Question 15.

Statement of E.P.S. and Rate of Return on Equity Shares

	R. Ltd.	S. Ltd.
	Rs.	Rs.
E.B.I.T.	50,000	50,000
(–) Debenture Interest	9,000	–
E.B.T.	41,000	50,000
(–) Tax (assumed @ 50%)	20,500	25,000
Earnings to Equity Shareholders	20,500	25,000
Equity Share Capital	1,00,000	2,50,000
No. of Equity Shares	10,000	25,000
E.P.S.	20,500 / 10,000	25,000 / 25,000
	= Rs. 2·05	= Rs. 1·00
Return on Equity Capital	$\frac{20,500}{1,00,000} \times 100$	$\frac{25,000}{2,50,000} \times 100$
	= 20·5%	= 10%

It becomes clear from the above calculations that by adopting the policy of trading on equity, R. Ltd could increase its E.P.S. and Rate of Return on Equity considerably, while invested capital and E.B.I.T was same in both the companies.

Question 16.

Statement of E.P.S. and Rate of Return on Equity Capital

	Company 'A'	Company 'B'
	Rs.	Rs.
E.B.I.T. (20% on Total Assets)	2,00,000	2,00,000
(–) Debenture Interest	–	50,000
E.B.T.	2,00,000	1,50,000
(–) Tax (50% Assumed)	1,00,000	75,000
E.A.T. (Available to Equityholders)	1,00,000	75,000
No. of Equity Shares	10,000	5,000
Equity Capital	10,00,000	5,00,000
E.P.S.	1,00,000 / 10,000	75,000 / 5,000
	= Rs. 10·00	= Rs. 15·00
Return on Equity Capital	1,00,000 / 10,00,000 × 100	75,000 / 5,00,000 × 100
	= 10%	= 15%

There is favourable effect of the policy of trading on equity on Company 'B'.

Question 17.

	Year 1	Year 2	Year 3	Year 4	Year 5
E.B.I.T. (Rs.)	1,80,000	2,40,000	4,00,000	50,000	20,000
(–) Debenture Int.	50,000	50,000	50,000	50,000	50,000
E.B.T.	1,30,000	1,90,000	3,50,000	Nil	– 30,000
(–) Tax @ 50%	65,000	95,000	1,75,000	–	–
Earnings to Equity Shareholders	65,000	95,000	1,75,000	–	–
Equity Capital	10,00,000	10,00,000	10,00,000	10,00,000	10,00,000
Return on Equity Cap.	6·5%	9·5%	17·5%	Nil	Nil
Earnings to Equity Shareholders / Equity Capital × 100					
Normal Rate of Return :	4·5%	6%	10%	1·25%	0·5%
Earnings after tax / Capitalisation × 100					
Trading on Equity	Positive	Positive	Positive	Negative	Negative

Question 18.

(i) Firm A's earning on equity after interest and taxes :

EBIT (15% on Rs. 20 Lakh)	Rs. 3,00,000
(–) Interest (10% on Rs. 12 Lakh)	Rs. 1,20,000
EBT	Rs. 1,80,000

(–) Income Tax 60%		Rs. 1,08,000
	EAT	Rs. 72,000

$$\text{Return on Equity} = \frac{72,000}{8,00,000} \times 100 = 9\%$$

(ii) Firm B :

EAT (9% of Rs. 12 Lakh)		Rs. 1,08,000
(+) Taxes $\frac{1,08,000}{40} \times 60$		Rs. 1,62,000
	EBT	Rs. 2,70,000
(+) Interest (10% on Rs. 8 Lakh)		Rs. 80,000
	E.B.I.T.	Rs. 3,50,000

$$\text{Return on Assets} = \frac{3,50,000}{20,00,000} \times 100 = 17 \cdot 5\%$$

Question 19.

