SEMESTER-VI

FINANCIAL MANAGEMENT

MODEL QUESTION PAPER

Time allowed: 3 hours   full marks:80

Group –A

Answer the following questions   5*4=20

1. Discuss the objectives of the financial management.

   Or, what will be the role of chief financial officer of an organization?

2. Mr. Sen estimates that he needs to withdraw rs. 2, 40,000 every year from his bank for the next three month years. He wants to know the amount of deposit he should have in his bank today to meet above requirement if the rate of interest is 4% p.a. (given PVIFA 4%, 3= 2.775).

3. What do you mean by term financing? Write down its feature briefly.

4. The equity capital divya jyoti ltd. consists of rs. 4,000 equity shares of rs. 10 each. Currently these shares are quoted in the market at rs. 200 each. The earnings available to the equity shareholders at the end of the period rs. 2, 40,000. The earnings are expected to grow @ 7% p.a. what is the cost of equity capital as per earnings growth model?

Group –B

Answer the following questions   10*6=60

5. Rose bud co. ltd has annual net operating income of rs.5, 00,000. It has 8% debenture of rs. 30, 00,000. The overall capitalization rate is 10%. You are required to calculate the value of the firm and the equity capitalization rate according to the NOI approach. What will be the effect on the value of the firm and the equity capitalization rate if the debenture debt is increased to rs. 40,00,000.   10

or

5 ABC CO. provides the following information:

Sales 1000 units @ ₹ 1000 p.u. ;
Variable operating cost ₹ 300 p.u and
Fixed operating cost ₹ 3,00,000.

Capital Structure:
10% Debenture ₹ 10, 00,000; 8% preference share capital ₹ 5, 00,000; No of equity shares 10,000(face value ₹ 100) and corporate tax rate 40% and corporate dividend tax rate 10%.

   Calculate DOL, DFL DCL and EPS. If Sales increase by 10% what is the revised EPS of the company.
      10

6. Cosmos ltd. sells its products ona gross profit of 20% on sales. The following information is extracted from its annual accounts for the current year ended 31 st march, 2020.

	Amount (rs)
Sales at 3 months credit	40, 00,000
Raw materials	12, 00,000
Wages paid- average time lag 15 days	9, 60,000
Manufacturing expenses paid- one	
Month in arrears	12, 00,000
Administration expenses paid-	
One month in arrears	4, 80,000
Sales promotion expenses paid –	
Half yearly in advance	2, 00,000

The company enjoys one month credit from the suppliers of raw material and maintains a 2 month's stock of raw materials and one –and –half month's stock of finished goods. The cash balance is maintained at rs. 1, 00,000 as precautionary measure. Assuming 10% margin, find out the working capital requirement of cosmos ltd.

Or

6. Calculate different kind of information of XYZ Company from the following information:

Production & Sales	1600 units
Selling price per unit	₹30
Variable cost per unit	₹20
Fixed operating cost:	
Situation A	₹ 4000
Situation B	₹2000
Situation C	₹6000

Financial alternatives:

Particulars	Plans		
	I	II	III
Equity (in rupees)	15,000	10,000	5,000
Debt carrying 10% interest (in rupees)	5,000	10,000	5,000

How is the information relating to leverage useful in financial decisions?   10

7. The profitability of the assets and cost of capital of a firm are given as follows:

Return on current assets-2% and on fixed assets -12%

Implicit cost of current liabilities-45 and cost of long term funds-9%.

The current balance sheets of the firm shows the following position:

liabilities	amount	assets	Amount
Long –term funds	50,00,000	Fixed assets	40,00,000
C.L.	10,00,000	C.A.	20,00,000
	60,00,000		60,00,000

a) Calculate the net profitability of the firm at present asset and finance structure.

b) The firm is considering to reduce its net working capital to rs. 6, 00,000 by (i) either shifting rs. 4, 00,000 of current assets to fixed assets or (ii) shifting rs. 4, 00,000 of its long term funds to current liabilities. Which alternatives would you prefer and why?

c) If both alternatives are affected simultaneously, what will be the impact on the net profitability?

10

8. The initial investment of a project A is ₹2,00,000. It is expected to generate net cash flows for five years as : ₹ 90,000; ₹ 1,10,000; ₹ 1,40,000; 1,20,000 and ₹ 70,000.

The initial investment of the project B is ₹3,00,000.it is expected to generate the net cash flows for five years as : ₹ 1,40, 000; ₹ 1,70,000; ₹ 90,000, ₹1,00,000 and ₹ 60,000.

