BATCH : LI –12

DATE: 11.09.2016 **MAXIMUM MARKS: 60** **TIMING: 2 Hours**

ANSWER SHEET

COST ACCOUNTING & FINANCIAL MANAGEMENT

Question – 1 (4 Marks)

A newspaper presently sells 1,00,000 copies of its morning daily. It wants to publish evening daily. Particulars are:

	Actual for Morning	**Estimates for Evening**
Sales price	Rs. 2 per paper	Rs. 0.50 per paper
Variable cost	Rs. 1.20 per paper	Rs. 0. 22 per paper
Fixed cost	Rs. 2.4 lakh per week	Rs. 10,000 per week

Sale of morning daily will fall @ 1 copy for every 10 copies sold of evening daily. Calculate Break-even sales for evening daily per week.

Solution

Fixed cost for evening news paper = ₹ 10,000

Variable cost:	₹
Cost to be incurred	0.22
Benefit lost due to	10

Contribution from 1 morning news paper, i.e. ₹ 0.80

$\therefore$ Contribution lost in 1 evening newspaper = $\frac{\text{Rs.} 0.80}{10} = 0.08$

Relevant variable cost 0.30

Break-even point $= \frac{\text{Fixed cost}}{\text{Contribution}} = \frac{10{,}000}{0.50 - 0.30} = \frac{10{,}000}{0.20} = 50{,}000$ copies

Hence, required break-even point = 50,000 copies.

Question - 2 (4 Marks)

PV ratio of a business is 30%. BES is 40% of the capacity. Capital turnover is 2.5 and profit is 15% on capital employed. At what level (% of the capacity) the business is operating?
(Capital Turnover = Sales/C.E.)

Solution

Let sales $= ₹\ 100$

Contribution $= 30\%$ of sales $= ₹\ 30$

$$\text{Capital Turnover Ratio} = \frac{\text{Turnover (sales)}}{\text{Capital employed}}$$

$$2.5 = \frac{₹\ 100}{\text{Capital employed}}$$

$$\therefore \text{Capital Employed} = \frac{₹\ 100}{2.5} = ₹\ 40$$

We have

$\therefore$ Profit = 15% of capital employed

$$= \frac{15}{100} \times ₹\ 40 = ₹\ 6$$

Now,

Contribution – Fixed Cost = Profit

₹ 30 – Fixed cost = ₹ 6

$\therefore$ Fixed cost = ₹ 30 – ₹ 6 = ₹ 24

$$\text{Break-even ratio} = \frac{\text{Fixed cost}}{\text{P.V. ratio}}$$

$$40\% \text{ of capacity} = \frac{24}{30\%}$$

$$\therefore \text{Capacity} = \frac{24 \times 100 \times 100}{30 \times 40} = ₹\ 200$$

Hence, it indicates that we are operating at 50% of capacity.

Question 3: (8 Marks)

EPS is a Public School having 25 buses each plying in different directions for the transport of its school students. In view of large number of students availing of the bus service, the buses work two shifts daily both in the morning and in the afternoon. The buses are garaged in the school. The workload of the students has been so arranged that in the morning, the first trip picks up senior students and the second trip plying an hour later picks up junior students. Similarly, in the afternoon, the first trip takes the junior students and an hour later the second trip takes the senior students home.

The distance travelled by each bus, one way is 16 km. The school works 24 days in a month and remains closed for vacation in May and June. The bus fee, however, is payable by the students for all the 12 months in a year.

The details of expenses for the year 2013-2014 are as under:

Driver's salary – payable for all the 12 in months.	Rs. 5,000 per month per driver.
Cleaner's salary payable for all the 12 months	Rs. 3,000 per month per cleaner
(one cleaner has been employed for every five buses).	
Licence Fees, Taxes etc.	Rs. 2,300 per bus per annum
Insurance Premium	Rs. 15,600 per bus per annum
Repairs and Maintenance	Rs. 16,400 per bus per annum
Purchase price of the bus	Rs. 16,50,000 each
Life of the bus	16 years

Scrap value	Rs. 1,50,000
Diesel Cost	Rs. 18.50 per litre

Each bus gives an average of 10 km. per litre of diesel. The seating capacity of each bus is 60 students. The seating capacity is fully occupied during the whole year.

The school follows differential bus fees based on distance traveled as under:

Students picked up and dropped within the range of distance from the school	Bus fee	Percentage of students availing this facility
4 km.	25% of Full	15%
8 km.	50% of Full	30%
16 km.	Full	55%

Ignore interest. Since the bus fees has to be based on average cost, you are required to

(i) Prepare a statement showing the expenses of operating a single bus and the fleet of 25 buses for a year.