$$\text{Capital Gearing Ratio} = \frac{\text{Equity Capital + Reserve and Surplus}}{\text{Total Debt Capital including Pref. Capital}}$$

$$\text{A Ltd.} = \frac{12,00,000 + 3,84,000}{4,80,000 + 2,40,000}$$

$$= \frac{15,84,000}{7,20,000} = 2 \cdot 2 : 1 \text{ (Low Gearing)}$$

$$\text{B. Ltd.} = \frac{2,40,000 + 3,84,000}{4,80,000 + 12,00,000}$$

$$= \frac{6,24,000}{16,80,000} = 0 \cdot 37 : 1 \text{ (High Gearing)}$$

Question 20.

$$\text{Capital Gearing Ratio} = \frac{\text{Equity Share Capital + Reserve and Surplus}}{\text{Total Debt Capital including Pref. Share Capital}}$$

$$= \frac{6,00,000 + 2,00,000}{10,00,000 + 2,00,000}$$

$$= \frac{8,00,000}{12,00,000} = 0 \cdot 67 \text{ (High Gearing)}$$

Evaluation of the Policy of Trading on Equity

		Rs.
E.B.I.T.		5,40,000
(–) Interest on Debenture $\left(10,00,000 \times \frac{8}{100}\right)$		80,000
	E.B.T.	4,60,000
(–) Tax @ 50%		2,30,000
	E.A.T.	2,30,000
(–) Preference Share Dividend $\left(2,00,000 \times \frac{7}{100}\right)$		14,000
Earnings to Equity Shareholders		2,16,000

$$\text{Normal Rate of Return} = \frac{\text{Total Earnings after tax}}{\text{Total Capitalisation}} \times 100$$

$$= \frac{5,40,000 - 50\% \text{ of } 5,40,000}{20,00,000} \times 100 = 13 \cdot 5\%$$

Earning Rate on Equity Share Capital :

$$= \frac{\text{Earnings Equity Shareholders}}{\text{Equity Share Capital}} \times 100$$

$$= \frac{2,16,000}{6,00,000} \times 100 = 36\%$$

Since earning rate on equity share capital (36%) is greater than normal rate of return (13 ·5%). It means there is favourable effect of the policy of trading on equity.

Question 21.

$$\text{Capital Gearing Ratio} = \frac{\text{Equity Capital + Reserve and Surplus}}{\text{Preference Shares + Debenture}}$$

$$\text{Alternative I} = \frac{3,50,000 + 50,000}{2,00,000 + 4,00,000}$$

$$= \frac{4,00,000}{6,00,000} = 0 \cdot 67 \text{ (High Gearing)}$$

$$\text{Alternative II} = \frac{7,00,000}{3,00,000} = 2 \cdot 33 \text{ (Low Gearing)}$$

$$\text{Alternative III} = \frac{9,50,000 + 50,000}{\text{Nil}} = \infty \text{ (Nil)}$$

Normal Rate of Return in each Alternatives :

$$= \frac{\text{Total Earnings after tax}}{\text{Total Capitalisation}} \times 100$$

$$= \frac{1,50,000 - (50\% \text{ of } 1,50,000)}{10,00,000} \times 100 = 7 \cdot 5\%$$

Earning Rate on Equity Share Capital :

	I	II	III
	Rs.	Rs.	Rs.
E.B.I.T.	1,50,000	1,50,000	1,50,000
(–) Interest on Debenture	32,000	–	–
E.B.T.	1,18,000	1,50,000	1,50,000
(–) Tax @ 50%	59,000	75,000	75,000
E.A.T.	59,000	75,000	75,000
(–) Pref. Share Dividend	14,000	21,000	–
Earnings to Equity Shareholders	45,000	54,000	75,000
Equity Share Capital	3,50,000	7,00,000	9,50,000
Earning Rate on Equity Share Capital	$\frac{45,000 \times 100}{3,50,000}$	$\frac{54,000 \times 100}{7,00,000}$	$\frac{75,000 \times 100}{9,50,000}$
	= 12 ·86%	= 7 ·71%	= 7 ·89%
Normal Rate of Return	7 ·5%	7 ·5%	7 ·5%
Trading of Equity	Positive	Positive	Positive