Calculate the Pay Back Period for both the projects and offers your comments. Also highlights the limitations of the method , if any, you have noticed.   (7+3)

Or

8. What do you mean by payback period? State briefly its merits and demerits.   [4+6]

9.(i) Following figures relate to two mutually exclusive projects: [5+5]

	Year 0	Year 1	Year 2	Year 3
NCF of Project- A (₹)	(-) 70,000	45,000	60,000	40,000
NCF of Project- B (₹)	(-) 40,000	35,000	42,000	25,000

If WACC of the firm is 10%, calculate NPV and PI and state which of the projects is to be accepted.

9. (ii) The initial investment of the project A is ₹ 2, 50,000. It is expected to generate net cash flow for five years as ₹ 1, 00,000; ₹ 1, 20,000; ₹ 1,40,000; ₹ 1,20,000 and ₹ 80,000. If WACC is 10%, calculate its NPV and comment on the acceptability of the project.

10. (i) Given, earnings per share ₹90, calculate the market price per share of a company using Gordon's model when the dividend pay-out ratio is (A) 30% and (B) 60%, assuming that,
    (a) The company is the growth company(r ›k) when r =20%
    (b) The company is the normal company (r=k) when r =k= 15%
    (c) The company is the decline company (r ‹ k), when r = 12%.
Also comment on the result.

    (ii) From the following information, calculate the market value of the equity shares of a company as per the Walter's model.

Earnings after tax- ₹ 15, 00,000;
Numbers of equity shares outstanding- 3, 00,000;
Dividend paid - ₹ 6, 00,000.
Price-earnings ratio- 10
Rate on return on the investment- 20%.

What is the optimum dividend payout ratio in this case? [5+5]

SOLUTION

Answer-1

OBJECTIVES OF FINANCIAL MANAGEMENT:

- Profitability objective
- Liquidity of fund objectives
- Collection or raising of fund
- Investment of fund
- Safety of fund
- Financial policies
- Financial control
- Expansion of capital base
- Return on investment
- Pay back period
- Co-ordination.

Answer-1 or

ROLE OF CHIEF FINANCIAL OFFICER (CFO):-

- Chief financial officer has to undertake tight financial control and sound financial management to ensure profitability of business.

- CFO advises on credit collection policies and initiates proper collection drive.
- CFO take investment decision on fixed and current assets.
- CFO makes proper utilization of assets for the prosperity of business.
- CFO responsible for preparation of annual accounts.
- CFO submit periodical financial statement to the chief executives.

Answer: 2

$$V = A/i \, [\, 1-(1+i)^{-n}]$$

$$= \frac{2,40,000[1-(1.04)^{-3}]}{0.04}$$

$$= 2,40,000 * PVIFA \ 4\%, 3$$

$$= 2,40,000 * 2.775$$

$$= RS. \ 6,66,000.$$

Answer-3:

TERM FINANCING: Financing for short term, medium term and long term capital requirement is known as term financing.

FACTORS CONSIDERED FOR DETERMINING THE TERM FINANCING:

- Nature of the business
- Cost of fixed assets and current assets

- Scale of operation
- Production cycle
- Business cycle
- Cost of credit
- Credit policy of the company
- Growth and expansion of the company
- Dividend and retention policy of the company.

Answer: 4

Cost of equity shares under earnings growth model

$K_e = E/P_O + G$

Where

E= EPS= 2, 40,000/4,000= RS. 60.

P_O= current market price per share= rs.200.

G= growth rate of earnings=7%=0.07

So, k_e= 60/200+0.07

    = 0.3+0.07

    = 0.37= 37%

GROUP-B

Answer: 5

Statement showing computation of value of firm and equity capitalization rate as per NOI approach:

particulars	Option I	Option II

EBIT	5,00,000	5,00,000
Overall capitalisation rate(k_O)	10%	10%
Total value of the firm(V)= EBIT/K_O		
Less: market value of debt(D)	50,00,000	50,00,000
Market value of equity(S)	30,00,000	40,00,000
EBIT	20,00,000	10,00,000
Less: interest on debentures@8%	5,00,000	5,00,000
EBT or NIES	2,40,000	3,20,000
Equity capitalisation rate(K_e) = EBT/ S*100	2,60,000	1,80,000
	13%	18%

