discount policy.

(d) **Company A**

$$\text{Return on Capital Employed} = \frac{\text{Net Profit}}{\text{Capital Employed}}$$

Capital Employed in this case is equal to Total Assets.

$$\frac{\text{Net Profit}}{\text{Capital Employed}} = \frac{2,75,000 \times 4}{100} = 11,000$$

$$\text{Total Assets} = \frac{2,75,000}{6} = 45,833$$

$$\text{Return on Capital employed} = \frac{11,000 \times 100}{45,833} = 24\%$$

Company B

$$\text{Sales} = \frac{4,680 \times 100}{25} = ₹ 18,720$$

$$\text{Net Profit} = \frac{18,720 \times 19}{100} = ₹ 3,556.80$$

$$\text{Return on Capital Employed} = \frac{3,556.80 \times 100}{42,500} = 8.368\%$$

Ans.2

(a) Working Notes

1. Computation of Net Present Values of Projects

Year	Cash Flows		Disct. Factor @ 16%	Discounted Cash Flow	
	Project A	Project B		Project A	Project B
	(1)	(2)	(3)	(3) × (1)	(3) × (2)
0	(1,35,000)	(2,40,000)	1.000	(1,35,000)	(2,40,000)
1	-	60,000	0.862	-	51,720
2	30,000	84,000	0.743	22,290	62,412
3	1,32,000	96,000	0.641	84,612	61,536
4	84,000	1,02,000	0.552	46,368	56,304
5	84,000	90,000	0.476	39,984	42,840
Net Present Value				58,254	34,812

2. Computation of Cumulative Present Values of Projects Cash inflows

Year	Project A		Project B	
	PV of cash inflows	Cumulative PV	PV of cash inflows	Cumulative PV
1	-	-	51,720	51,720
2	22,290	22,290	62,412	1,14,132
3	84,612	1,06,902	61,536	1,75,668
4	46,368	1,53,270	56,304	2,31,972
5	39,984	1,93,254	42,840	2,74,812

- (i) Discounted payback period: (refer to Working note2)  
 Cost of project A = ₹ 1,35,000  
 Cost of project B = ₹ 2,40,000  
 Cumulative PV of cash inflow of project A after 4 years = 1,53,270  
 Cumulative PV of cash inflows of project B after 5 years = 2,74,812

A comparison of projects cost with their cumulative PV clearly shows that the Project A's cost will be recovered in less than 4 years and that of project B in less than 5 years. The exact duration of discounted payback period can be computed as follows:

	Project A	Project B
Excess PV of cash inflows over the project cost (₹)	18,270 (1,53,270 – 1,35,000)	34,812 (2,74,812 – 2,40,000)
Computation of period required to recover excess amount of cumulative PV over project cost (Refer to Working note 2)	0.39 year (18,270/ 46,368)	0.81 years (34,812 / 42,840)
Discounted payback period	3.61 year (4-0.39) years	4-19 years (5-0.81) years

- (ii) Profitability Index (PI): = Sum of discounted cash inflows / Initial cash outlay  
 Profitability Index (for Project A) = 1,93,254 / 1,35,000 = 1.43  
 Profitability Index (for Project B) = 2,74,812 / 2,40,000 = 1.15
- (iii) Net present value (NPV) (for project A) = 58,254  
 Net present value (NPV) (for project B) = 34,812  
 (refer to Working Note 1)

**Conclusion:** As the NPV, PI of Project A is higher and Discounted Pay back is lower, therefore Project a should be accepted.