Question 22.

$$\text{Capital Gearing Ratio} = \frac{\text{Equity Capital + Reserve and Surplus}}{\text{Pref. Share Capital + Debentures}}$$

$$\text{Alternative I} = \frac{2,00,000}{3,00,000 + 5,00,000} = 0{\cdot}25 \text{ (High)}$$

$$\text{Alternative II} = \frac{4,00,000}{4,00,000 + 2,00,000} = 0{\cdot}67 \text{ (High)}$$

$$\text{Alternative III} = \frac{8,00,000}{2,00,000} = 4 \text{ (Low)}$$

$$\text{Alternative IV} = \frac{10,00,000}{\text{Nil}} = \infty \text{ (Low)}$$

Normal Rate of Return in each Alternatives :

$$= \frac{\text{Total Earnings after tax}}{\text{Total Capitalisation}} \times 100$$

$$= \frac{2,00,000 - (50\% \text{ of Rs. } 2,00,000)}{10,00,000} \times 100$$

$$= 10\%$$

Earning Rate on Equity Share Capital :

	I	II	III	IV
	Rs.	Rs.	Rs.	Rs.
E.B.I.T.	2,00,000	2,00,000	2,00,000	2,00,000
(−) Interest on Deb.	50,000	20,000	–	–
E.B.T.	1,50,000	1,80,000	2,00,000	2,00,000
(−) Tax @ 50%	75,000	90,000	1,00,000	1,00,000
E.A.T.	75,000	90,000	1,00,000	1,00,000
(−) Pref. Share Dividend	24,000	32,000	16,000	–
Earnings to Equity Shareholders	51,000	58,000	84,000	1,00,000
Equity Share Capital	2,00,000	4,00,000	8,00,000	10,00,000
Return on Equity Capital	25·5%	14·5%	10·5%	10%
Normal Rate of Return	10%	10%	10%	10%
Trading on Equity	Highest	Substantial	Normal	Zero

Question 23.

$$\text{Capital Gearing Ratio} = \frac{\text{Equity Share Capital}}{\text{Pref. Share Capital + Debentures}}$$

$$\text{Alternative I} = \frac{25,00,000}{5,00,000 + 10,00,000} = 1{\cdot}67 \text{ (Low)}$$

$$\text{Alternative II} = \frac{27,00,000}{7,00,000 + 6,00,000} = 2{\cdot}08 \text{ (Low)}$$

$$\text{Alternative III} = \frac{31,00,000}{7,00,000 + 2,00,000} = 3{\cdot}44 \text{ (Low)}$$

$$\text{Alternative IV} = \frac{38,00,000}{2,00,000} = 19 \text{ (Low)}$$

Normal Rate of Return in each Alternatives :

$$= \frac{\text{Total Earnings after tax}}{\text{Total Capitalisation}} \times 100$$

$$= \frac{8,00,000 - (50\% \text{ of Rs. } 8,00,000)}{40,00,000} \times 100$$

$$= 10\%$$

Earning Rate on Equity Share Capital :

	I	II	III	IV
	Rs.	Rs.	Rs.	Rs.
E.B.I.T.	8,00,000	8,00,000	8,00,000	8,00,000
(–) Deb. Interest	1,00,000	60,000	20,000	–
E.B.T.	7,00,000	7,40,000	7,80,000	8,00,000
(–) Tax @ 50%	3,50,000	3,70,000	3,90,000	4,00,000
E.A.T.	3,50,000	3,70,000	3,90,000	4,00,000
(–) Pref. Share Dividend	40,000	56,000	56,000	16,000
Earnings to Equity Shareholders	3,10,000	3,14,000	3,34,000	3,84,000
Equity Share Capital	25,00,000	27,00,000	31,00,000	38,00,000
Return on Equity Capital	12·4%	11·63%	10·77%	10·11%
Normal Rate of Return	10%	10%	10%	10%
Effect on Capital Gearing	Positive	Positive	Positive	Positive