5.OR

Particulars	₹
Sales	10,00,000
less: Variable Cost	3,00,000
Contribution	7,00,000
Less: Fixed cost	3,00,000
Earnings before interest and tax (EBIT)	4,00,000
Less: Interest	1,00,000
Earnings before tax (EBT)	3,00,000
Less: Tax on above	1,20,000
Earnings/ Profit after Tax (EAT/PAT)	1,80,000
Less: preference dividend and preference dividend	44,000

tax, if any	
Earrings available to equity share holders(EAESH)	1,36,000
Numbers of Equity Shares (N)	10,000
Earnings per share(EPS) [EPS= EAESH/N] ₹	14
DOL= Contribution/ EBIT	1.75
DFL= EBIT/ EBT-(Pref. dividend & pref. dividend tax) /(1-t)	1.77
DCL= DOL* DFL	3.088
% increases in EPS for 10% increases in sales= 10 x 3.088 (using the concept of DCL)	30.88
so, revised EPS = 13.60 + 30.88% of 13.60	₹ 17.80

Answer: 6

Statement showing working capital requirement

particulars	Amount	Amount
CURRENT ASSETS		
• Stock Raw material (2/12*12,00,000)	2,00,000	
Finished goods (1.5/12*32,00,000)	<u>4,00,000</u>	6,00,000
• Debtors(3/12*40,00,000)		10,00,000
• Prepaid sales promotion		

expenses(6/12*2,00,000)		
• Cash in hand		1,00,000
Less: CURRENT LIABILITIES		<u>1,00,000</u>
• Creditors(1/12*12,00,000)		18,00,000
• Outstanding manufacturing expenses(1/12*12,00,000)	1,00,000	
• Outstanding administration expenses(1/12*4,80,000)	1,00,000	
• Outstanding wages (0.5/12*9,60,000)	40,000	
	<u>40,000</u>	2,80,000
		15,20,000
ADD: safety margin (15, 20,000*10%)		
Required working capital		<u>1,52,000</u>
		<u>16,72,000</u>

6 or,

	Situation		
Particulars	A	B	C
Sales (1600 * 30	48000	48000	48000
less: Variable cost(1600* 20)	32000	32000	32000
Contribution	16000	16000	16000
less: Fixed cost	4000	2000	6000
EBIT	12000	14000	10000
DOL= Contribution/ EBIT	1.33	1.14	1.6

	Situation								
	A			B			C		
	Plan - I	Plan - II	Plan - III	Plan - I	Plan - II	Plan - III	Plan - I	Plan - II	Plan - III

	12000	12000		14000	14000		10000	10000	
EBIT			12000			14000			10000
LESS: Interest	500	1000	1500	500	1000	1500	500	1000	1500
EBT	11500	11000	10500	13500	13000	12500	9500	9000	8500
Degree of different leverages									
DOL	1.33	1.33	1.33	1.14	1.14	1.14	1.6	1.6	1.6
DFL	1.04	1.09	1.14	1.04	1.08	1.12	1.05	1.11	1.18
DCL	1.39	1.45	1.52	1.19	1.23	1.28	1.68	1.78	1.88

These leverages are useful to measure the operating, financial and total risk of the business.

Answer: 7

Statement showing profitability and liquidity under different options:

particulars	Present (rs) (a)	Proposed (b)(i)	Proposed (b)(ii)	Proposed (c)
Invest-Ments:				
F.A.	40,00,000	44,00,000	40,00,000	44,00,000
C.A.	20,00,000	16,00,000	20,00,000	16,00,000
	60,00,000	60,00,000	60,00,000	60,00,000
Financing:				
Long term	50,00,000	50,00,000	46,00,000	46,00,000
Short term	10,00,000	10,00,000	14,00,000	14,00,000
	60,00,000	60,00,000	60,00,000	60,00,000
Return on invest- ment: 12% on F.A.				

2% on C.A. TOTAL RETURN(A Cost of financing: 9% on long term	4,80,000 40,000 5,20,000	5,28,000 32,000 5,60,000	4,80,000 40,000 5,20,000	5,28,000 32,000 5,60,000
4% on short term Total cost	4,50,000	4,50,000	4,14,000	4,14,000
Net profitabi-lity(A-B)	40,000 4,90,000	40,000 4,90,000	56,000 4,70,000	56,000 4,70,000
Current ratio(CA/ CL) to check liquidity	30,000	70,000	50,000	90,000
	2.0	1.6	1.43	1.14

Comments:

a) Net profitability at present is rs. 30,000

b) In option b(i), profitability is higher but at the same time liquidity is also higher compared to option b(ii). So b(i) is preferable.

c) Option c is better in terms of profitability however its liquidity is comparatively low.

8.

