THK JAIN COLLEGE

B. COM (Hons and Gen)

SEMESTER - VI

FINANCIAL MANAGEMENT

MODEL TEST PAPER WITH SOLUTION

FULL MARKS: 80 **TIME: 3HRS**

Group-A

Answer the following questions: **5x4=20**

1) Write about the role of a finance manager.

Or, "Wealth maximization is dependent on profit maximization"- Discuss

2) From the following cash flow streams, which cash flow would you recommend and why?

End of year	Stream A (₹)	Stream B (₹)	Stream C (₹)
1	200	500	350
2	300	400	350
3	400	300	350
4	500	200	350

The rate to be used is 10%

Or, Explain the concept of time value of money with example.

3) What are the sources of long term capital?

4) The current market price of an equity share of a company is ₹.140. The expected dividend per share is ₹. 28. In case the dividends are expected to grow at a rate of 10%, calculate the cost of equity capital?

Group-B

Answer the following questions: **6x10=60**

5) **(a)** Given the following information:
Sales (10000 units) = ₹10, 00,000; Variable cost per unit = ₹60; Interest = ₹1, 00,000; EBT= ₹2, 00,000; DCL= 2.5
Calculate Operating Leverage and Financial Leverage.

(**b)** From the following information compute sales: DOL=2; DFL=3;
Interest= ₹300000 and contribution is 40% of sales.

Or, Write the differences between NI Approach and NOI Approach.

(10)

6) For a new business Mr. Bose supplied the following information:

i) The projected annual sales ₹. 1,20,00,000
ii) He has estimated fixed expenses ₹. 20,000 per month and variable expenses equal to 2% of turnover.
iii) Percentage of gross profit on cost of purchase will be 25%.
iv) Average expected credit period allowed to debtors is 1 month.
v) Average expected credit period from suppliers is 15 days.
vi) He expects to turnover his stocks 5 times in a year.
vii) Average cash holding is 1 month's expenses.

You are required to forecast his working capital requirement.

Or, What is meant by working capital cycle? State the factors on which the duration of the Working capital cycle period depends?

(10)

7) A manufacturing company has two options for investing in a project. You are requested to advise the management as to the profitability of the investment on the basis of Pay-Back Profitability:

	Project A (₹)	**Project B (₹)**
Initial Investment	55,000	70,000
Estimated annual cash inflows after tax		
Year:		
1	16,000	15,000
2	18,000	19,000
3	21,000	20,000
4	22,000	16,000
5	20,000	25,000
6	-	28,000

Or, What is Capital Budgeting? What are the main methods of Capital Budgeting?

(10)

8) (a) L Ltd. Provides you the following information:

i) Purchase price of machine ₹. 1,73,500
ii) Useful Life of machine 3 years
iii) Salvage value at the end of useful life NIL
iv) Cost of capital 10%
v) Cash flow after tax (CFAT)
Year 1 ₹. 1,00,000
Year 2 ₹. 1,00,000
Year 3 ₹. 80,000

Note: Present Value Factors @ 10% are as follows:

Year :	1	2	3
PV Factor:	0.909	0.826	0.751

Calculate the Discounted Payback Period.

(b) S. Ltd. is planning its capital investment programme for next year. It has 4 proposals all of which given a positive NPV at the company cut off rate of 12%. The required initial capital outlay and present values are as follows:

Proposals	Initial Capital Outlays (₹)	NPV (@12%)	Profitability Index
X1	2,25,000	67,500	1.30
X2	1,00,000	45,000	1.45
X3	1,50,000	60,000	1.40
X4	1,75,000	64,750	1.37

The company is limited to a capital spending of ₹. 3,00,000.

(5+5)

Which of the proposals should be accepted by the company? Assume that the proposals are divisible and there is no alternative use of the money allocated for capital budgeting.

(5+5)

9) (a) What are the different types of dividend?
(b) From the following information, calculate the market value of equity shares of a company's per Walter's model.

EAT = ₹ 15, 00, 000;

Number of equity share outstanding = 3, 00,000

Dividend paid = ₹ 6, 00,000

P/E Ratio = 10

ROI= 20%

What will be the optimum dividend pay-out ratio in this case?

(4+6)

10) Orient Bros dealing in computers and other accessories has annual sales of ₹. 40 lakhs and is currently extending 30 days credit to the dealers. It is felt that sales can be increased considerably if the dealers are willing to carry increased stock, but the dealers have difficulty in financing their inventory. The company is therefore, considering shifting in credit policy. The following information is available.

Present average collection period = 30days
Variable Cost = 80% on Sales
Fixed Cost = ₹. 10,00,000 p.a.
Required Rate of Return (Before tax) = 16%

Credit Policy	Average Collection Period	Annual Sales
I	40 days	50 lakhs
II	60 days	60 lakhs
III	75 days	75 lakhs
IV	90 days	90 lakhs

Determine which policy, the company should adopt?

Solution:

Answer 1:

Financial managers perform data analysis and advise senior managers on profit-maximizing ideas. Financial managers are responsible for the financial health of an organization. They produce financial reports, direct investment activities, and develop strategies and plans for the long-term financial goals of their organization.

The roles or functions of a finance manager can be stated as below:

1. Estimation of financial requirements
2. Capital structure
3. Investment decision
4. Portfolio management

Answer 1(Or):

The terms Profit Maximization and Wealth Maximization are related to Financial Management.

Financial management refers to the management of funds in an effective and efficient manner so as to attain the objectives of the organization.