(b) (i) **Computation of Earnings Per Share (EPS) for each Plan**

Particulars	Plan A ₹	Plan B ₹	Plan C ₹
Earnings Before Interest Tax (EBIT)	1,60,000	1,60,000	1,60,000
Less: Interest on debt at 8%	-	16,000	-
Earnings Before Tax	1,60,000	1,44,000	1,60,000
Less: Tax at 50%	80,000	72,000	80,000
Earnings After Tax	80,000	72,000	80,000
Less: Preference Dividend at 8%	-	-	16,000
Earnings available for shareholders	80,000	72,000	64,000
Number of Equity Shares	20,000	10,000	10,000
Earnings per share (EPs)	4.00	7.20	₹ 6.40

(ii) **Financial Break-even Point for Each Plan**

**Plan A:** There is no fixed financial charges, hence the financial break-even point for Plan A is zero.

**Plan B:** Fixed interest charges is ₹:16,000, hence the financial break-even point for Plan B is ₹ 16,000

**Plan C:** Fixed Charge for preference dividend is ₹ 16,000, hence, the financial break-even point for Plan C is ₹ 16,000.

(iii) **Between Plan A and C**

$$\frac{(X - 0)(1 - .5) - 0}{20,000} = \frac{(X - 0)(1 - .5) - 16,000}{10,000}$$



$$\frac{.5X}{20,000} = \frac{5X - 16,000}{10,000}$$

$$\text{or, } 5X - X = -32,000$$

$$\text{or, } 5X = 32,000$$

$$\text{or, } X = ₹ 64,000$$

Thus point of indifference between plan A and C is ₹ 64,000.

**Ans.3 (a)**

- (a) G.P. ratio = Gross Profit / Sales = 25%  
 Sales = Gross Profit / 25 × 100 = 8,00,000 / 25 × 100 = 32,00,000
- (b) Cost of Sales = Sales – Gross Profit  
 = ₹ 32,00,000 – Rs. 8,00,000  
 = ₹ 24,00,000
- (c) Receivable turnover = Sales / Receivables  
 = 4  
 = Receivables = Sales / 4 = 32,00,000 / 4  
 = ₹ 8,00,000
- (d) Fixed Assets turnover = Cost of Sales / Fixed Assets  
 = 8  
 Fixed Assets = Cost of Sales / 8  
 = 24,00,000 / 8  
 = 3,00,000
- (e) Inventory turnover = Cost of Sales / Average Stock = 8  
 Average Stock = Cost of Sales / 8  
 = 24,00,000 / 8  
 = Rs. 3,00,000  
 Average Stock = Opening stock + Closing stock / 2  
 Average Stock = Opening Stock + Opening stock + 20,000 / 2  
 Average Stock = Opening Stock + 10,000  
 Opening Stock = Average Stock – 10,000  
 = 3,00,000 – 10,000  
 = 2,90,000  
 Closing Stock = Opening Stock + 20,000  
 = 2,90,000 + 20,000  
 = 3,10,000
- (f) Payable turnover = Purchases / Payables = 6  
 Purchases = Cost of Sales + Increase in Stock  
 = ₹ 24,00,000 + 20,000  
 = Rs. 24,20,000  
 Payables =  $\frac{\text{Purchase}}{6} = \frac{24,20,000}{6} = 4,03,333$
- (g) Capital turnover =  $\frac{\text{Cost of Sales}}{\text{Capital Employed}} = 2$   
 Capital Employed =  $\frac{\text{Cost of Sales}}{2} = \frac{24,00,000}{2} = 12,00,000$
- (h) Share Capital = Capital Employed – Reserve & Surplus

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$$= 12,00,000 - 2,00,000 = 10,00,000$$

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**Balance Sheet of Tirupati Ltd as on**

<b>Liabilities</b>	<b>Amount (₹)</b>	<b>Assets</b>	<b>Amount (₹)</b>
Share Capital	10,00,000	Fixed Assets	3,00,000
Reserve & Surplus	2,00,000	Closing Inventories	3,10,000
Payables	4,03,000	Receivables	8,00,000
		Other Current Assets	1,93,333
	<b>16,03,333</b>		<b>16,03,333</b>

(Fixed Asset turnover, inventory, turnover capital turnover is calculated on cost of sales)

