

Solution to Paper 1

Q 1.(A) 1 – a) Global Depository Receipt

2 – a) 12%

3 – c) brings short term benefits only

4 – c) 2653.29

5 – d) None of the above

6 – c) Fixed Cost

7 – d) Retained Earnings

8 – b) liquidity

9 – d) the market price per share of the firms common stock

10 – b) EPS may increase

Q 1. (B) 1 – True

2 – False

3 – True

4 – ~~True~~ FALSE

5 – False

6 – ~~False~~ TRUE

7 – False

8 – True

9 – False

10 – True

Q 2. A) Evaluation of capital plan

Particulars	Plan A	Plan B	Plan C
EBIT	140,000	140,000	140,000
- Int	-	25,000	-
EBT	140,000	115,000	140,000
- Tax @ 30%	(42,000)	(34,500)	(42,000)
NPAT	98,000	80,500	98,000
- Pref. Div	-	-	(35,000)
AATESH	98,000	80,500	63,000
÷	÷	÷	÷

02

No. of ES	100,000	25,000	50,000
EPS	0.98	3.22	1.26

Plan B is advisable as it yields highest EPS

Q 2. (P) Computation of leverages

Particulars	Yara Ltd	Zara Ltd
Sales	300,000	750,000
- VC	(200,000)	(600,000)
Contribution	100,000	150,000
- FC	(30,000)	(50,000)
EBIT	70,000	100,000
- Int	(15,000)	(35,000)
EBT	55,000	65,000
- Tax @ 40%	(22,000)	(26,000)
NPAT	33,000	39,000
- Pref. Div.	-	-
AATESH	33,000	39,000
÷	÷	÷
No. of equity Shares	5,000	10,000
EPS	6.6	3.9

$$\text{DOL} = C / \text{EBIT} \quad \begin{array}{l} 100,000 / 70,000 \\ = 1.43 : 1 \end{array} \quad \begin{array}{l} 150,000 / 100,000 \\ = 1.5 : 1 \end{array}$$

$$\text{DFL} = \text{EBIT} / \text{EBT} \quad \begin{array}{l} = 70,000 / 55,000 \\ = 1.27 : 1 \end{array} \quad \begin{array}{l} = 100,000 / 65,000 \\ = 1.54 : 1 \end{array}$$

Q 2. (Q) 10,000

$$K_p = \text{PD} + \frac{(\text{RV} - \text{NP})}{(\text{RV} + \text{NP})} \times 100$$

After tax

10% pref. shares

FV = 100

2

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$N = 10$
 $FC = 5\%$
 $t = 35\%$
 $D = 10\%$

$$= 10 + \frac{(100 - 85)}{2} \times 100$$

$$= 100 + P - 10 - 5 = 85$$

$$NP = FV + P - D - FC = (11.5 / 92.5) \times 100 = 12.43\%$$

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

Before tax $\frac{N}{(RV + NP)} \times 100 \times \frac{1}{1 - t}$

$$Kp = Kp \text{ after tax} \times \frac{1}{1 - t}$$

$$= 12.43 \times \frac{1}{1 - 0.35}$$

$$= 19.12\%$$

Q 3. (A) Computation of Expected Return & Standard Deviation

State of Economy	R %	P	R X P	R - \bar{R}	(R - \bar{R}) ²	P(R - \bar{R}) ²
Boom	10	0.3	3	- 5	25	7.5
Normal	15	0.4	6	0	0	0
Recession	20	0.3	6	5	25	7.5
			15			15

Expected Return = $\bar{R} = \sum R \times P = 15\%$
 Variance = $\sum (R - \bar{R})^2 \times P = 15\%$
 Standard Deviation = $\sqrt{\text{variance}} = \sqrt{15\%} = 3.87\%$

Q 3. (B) PVF = 10%
 Compute PV

Year	CI	PVF @ 10%	PVCI
1	11000	0.909	9999
2	9000	0.826	7434
3	15000	0.751	11265

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4	7000	0.683	4781
			33479

Q 3. (P) (a) PV = 25000 n = 4 years r = 9%

$$\begin{aligned}
 FV &= PV \times FVF \\
 &= 25000 \times (1 + r)^n \\
 &= 25000 \times (1 + 0.09)^4 \\
 &= 25000 \times 1.412 \\
 &= 35,300
 \end{aligned}$$

Q 3. (P) (b) A = 100,000 n = 5 years r = 9%

$$\begin{aligned}
 FVAF &= \frac{(1 + r)^n - 1}{r} = \frac{(1 + 0.09)^5 - 1}{0.09} = 5.985 \\
 FV &= A \times FVAF = 100,000 \times 5.985 \\
 &= 598,500
 \end{aligned}$$

Q 3.(Q) Computation of Return and Risk

R %	P	R x P	R - \bar{R}	(R - \bar{R}) ²	P(R - \bar{R}) ²
5	0.2	1	- 4.1	16.81	3.362
10	0.4	4	0.9	0.81	0.324
8	0.1	0.8	- 1.1	1.21	0.121
11	0.3	3.3	1.9	3.61	1.083
		9.1			4.89

Expected Return = $\bar{R} = \sum R \times P = 9.1\%$
Variance = $\sum (R - \bar{R})^2 \times P = 4.89\%$
Standard Deviation = $\sqrt{\text{variance}} = \sqrt{4.89\%} = 2.21\%$

Q 4. (A) Computation of NPV

Year	CI	PVF @ 10%	PVCI
1	7000	0.909	6363
2	7000	0.826	5782
3	7000	0.753	5271
4	7000	0.683	4781
5	7000	0.621	4347

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6	8000	0.564	4512
7	10000	0.513	5130
8	15000	0.467	7000
9	10000	0.424	7009
10	4000	0.385	1540
			51735

$$NPV = PVCI - PVCO = 51735 - 40000 = 11735$$

Positive NPV so we can accept preference.

Q 4. (P) computation of IRR

Year	CI	PVF @ 10%	PVCI	PVF @12%	PVCI
1	30000	0.909	27270	0.893	26790
2	40000	0.826	33040	0.797	31880
3	60000	0.751	45060	0.712	42720
4	30000	0.683	20490	0.636	19080
5	20000	0.621	12420	0.567	11340
			138280		131810
			(136000)		(136000)
			2280		(4190)

$$IRR = 10\% + \frac{2280}{138280 - 131810} \times 100$$
$$= 10.70\%$$