(ii) Work out average cost per student per month in respect of:

  (a) Students coming from a distance of upto 4 km. from the school.

  (b) Students coming from a distance of upto 8 km. from the school; and

  (c) Students coming from a distance of upto 16 km. from the school.

Solution:

(a)(i) **EPS Public School**

Statement showing the expenses of operating a single bus and the fleet of 25 buses for a year

Particulars	**Per bus per annum (Rs.)**	**Fleet of 25 buses per annum (Rs.)**
Running costs : (A)		
Diesel (Refer to working note 1)	56,832	14,20,800
Repairs & maintenance costs: (B)	16,400	4,10,000
Fixed charges:		
Driver's salary (Rs. 5,000 × 12 months)	60,000	15,00,000
Cleaners salary (Rs.3,000 × $^{1}/5^{th}$ × 12 months)	7,200	1,80,000
Licence fee, taxes etc.	2,300	57,500
Insurance	15,600	3,90,000
Depreciation	93,750	23,43,750
Total fixed charges: (C)	1,78,850	44,71,250
Total expenses: (A+B+C)	2,52,082	63,02,050

(2 Marks)

(ii) Average cost per student per month in respect of students coming from a distance of:

(a) 4 km. from the school {Rs. 2,52,082 / (354 students × 12 months)} (Refer to Working Note 2)	Rs. 59.34
(b) 8 km. from the school (Rs. 59.34 ×2)	Rs. 118.68
(c) 16 km. from the school (Rs. 59.34 × 4)	Rs. 237.36

(2 Marks)

Working Notes:

1. Calculation of diesel cost per bus:

No. of trips made by a bus each day	4
Distance travelled in one trip both ways (16 km. × 2 trips)	32 km.
Distance traveled per day by a bus (32 km. × 4 shifts)	128 km.
Distance traveled during a month (128 km. × 24 days)	3,072 km.
Distance traveled per year (3,072 km. × 10 months)	30,720 km.
No. of litres of diesel required per bus per year (30,720 km. ÷ 10 km.)	3,072 litres
Cost of diesel per bus per year (3,072 litres × Rs. 18.50)	Rs. 56,832

(2 Marks)

2. Calculation of number of students per bus:

Bus capacity of 2 trips (60 students × 2 trips)	120 students
$^{1}/4^{th}$ fare students (15% × 120 students)	18 students
½ fare 30% students (equivalent to $^{1}/4^{th}$ fare students)	72 students
Full fare 55% students (equivalent to $^{1}/4^{th}$ fare students)	264 students
Total $^{1}/4^{th}$ fare students	354 students

(2 Marks)

Question 5 **(6 Marks)**

The following is the capital structure of a Company:

Source of capital	*Book value*	*Market value*
	Rs.	***Rs.***
*Equity shares @ **Rs.** 100 each*	*80,00,000*	*1,60,00,000*
*9 per cent cumulative preference shares @ **Rs.** 100 each*	*20,00,000*	*24,00,000*
11 per cent debentures	*60,00,000*	*66,00,000*
Retained earnings	*40,00,000*	–
	2,00,00,000	*2,50,00,000*

*The current market price of the company's equity share is **Rs.** 200. For the last year the company had paid equity dividend at 25 per cent and its dividend is likely to grow 5 per cent every year. The corporate tax rate is 30 per cent and shareholdeRs. peRs.onal income tax rate is 20 per cent.*

You are required to calculate:

(i) Cost of capital for each source of capital.

(ii) Weighted average cost of capital on the basis of book value weights.

(iii) Weighted average cost of capital on the basis of market value weights.

Answer

(i) Calculation of Cost of Capital for each source of capital:

1. Cost of Equity Capital:

$$K_e = \frac{DPS(1+g)}{MP} X100 + g$$

$$= \frac{25(1+0.05)}{200} X100+5$$

$$= \frac{26.25}{200} X\ 100 + 5$$

= 13.125 + 5 = 18.125%

2. Cost of preference capital or Kp = 9%.
3. Cost of Debentures: Kd (after tax) = r (1 – T)
   = 11 (1 – 0.3) = 7.7%.
4. Cost of Retained Earnings: Kr = Ke (1 – Tp)
   = 18.125 (1 – 0.2)
   = 14.5%.