**(b) Cost of Project M**

At 15% I.R.R., the sum total of cash inflows = Cost of the project i.e. Initial cash outlay is Given:

Annual cost saving	₹ 40,000
Useful life	4 years
IRR	15%

Now, considering the discount factor table @ 15% cumulative present value of cash inflows for 4 years is 2.855

Therefore, Total of cash inflows for 4 years for Project M is (₹ 40,000 × 2.855) = ₹ 1,14,200

Hence, cost of the project is = ₹ 1,14,200

**Payback period of the Project M**

$$\begin{aligned}
 \text{Payback period} &= \frac{\text{Cost of the project}}{\text{Annual cost saving}} \\
 &= \frac{\text{Cost of the project}}{\text{Annual cost saving}} \\
 &= \frac{\text{Rs. 1,14,200}}{40,000} \\
 &= 2.855 \text{ or 2 years 11 months approximately}
 \end{aligned}$$

**Cost of capital**

If the profitability index (PI) is 1, discounted- cash inflows and outflows would be equal. In this case, (PI) is 1.064. Therefore, present value cash inflows would be more by 0.064 (1.064-1) than outflow.

$$\text{Probability index (PI)} = \frac{\text{Discounted cash inflows}}{\text{cost of the project}}$$

$$\text{or } 1.064 = \frac{\text{Discounted cash inflows}}{1,14,200}$$

$$\text{or } 1.064 \times 1,14,200 = 1,21,509$$

Hence discounted cash inflows = ₹ 1,21,509

Since, Annual cost saving is ₹ 40,000. Hence, cumulative discount factor for 4 years

$$= \frac{1,21,509}{40,000} = 3.037725 \text{ or } 3.038$$

Considering the discount factor table at discount rate of 12%, the cumulative discount factor for 4 years is 3.038

Hence, the cost of capital is 12%

**Net present value of the project**

$$\begin{aligned} \text{N.P. V.} &= \text{Total present values of cash inflows} - \text{Cost of the project} \\ &= ₹ 1,21,509 - ₹ 1,14,200 \\ &= ₹ 7,309 \end{aligned}$$

**Ans. 4.(a)**

(i) Borrowing option:

$$\text{Annual Installment} = 5,00,000/5 = 1,00,000$$

$$\text{Annual depreciation} = 5,00,000 / 5 = 1,00,000$$

Computation of net cash outflow:

Year	Principal	Interest @10%	Total	Tax Saving on Depreciation & Interest	Net Cash Outflow	PV @ 8%	Total PV	
1.	1,00,000	50,000	1,50,000	45,000 (30% of 1,50,000)	1,05,000	0.926	97,230	
2.	1,00,000	40,000	1,40,000	42,000 (30% of 1,40,000)	98,000	0.857	83,986	
3.	1,00,000	30,000	1,30,000	39,000 (30% of 1,30,000)	91,000	0.794	72,254	
4.	1,00,000	20,000	1,20,000	36,000 (30% of 1,20,000)	84,000	0.735	61,740	
5.	1,00,000	10,000	1,10,000	33,000 (30% of 1,10,000)	77,000	0.681	52,437	
							3,67,647	
Less: Present Value of inflows at the end of 5 <sup>th</sup> year (Rs.50,000 × 0.7) or Rs.35,000 × 0.681 =								23,835
PV of Net Cash Outflows								3,43,812

Calculation of lease rentals:

$$\begin{aligned} \text{Therefore, Required Annual after tax outflow} &= \text{Rs.} 3,43,812/3.993 = 86,104/- \\ \text{Therefore, Annual lease rental} &= 86,104/0.70 = 1,23,006/- \end{aligned}$$

In case if it is assumed that installment is payable in the beginning of the year then lease rent shall be computed as follows:

$$\begin{aligned} \text{Required Annual after tax outflow} &= 3,43,812/4.31 = \text{Rs.} 79,734/- \\ \text{Therefore, Annual lease rental} &= 79,734/0.70 = \text{Rs.} 1,13,906/- \end{aligned}$$