Question 24.

$$\text{Capital Gearing Ratio} = \frac{\text{Equity Share Capital + General Reserve}}{\text{Pref. Share Capital + Debenture}}$$

$$\text{Company A} = \frac{5,00,000 + 2,00,000}{1,00,000} = 7 \text{ (Low)}$$

$$\text{Company B} = \frac{1,00,000 + 2,00,000}{2,00,000 + 3,00,000} = 0 \cdot 6 \text{ (High)}$$

Normal Rate of Return for Both Companies :

$$= \frac{\text{Total Earnings after tax}}{\text{Total capitalisation}} \times 100$$

$$= \frac{2,00,000 - (50\% \text{ of } 2,00,000)}{8,00,000} \times 100 = 12 \cdot 5\%$$

Earning Rate on Equity Share Capital :

	Company A	Company B
E.B.I.T.	2,00,000	2,00,000
(–) Debenture Int.	–	36,000
E.B.T.	2,00,000	1,64,000
(–) Tax @ 50%	1,00,000	82,000
E.A.T.	1,00,000	82,000
(–) Pref. Share Dividend	10,000	20,000
Earnings to Equity Shareholders	90,000	62,000
Equity Share Capital	5,00,000	1,00,000
Return on Equity Capital	18%	62%
Normal Rate of Return	12·5%	12·5%
Trading on Equity	Positive	Positive

Question 25.

(i) $$\frac{X(1-T)}{N_1} = \frac{(X-I)(1-T)}{N_2}$$

Or $$\frac{X(1-0{\cdot}50)}{10{,}000} = \frac{(X-75{,}000)(1-0{\cdot}5)}{5{,}000}$$

Or $$\frac{0{\cdot}5X}{10{,}000} = \frac{0{\cdot}5x-37{,}500}{5{,}000}$$

Or $$0{\cdot}5X(5{,}000) = (0{\cdot}5X-37{,}500)(10{,}000)$$

Or $$X = \frac{(0{\cdot}5X-37{,}500)(10{,}000)}{2{,}500}$$

Or $$2X - X = 1{,}50{,}000$$

Or $$X = 1{,}50{,}000$$

∴ EBIT Indifference Point = Rs. 1,50,000

(ii) $$\frac{(X-I)(1-T)}{N_3} = \frac{(X-I)(1-T)-PD}{N_4}$$

Or $$\frac{(X-60{,}000)(1-0{\cdot}5)}{6{,}000} = \frac{(X-60{,}000)(1-0{\cdot}5)-26{,}000}{4{,}000}$$

Or $$\frac{(0{\cdot}5X-30{,}000)}{6{,}000} = \frac{(0{\cdot}5X-30{,}000)-26{,}000}{4{,}000}$$

Or $$\frac{0{\cdot}5X-30{,}000}{6{,}000} = \frac{0{\cdot}5X-56{,}000}{4{,}000}$$

Or $$(0{\cdot}5X-30{,}000)\,4{,}000 = (0{\cdot}5X-56{,}000)\,6{,}000$$

Or $$0{\cdot}5X-30{,}000 = \frac{(0{\cdot}5X-56{,}000)\,6{,}000}{4{,}000}$$

Or $$0{\cdot}5X-30{,}000 = 0{\cdot}75X-84{,}000$$

Or $$0{\cdot}75X-0{\cdot}5X = 84{,}000-30{,}000$$

Or $$0{\cdot}25X = 54{,}000$$

Or $$X = 54{,}000/0{\cdot}25 = \text{Rs. } 2{,}16{,}000$$

∴ EBIT Indifferent Point = Rs. 2,16,000.