

Note: All questions are compulsory.

Question 1(6 Marks)

(A) Calculation of Fixed Assets and Proprietor's Fund

Since Ratio of Fixed Assets to Proprietor's Fund = 0.75

Therefore, Fixed Assets = 0.75 Proprietor's Fund

Net Working Capital = 0.25 Proprietor's Fund

3,00,000 = 0.25 * Proprietor's Fund

Therefore, Proprietor's Fund = Rs. 3,00,000/0.25

Proprietor's Fund = Rs 12,00,000

Since, Fixed Assets = 0.75 * Proprietor's Fund

Therefore, Fixed Assets = 0.75 × 12,00,000

= Rs. 18,00,000

Fixed Assets = Rs. 90,000

(B) ROE = [ROI + {(ROI – r) * D/E}] (1 – t)

= [0.20 + {(0.20 – 0.10)* 0.60}] (1 – 0.40)

= [0.20 + 0.06]* 0.60 = 0.1560

ROE = 15.60%

Question 2(6 Marks)

Computation of Profit after Tax(PAT) (2 Marks)

Particulars	Amount(Rs.)
Sales	84,00,000
Contribution (Sales x P/V ratio)	23,14,200
Less: Fixed cost (excluding Interest)	6,96,000
EBIT (Earning before interest and tax)	16,18,200
Less: Interest on debenture (12% x Rs. 37lakhs)	(4,44,000)
Less: Other fixed Interest (balancing figure)	(88,160)*
EBT (Earning before tax)	10,86,040
Less: Tax@40%	4,34,416
PAT (Profit after tax)	6,51,624

(i) Operating Leverage: (1 Mark)

$$= \frac{\text{Contribution}}{\text{EBIT}} = \frac{\text{Rs.23,14,200}}{\text{Rs.16,18,200}} = 1.43$$

(ii) Combined Leverage: (2 marks)

= Operating Leverage x Financial Leverage

$$= 1.43 \times 1.49 = 2.13$$

Or,

$$\text{Combined Leverage} = \frac{\text{Contribution}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{EBT}}$$

$$\text{Combined Leverage} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{\text{Rs.23,14,200}}{\text{Rs.10,86,040}} = 2.13$$

$$\text{Financial Leverage} = \frac{\text{EBIT}}{\text{EBT}} = \frac{\text{Rs.16,18,200}}{\text{EBT}} = 1.49$$

$$\text{So, EBT} = \frac{\text{Rs.16,18,200}}{1.49} = \text{Rs.10,86,040}$$

Accordingly , other fixed interest

$$= \text{Rs.16,18,200} - \text{Rs.10,86,040} - \text{Rs. 4,44,000} = \text{Rs.88,160}$$

(iii) Earnings per share(EPS): (1 mark)

$$= \frac{\text{PAT}}{\text{No. of shares outstanding}} = \frac{\text{Rs. 6,51,624}}{5,00,000 \text{ equity shares}} = \text{Rs. 1.30}$$

Question 3 (8 marks)

Working Notes:

(i) Cost of Goods Sold = Sales - Gross Profit (28% of Sales)

$$= \text{Rs.50,00,000} - \text{Rs.14,00,000}$$

$$= \text{Rs.36,00,000 (1/2 mark)}$$

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

$$= \text{Rs.36,00,000}/6 = \text{Rs.6,00,000(1/2 mark)}$$

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

$$= \text{Rs.36,00,000}/1.5 = \text{Rs.24,00,000(1/2 mark)}$$

(iv) Current Assets :Current Ratio

$$= 1.5 \text{ and Liquid Ratio} = 1$$

Stock = 1.5 - 1 = 0.5

Current Assets = Amount of Stock x 1.5/0.5

$$= \text{Rs.6,00,000} \times 1.5/0.5 = \text{Rs.18,00,000(1/2 mark)}$$

(v) Liquid Assets (Debtors and Cash & Cash equivalents)

$$= \text{Current Assets} - \text{Stock}$$

$$= \text{Rs.18,00,000} - \text{Rs.6,00,000}$$

$$= \text{Rs.12,00,000(1/2 mark)}$$

(vi) Debtors = Sales x Debtors Collection Period(days)/360days

$$= \text{Rs.50,000} \times \frac{45}{360} = \text{Rs.6,25,000(1/2 mark)}$$

(vii) Cash & Cash equivalents

$$= \text{Liquid Assets} - \text{Debtors}$$

$$= \text{Rs.12,00,000} - \text{Rs.6,25,000} = \text{Rs.5,75,000(1/2 mark)}$$

(viii) Net worth = Fixed Assets / 1.2
 =Rs.24,00,000/1.2=Rs.20,00,000(1/2 mark)

(ix) Reserves and Surplus

Reserves & Surplus and Share Capital =0.6+1=1.6

Reserves and Surplus =Rs.20,00,000 x 0.6/1.6=Rs.7,50,000(1/2 mark)

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

=Rs.20,00,000 – Rs.7,50,000

=Rs.12,50,000(1 /2mark)

(xi) Current Liabilities =Current Assets /Current Ratio

=Rs.18,00,000/1.5 =Rs. 12,00,000(1/2 mark)

(xii) Long term Debts

Capital Gearing Ratio =Long term Debts /Equity Shareholders 'Fund(Net worth)

Or, Long term Debts =Rs.20,00,000 x 0.5= Rs.10,00,000(1/2 mark)

Balance Sheet as at 31st March ,2016(2 marks)