(b)  
(i) **Computation of EPS under three-financial plans**

**Plan I: Equity Financing**

	₹	₹	₹	₹	₹
EBIT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Interest	0	0	0	0	0
EBT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less: Taxes 40%	(25,000)	(50,000)	(1,00,000)	(1,50,000)	(2,50,000)
PAT	37,500	75,000	1,50,000	2,25,000	3,75,000
No. of Equity Shares	3,12,500	3,12,500	3,12,500	3,12,500	3,12,500
EPS	0.12	0.24	0.48	0.72	1.20

**Plan II: Debt-Equity Mix**

	₹	₹	₹	₹	₹
EBIT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less: Interest	(1,25,000)	(1,25,000)	(1,25,000)	(1,25,000)	(1,25,000)
EBT	(62,500)	0	1,25,000	2,50,000	5,00,000
Less: Taxes 40%	25,000*	0	(50,000)	(1,00,000)	(2,00,000)
PAT	(37,500)	0	75,000	1,50,000	3,00,000
No. of Equity Shares	1,56,250	1,56,250	1,56,250	1,56,250	1,56,250
EPS	(0.24)	0	0.48	0.96	1.92

\* The Company will be able to set off losses against other profits. If the Company has no profits from operations, losses will be carried forward.

**Plan III: Preference Shares - Equity Mix**

	₹	₹	₹	₹	₹
EBIT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less: Interest	0	0	0	0	0
EBT	62,500	1,25,000	2,50,000	3,75,000	6,25,000
Less: Taxes 40%	(25,000)	(50,000)	(1,00,000)	(1,50,000)	(2,50,000)
PAT	37,500	75,000	1,50,000	2,25,000	3,75,000
Less: Pref. dividend	(1,25,000)*	(1,25,000)*	(1,25,000)	(1,25,000)	(1,25,000)
PAT for Equity shareholders	(87,500)	(50,000)	25,000	1,00,000	2,50,000
No. of Equity Shares	1,56,250	1,56,250	1,56,250	1,56,250	1,56,250
EPS	(0.56)	(0.32)	0.16	0.64	1.60

In case of cumulative preference shares, the dividend gets accumulated if there is insufficient profit to pay dividend. If we assume it as non-cumulative preference shares, then in this case dividend amount will be lower of PAT and amount of preference dividend.

- (ii) The choice of the financing plan will depend on the state of economic conditions. If the company's sales are increasing, the EPS will be maximum under Plan II: Debt - Equity Mix. Under favorable economic conditions, debt financing gives more benefit due to tax shield availability than equity or preference financing.

**(iii) EBIT - EPS Indifference Point- Plan I and Plan II:**

$$\frac{(\text{EBIT}) \times (1 - T_c)}{N_1} = \frac{(\text{EBIT} - \text{Interest}) \times (1 - T_c)}{N_2}$$

$$\frac{\text{EBIT}(1 - 0.40)}{3,12,500} = \frac{(\text{EBIT} - 1,25,000) \times (1 - 0.40)}{1,56,250}$$

$$\begin{aligned} \text{EBIT} &= \frac{3,12,500}{3,12,500 - 1,56,250} \times 1,25,000 \\ &= 2,50,000 \end{aligned}$$

**EBIT - EPS Indifference Point: Plan I and Plan III**

$$\frac{\text{EBIT}(1 - T_c)}{N_1} = \frac{\text{EBIT}(1 - T_c) - \text{Pref. Div.}}{N_2}$$

$$\text{EBIT} = \frac{N_1 \times \text{Pref. Div.}}{N_1 - N_2 \times (1 - T_c)}$$

$$= \frac{3,12,500}{3,12,500 - 1,56,250} \times \frac{1,25,000}{1 - 0.4} = 4,16,666.67$$