(1 Marks for cost of each source)

(ii) Weighted Average Cost of Capital

(On the basis of Book Value Weights)

Source	*Amount (Book Value) (**Rs.**)*	*Weights*	*Cost of Capital (after tax) (%)*	*WACC (%)*
(1)	(2)	(3)	(4)	(5) = (3) × (4)
Equity Capital	80,00,000	0.4	18.125	7.25
Preference Capital	20,00,000	0.1	9	0.90
Debentures	60,00,000	0.3	7.7	2.31
Retained earnings	40,00,000	0.2	14.5	2.90
	2,00,00,000	1.00		13.36

Hence, WACC on the basis of Book Value Weights = 13.36%.

(2 Marks)

(iii) Weighted Average Cost of Capital

(On the basis of Market value weights)

Source	*Amount (Market Value) (**Rs.**)*	*Weights*	*Cost of Capital (after tax) (%)*	*WACC (%)*
(1)	(2)	(3)	(4)	(5) = (3) × (4)
Equity Capital	1,60,00,000	0.640	18.125	11.600

Preference Capital	24,00,000	0.096	9	0.864
Debentures	66,00,000	0.264	7.7	2.033
Retained earnings	–	–	–	–
	2,50,00,000	1.000		14.497

Hence, WACC on the basis of Market Value Weights = 14.497%

(2 Marks)

Question 6: (4 Marks)

What is Net Operating Income (NOI) theory of capital structure? Explain the assumptions of Net Operating Income approach theory of capital structure.

Answer

Net Operating Income (NOI) Theory of Capital Structure

According to NOI approach, there is no relationship between the cost of capital and value of the firm i.e. the value of the firm is independent of the capital structure of the firm.

Assumptions

(a) The corporate income taxes do not exist.

(b) The market capitalizes the value of the firm as whole. Thus the split between debt and equity is not important.

(c) The increase in proportion of debt in capital structure leads to change in risk perception of the shareholders.

The overall cost of capital (Ko) remains constant for all degrees of debt equity mix.

Question 7 (5 Marks)

X Ltd. is considering the following two alternative financing plans:

	Plan - I	***Plan - II***
	Rs.	***Rs.***
Equity shares of Rs. 10 each	***4,00,000***	***4,00,000***
12% Debentures	***2,00,000***	***-***
Preference Shares of Rs. 100 each	***-***	***2,00,000***
Rs.	***6,00,000***	***6,00,000***

The indifference point between the plans is Rs. 2,40,000. Corporate tax rate is 30%. Calculate the rate of dividend on preference shares.

Answer

(EBIT - Interest) (1 - Tax rate) = *EBIT (1 - Tax rate) - Preference Dividend*

No. of Equity Shares (N_1) = *No. of Equity Shares (N_2)*

$$\frac{(2,40,000 - 24,000)(1 - 0.30)}{40,000} = \frac{2,40,000 (1 - 0.30) - \text{Preference Dividend}}{40,000}$$

$$\frac{2,16,000 (1 - 0.30)}{40,000} = \frac{1,68,000 - \text{Preference Dividend}}{40,000}$$

1,51,200 = 1,68,000 – Preference Dividend

Preference Dividend = 1,68,000 – 1,51,200

Preference Dividend = 16,800

Rate of Dividend $= \frac{\text{Preference Dividend}}{\text{Preference Share Capital}} \times 100$

$$\frac{16,800}{2,00,000} X 100 = 8.4\%$$

Question – 8 (5 Marks)
A Company has an operation leverage of 1.2 as against 1.25 during the previous year. If the current fixed cost is 25% more than that of the previous year, to what extent has the contribution earned by the firm changed over the previous year ?

Solution – 3	Last year	Current year
Operating Leverage = $\frac{\text{Contribution}}{\text{Contribution} - \text{Fixed cost}}$	$1.25 = \frac{C}{C - F}$ 1.25(C - F) = C 1.25C - l.25F = C 1.25C - C = 1.25F 0.25C = 1.25F C = 5F	$1.20 = \frac{C}{C - 1.25F}$ 1.20(C - 1.25F) = C l.20C - l.5F = C 1.20C - C = l.5F 0.20C = 1.5F C = 7.5F

Increase in Contribution in current year over last year = $\frac{\text{Current year contribution} - \text{Last year contribution}}{\text{Last year contribution}}$

$= \frac{7.5F - 5F}{5F} \times 100 = \frac{2.5F}{5F} \times 100 = 50\%$

50% increase in Contribution over last year.