Project A				Project B		
Year	NCF	Cumulative NCF		Year	NCF	Cumulative NCF
1	90,000	90,000		1	1,40,000	1,40,000
2	,1,10,000	2,00,000		2	2,00,000	3,40,000
3	1,40,000	3,40,000		3	90,000	4,30,000
4	1,20,000	4,60,000		4	1,00,000	5,30,000
5	70,000	5,30,000		5	60,000	5,90,000

Pay Back Period for the Project A = 2 years (as the end of the 2 years the project exactly recovered its initial investment.

Payback period for project- B is calculated using simple interpolation as follows:

Year	Amount recovered
1	1,40,000

PBP	3,00,000
2	3,40,000

(Initial outflow)

Using linear relation, we get-

$$\frac{P-1}{2-1} = \frac{3,00,000 - 1,40,000}{3,40,000 - 1,40,000}$$

Or, **P=1.8 years**

Comment: Based on Payback Period, project – B is to be selected as its PBP is lower.

Comments on Limitations:

- The post payback period profitability of project –A = Total NCF- initial investment = 5, 30,000- 2, 00,000= ₹ 3, 30,000.
- The post payback period profitability of project –B = Total NCF- initial investment = 5, 90,000 – 3, 00,000= ₹ 2, 90,000.
- Looking at the post payback period profitability, we see that project-A will give higher profitability and this aspect will be ignored if we accept any project based on payback period only.

Note: *payback profitability simply implies the additional NCF generated over its initial outflow.*

   8 .OR

Payback period: It is the length of time the project takes to pay the initial investment back to the firm. Payback period is also

known as break even period. The less is the payback period, the more attractive is the project and vice- versa.

Merits:

- It is easy to understand and apply due to its simplicity in calculation.
- In case of capital rationing a firm may consider to invest in projects having shorter payback period.
- It gives the clear view of recovering the initial investment.
- It is less costly compare to other capital budgeting decisions.

Demerits:

- It does not consider the time value of money.
- It does not consider cash flows during surplus period.
- In the case of whether to buy or lease or to hire payback period does not place.

9. (i)

Calculation of NPV and PI:

Year	PVF	Project- A		Project- B	
		NCF	PV of NCF	NCF	PV of NCF
a	b	c	d=b *c	e	f= b*e
1	0.909	45,000	40,905	35,000	31,815
2	0.826	60,000	49,560	42,000	34,692
3	0.751	40,000	30,040	25,000	18,775
∑PV of future NCF (X)　　(₹)			1,20,505		85,282

Initial Outflow(Y) (₹)			70,000		40,000
NPV(X-Y) (₹)			**50,505**		45,282
PI = X/Y			1.7125		**2.13205**

Comment of Acceptability of the project:
- Under NPV method, Project-A is accepted as its NPV is positive and higher.
- Under PI method, Project- B is accepted as its PI is more than 1and higher.

10.(i)
By Gordon's Model, we get-

$$P = \frac{E\,(1-b)}{K - br},$$ terms have their usual meaning,

Using the above formula under different situations, we get : (detailed calculation is not shown)

	case (a)	case (b)	case (c)
Given, k	0.15	0.15	0.15
Given, r	0.2	0.2	0.2
i)When pay-out is 30%, i.e., b= 0.70	2,700	600	409.09
ii) When pay-out is 60%, i.e., b = 0.40	771.43	600	529.41

Comment:

Year	Workings	PVF	NCF(₹)	PV	of

- For growth company: as pay-out increases, price decreases
- For declining company: as pay- out increases, price also increases.
- For normal company: price is independent of dividend policy.

10. (ii)

EPS = earnings after tax/ no. of shares =15, 00,000/3, 00,000 = ₹ 5

DPS = dividend/ no. of shares = 6, 00,000/3, 00,000 = ₹

K= E/P = 1/(P/E) = 1/(10) = 0.10

r = 20% i.e., 0.20

By Walters, model, we get,

P= $\dfrac{D+(E-D).r/K}{k}$ = $\dfrac{2+(5+2).0.2/0.1}{0.1}$ = ₹ 80

9(ii) calculation of NPV

	for PVF			NCF(₹)
1	$1/(1+0.1)^1$	0.909	1,00,000	90,909
2	$1/(1+0.1)^2$	0.826	1,20,000	99,174
3	$1/(1+0.1)^3$	0.751	1,40,000	1,05,184
4	$1/(1+0.1)^4$	0.683	1,20,000	81,962
5	$1/(1+0.1)^5$	0.621	80,000	49,674
∑PV of future NCF	=			4,26,902
Less: Initial Outflow(C_o)	=			2,50,000
Net Present Value (NPV)	=			1,76,902