**Ans.5**

**(a)** “The profit maximisation is not an operationally feasible criterion.” This statement is true because Profit maximisation can be a short-term objective for any organisation and cannot be its sole objective. Profit maximization fails to serve as an operational criterion for maximizing the owner's economic welfare. It fails to provide an operationally feasible measure for ranking alternative courses of action in terms of their economic efficiency. It suffers from the following limitations:

- ✓ Vague term: The definition of the term profit is ambiguous. Does it mean short term or long term profit? Does it refer to profit before or after tax? Total profit or profit per share?
- ✓ Timing of Return: The profit maximization objective does not make distinction between returns received in different time periods. It gives no consideration to the time value of money, and values benefits received today and benefits received after a period as the same.
- ✓ It ignores the risk factor.
- ✓ The term maximization is also vague

**(b)** Time value of money means that worth of a rupee received today is different from the worth of a rupee to be received in future. The preference of money now as compared to future money is known as time preference for money.

A rupee today is more valuable than rupee after a year due to several reasons:

- Risk - there is uncertainty about the receipt of money in future.
- Preference for present consumption - Most of the persons and companies in general, prefer current consumption over future consumption.
- Inflation - In an inflationary period a rupee today represents a greater real purchasing power than a rupee a year hence.
- Investment opportunities - Most of the persons and companies have a preference for present money because of availabilities of opportunities of investment for earning additional cash flow.

Many financial problems involve cash flow accruing at different points of time for evaluating such cash flow an explicit consideration of time value of money is required.

- (c)
- (i) **Bridge Finance:** Bridge finance refers, normally, to loans taken by the business, usually from commercial banks for a short period, pending disbursement of term loans by financial institutions. Normally it takes time for the financial institution to finalise procedures of creation of security, tie-up participation with other institutions etc. even though a positive appraisal of the project has been made. However, once the loans are approved in principle, firms in order not to lose further time in starting their projects arrange for bridge finance. Such temporary loan is normally repaid out of the proceeds of the principal term loans. It is secured by hypothecation of moveable assets, personal guarantees and demand promissory notes. Generally rate of interest on bridge finance is higher as compared with that on term loans.
  - (ii) **Floating Rate Bonds:** These are the bonds where the interest rate is not fixed and is allowed to float depending upon the market conditions. These are ideal instruments which can be resorted to by the issuers to hedge themselves against the volatility in the interest rates. They have become more popular as a money market instrument and have been successfully issued by financial institutions like IDBI, ICICI etc.
  - (iii) **Packing Credit:** Packing credit is an advance made available by banks to an exporter. Any exporter, having at hand a firm export order placed with him by his foreign buyer on an irrevocable letter of credit opened in his favour, can approach a bank for availing of packing credit. An advance so taken by an exporter is required to be liquidated within 180 days from the date of its commencement by negotiation of export bills or receipt of export proceeds in an approved manner. Thus Packing Credit is essentially a short-term advance.
- (d) On one hand when cost of 'fixed cost fund' is less than the return on investment financial leverage will help to increase return on equity and EPS. The firm will also benefit from the saving of tax on interest on debts etc. However, when cost of debt will be more than the return it will affect return of equity and EPS unfavourably and as a result firm can be under financial distress. This is why financial leverage is known as "double edged sword".
- Effect on EPS and ROE:  
When,  $ROI > \text{Interest}$  – Favourable – Advantage  
When,  $ROI < \text{Interest}$  – Unfavourable – Disadvantage  
When,  $ROI = \text{Interest}$  – Neutral – Neither advantage nor disadvantage.

(e) **Virtual Banking and its Advantages**

Virtual banking refers to the provision of banking and related services through the use of information technology without direct recourse to the bank by the customer.

The advantages of virtual banking services are as follows:

- Lower cost of handling a transaction.
- The increased speed of response to customer requirements.
- The lower cost of operating branch network along with reduced staff costs leads to cost efficiency.

Virtual banking allows the possibility of improved and a range of services being made available to the customer rapidly, accurately and at his convenience.