LAW

Question: 1

The paid – up Share Capital of AVS Private Limited is Rs. 1 corer, consisting of 8 lacs Equity Shares of Rs. 10 each, fully paid – up and 2 lacs Cumulative Preference Shares of Rs. 10 each, fully paid-up . XYZ Private Limited and BCL Private Limited are holding 3 lacs Equity Shares and 150000 Equity Shares respectively in AVS Private Limited.

XYZ Private Limited and BCl Private Limited are the subsidiaries of TSR Private Limited.

With reference to the provisions of the Companies Act, 2013, examine whether AVS Private Limited is a subsidiary of TSR Private Limited?

(5 Marks)

Answer 1 :

Holding, subsidiary relationship: In terms of section 2 (87) of the Companies Act 2013, a company will be the subsidiary of a company which holds a majority of shares in it through its subsidiary company or companies. In this case XYZ Pvt Ltd. and BCL Pvt Ltd. together hold a majority of equity shares in AVS Pvt Ltd. and both these companies are subsidiaries of TSR Pvt Ltd it will have a majority stake in the composition of the Board of Directors of AVS Pvt Ltd. Hence, TSR Pvt, Ltd will be treated as the holding company of AVS Pvt Ltd.

Question: 2

Sparkel infotech Ltd. was registered as a Public Company. There are 226 members in the company as stated below:

(i)	Directors and their relatives	96
(ii)	Employees	60
(iii)	Ex- employes (shares were allotted when they were employees)	20
(iv)	7 couples holding shares jointly in the names of husband and wife (10*2)	20
(v)	Others	30
	Total number of members	**226**

The board of directors of the company proposes to convert it into a private company. Advise the board of directors about the steps to be taken for conversion into a private company including reduction in the number of members, if necessary, as per the companies act, 2013. **(5 Marks)**

Answer 2:

A private company as per Section 2(68) cannot have more than 200 members, hence the current shareholding will not be an issue.

The procedure for converting a public company will require:

(i) Passing of a Special Resolution authorizing the conversion and altering the articles so as to include therein the restrictions specified in Section 2(68)

(ii) Changing the name clause of the Memorandum of the company by omitting the word "Private".

(iii) Obtaining the approval of the Tribunal as required by Section 14(1).

(iv) Filing of the documents along with a printed copy of the articles as altered with the Registrar within 15 days. [Section 14 (2)]

(Note: Section 14(2) is not yet notified.)

Question: 3

Though six out of seven signatures to the Memorandum of Association of a company were forged, the company was registered and the certificate of incorporation was issued. Can the registration of the company be challenged subsequently on the ground of forged signatures? **(5 Marks)**

Answer 3:

Yes, (being a fundamental right under the Constitution of India to go for legal proceedings) the registration of the company can be challenged but it will not in any way affect or cancel the registration of the company and the Memorandum and Articles.

Section 10 (1) of the Companies Act, 2013 states that subject to the provisions of the Act, the Memorandum and Articles shall, when registered, bind the company and the members thereof, to the same extent as if they respectively had been signed by the company and by each member, and contained covenants on its and his part to observe all the provisions of the Memorandum and of the Articles.

Question: 4

Some of the creditors of Get Rich Quick Ltd. have complained that the company was formed by the promoters only to defraud the creditors and circumvent the compliance of legal provisions of the companies Act, 2013. In this context they seek your advice as to the meaning of corporate veil and when the promoters can be made personally liable for the debts of the company. **(5 Marks)**

Answer : 4

Corporate Veil: After incorporation, the company in the eyes of law becomes a different person from the shareholders who have formed the company. The company has its own existence and as a result the shareholders cannot be held liable for the acts of the company even though they hold the entire share capital of the company. This recognition of the company as a separate legal entity and being liable for its own acts and liabilities is known as the "Corporate Veil". However, under certain exceptional circumstances the courts lift or pierce the corporate veil by ignoring the separate entity of the company and the promoters and other persons who have managed and controlled the affairs of the company. Thus, when the corporate veil is lifted by the courts, the promoters and persons exercising control over the affairs of the company are held personally liable for the acts and debts of the company. In the following circumstances, corporate veil can be lifted by the courts and promoters can be held personally liable for the debts of the company.

(i) Trading with enemy country.
(ii) Evasion of taxes.
(iii) Forming a subsidiary company to act as its agent.
(iv) The benefit of limited liability is destroyed by reducing the number of members below 7 in the case of public company and 2 in the case of private company for more than six months.
(v) Under law relating to exchange control.
(vi) Device of incorporation is adopted to defraud creditors or to avoid legal obligations.

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