Liabilities	Amount (Rs.)	Assets	Amount(Rs.)
Equity Share Capital	12,50,000	Fixed Assets	24,00,000
Reserves and Surplus	7,50,000	Current Assets	
Long term Debts	10,00,000	Stock	6,00,000
Current Liabilities	12,00,000	Debtors	6,25,000
		Cash & Cash eq.	5,75,000
	42,00,000		18,00,000
			42,00,000

Question 4 (8 Marks)

Pattern of raising capital (3 marks)

Debt 7,50,000

Equity 22,50,000

Equity fund (Rs. 22,50,000)

Retained earnings 10,00,000

Equity (additional) 12,50,000

Total 22,50,000

Debt fund (Rs. 7,50,000)

10% debt 2,00,000

13% debt 5,50,000

Total 7,50,000

(i) Kd = Total Interest (1- t) / Rs.7,50,000 (1 mark)

$$= [20,000 + 71,500] (1 - 0.3) / 7,50,000 \text{ or} \\ (64,050 / 7,50,000) * 100 = 8.54\%$$

$$(ii) K_e = \text{EPS} * \text{payout} / \text{mp} + g \text{ (1 mark)}$$

$$= 15 (50\%) / 60 * 100 + 10\%$$

$$= 12.5\% + 10\%$$

$$= 22.5\%$$

$$K_r = K_e (1 - t_p) \text{ (1 mark)}$$

$$= 22.5 (1 - 0.2)$$

$$= 18\%$$

(iii) Weighted average cost of capital (2 marks)			
	Amount	After Tax	Cost
-			
Equity Capital	12,50,000	22.50%	2,81,250
Retained Earnings	10,00,000	18%	1,80,000
Debt	7,50,000	8.54%	64,050
Total	30,00,000		5,25,300
$K_o = (5,25,300 / 30,00,000) * 100$			

Question 5 (6 Marks)

Working:

$$(i) \text{ Financial Leverage} := \frac{\text{EBIT}}{\text{EBIT} - \text{Interest}} \text{ or, } 2 = \frac{\text{EBIT}}{\text{EBIT} - 5,000}$$

$$\text{Or, EBIT} = \text{Rs. } 10,000 \text{ (1 mark)}$$

$$(ii) \text{ Operating Leverage} := \frac{\text{Contribution}}{\text{EBIT}} \text{ or, } 3 = \frac{\text{Contribution}}{\text{Rs. } 10,000}$$

$$\text{Or, Contribution} = \text{Rs. } 30,000 \text{ (1 mark)}$$

$$(iii) \text{ Sales} = \frac{\text{Contribution}}{\text{P/V Ratio}} = \frac{\text{Rs. } 30,000}{25\%} = \text{Rs. } 1,20,000 \text{ (1 mark)}$$

$$(iv) \text{ Fixed Cost} = \text{Contribution} - \text{Fixed cost} = \text{EBIT}$$

$$= \text{Rs. } 30,000 - \text{Fixed cost} = \text{Rs. } 10,000$$

$$\text{Or Fixed cost} = \text{Rs. } 20,000 \text{ (1 mark)}$$

Income Statement for the year ended 31st December 2016 (2 marks)

Particulars	Amount (Rs.)
Sales	1,20,000
Less : Variable Cost (75% of Rs. 1,20,000)	(90,000)
Contribution	30,000
Less: Fixed Cost (Contribution - EBIT)	(20,000)
Earnings Before Interest and Tax (EBIT)	10,000
Less: Interest	(5,000)
Earnings Before Tax (EBT)	5,000
Less Income Tax @ 30%	(1,500)
Earnings after Tax (EAT or PAT)	3,500

Question 6 (8 Marks)

(a) 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.

(b) Advantages of Debt Securitisation: Debt securitisation is a method of recycling of funds and is especially beneficial to financial intermediaries to support lending volumes. Simply stated, under debt securitisation a group of illiquid assets say a mortgage or any asset that yields stable and regular cash flows like bank loans, consumer finance, and credit card payment are pooled together and sold to intermediary. The intermediary then issue debt securities.

The advantages of debt securitisation to the originator are the following:

(i) The asset is shifted off the Balance Sheet, thus giving the originator recourse to off balance sheet funding.

(ii) It converts illiquid assets to liquid portfolio.

(iii) It facilitates better balance sheet management; assets are transferred off balance sheet facilitating satisfaction of capital adequacy norms.

(iv) The originator's credit rating enhances.

For the investors securitisation opens up new investment avenues. Though the investor bears the credit risk, the securities are tied up to definite assets.

Question 7 (8 Marks)**(i) Computation of EPS under three –financial plans. (1 ½ Marks)****Plan I :Equity Financing**

	Rs.	Rs.	Rs.	Rs.	Rs.
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 :Debit-Equity Mix (1 ½ marks)

	Rs.	Rs.	Rs.	Rs.	Rs.
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 profit from operations, losses will be carried forward.

Plan III :Preference Shares -Equity Mix (1 ½ Marks)

	Rs.	Rs.	Rs.	Rs.	Rs.
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 favourable economic conditions, debt financing gives more benefit due to tax shield availability than equity or preference financing. (1 ½ Mark)

(iii)EBIT-EPS Indifference Point –Plan I and Plan II: (1 Mark)

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

$$\frac{EBIT(1 - 0.40)}{3,12,500} = \frac{(EBIT - 1,25,00) \times (1 - 0.40)}{1,56,250}$$

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

$$=Rs.2,50,000$$

EBIT-EPS Indifference Point –Plan I and Plan III (1 Mark)

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

$$EBIT = \frac{N_1}{N_1 - N_2} = \frac{\text{Pref. Div.}}{1 - T_2}$$

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