When we talk about **Profit Maximization**, it means that the business's primary focus is on generating profits. It is a short term objective of the organization whereas **Wealth Maximization** is a objective where the focus is on Maximization of wealth or the worth of the business. In other words we can say it means increasing the shareholders' wealth (i.e. increase in share value). It is a long term objective of the firm.

Value of the business= Earnings per share (EPS) / Capitalization rate

Profit Maximization v/s Wealth Maximization.

- Profit Maximization is the short term goal whereas Wealth Maximization is long term goal.
- Profit Maximization is a traditional approach. Financial management has shifted its focus to modern approach i.e. Wealth Maximization.
- Profit Maximization is a more relative term as compared to wealth maximization
- Profit Maximization doesn't consider risks and uncertainties whereas Wealth Maximization takes risks and uncertainties into consideration.
- Profit Maximization avoids time value of money but, wealth maximization recognizes it.
- Profit Maximization is important for the growth and survival. Wealth Maximization on the other hand accelerates the growth rate and aims at market share Maximization.

Conclusion
Both the objectives of financial management have significance for the business. It will not be appropriate to point out which one is important.

Profit being the basic requirement of any organization, cannot be ignored because it is necessary for the organization's survival.

Also shareholders are investing in the organization expecting higher rates of return. If organization ignores this aspect shareholders will lose trust in the company and will back out which will affect the company's reputation.

Therefore it can be concluded that both the decisions are significant in different ways. For day to day decision making profit maximization can be considered but when it comes to decisions regarding shareholders wealth maximization should be taken into consideration.

Answer 2: Statement showing calculation of Present Value under different options:

Year	PVF @10%	A*PV	B *PV	C *PV
1	0.91	182	455	318.50
2	0.83	249	332	290.50
3	0.75	300	225	262.50
4	0.68	340	136	238.00
Total	**3.17**	**1071**	**1,148**	**1,109.50**

Option C is recommended as the present value is maximum.

Answer 2(Or):

The time value of money draws from the idea that rational investors prefer to receive money today rather than the same amount of money in the future because of money's potential to grow in value over a given period of time. For example, money deposited into a savings account earns a certain interest rate and is therefore said to be compounding in value.

Time Value of Money Formula
Depending on the exact situation in question, the time value of money formula may change slightly. For example, in the case of annuity or perpetuity payments, the generalized formula has additional or less factors. But in general, the most fundamental TVM formula takes into account the following variables:

- FV = Future value of money
- PV = Present value of money
- i = interest rate
- n = number of compounding periods per year
- t = number of years

Based on these variables, the formula for TVM is:

$$\mathbf{FV = PV \times [\, 1 + (i / n) \,]^{(n \times t)}}$$

Answer 3:

The funds which are not paid back within a period of less than a year are referred to as **long term finance.** Certain long term finance options directly form a part of the permanent capital of the firm. In such cases, the repayment obligation does not even arise. A 20 year mortgage or 10 year treasury bills are examples of long term finance. The primary purpose of obtaining long-term funds is to finance capital projects and carrying out operations on an expansionary scale. Such funds are normally invested into avenues from which greater economic benefits are expected to arise in future. Some of the sources of long term capital are:

1) **Equity share capital:** Equity is the foremost requirement at the time of floatation of any company. They represent the ownership funds of the company and are permanent to the capital structure of the firm. The equity can be private or public.

2) **Preference Share capital:** Preference share capital means the shares with preference over the other equity capital of the shareholders' capital. Such share capital is having preference over the dividend and repayment at the time of liquidation.

3) **Debentures:** Debenture is a long-term bond issued by a company, or an unsecured loan that a company issues without a pledge of assets. An interest-bearing bond issued by a power company is an example of a debenture.

4) **Long term loans:** A form of loan that is paid off over an extended period of time greater than 3 years is termed as a long-term loan. This time period can be anywhere between 3-30 years. These loans generally offer a hefty loan amount and are thus spread over a considerable period of repayment tenure.

Answer 4:

Cost of Equity Capital = $\frac{D1}{P} + G$

Where, D_1 = Expected Dividend at the end of the year = 28

P = Market Price per share = 140

G = Growth rate = 10% = 0.10

∴ Cost of Equity Capital = $28/140 + 0.10$

= 0.30 = 30%

Answer 5(a):

Contribution = Sales –VC = ₹ (1000000-600000) = ₹ 400000

EBIT = EBT + Interest = ₹ (200000 + 100000) = ₹ 300000

Therefore, DOL = Contribution/EBIT = 400000/300000= 1.33

∴ DFL = EBIT/EBT= 300000/200000 =1.5

(b) DFL = $\frac{EBIT}{EBT}$

Or, 3= $\frac{EBIT}{EBIT-Interest}$

Or, 3=$\frac{EBIT}{EBIT-300000}$

Or, EBIT= ₹ 450000

DOL= $\frac{Contribution}{EBIT}$

Or, 2=$\frac{Contribution}{450000}$

Therefore, Contribution = 2* ₹ 450000 = ₹ 900000

Since, contribution is 40% sales,

Therefore sales = $\frac{900000}{40\%}$ = ₹ 2250000

Answer 5 (Or):

Difference between NI Approach and NOI Approach

Subject	Net Income Approach	Net Operating Income Approach
(i) **Cost of equity capital :**	Under this approach, it is assumed that the cost of equity capital is fixed. So, in this case, the cost of equity capital does not depend on debt-equity ratio.	Under this approach, if the amount of debt-capital is increased, the cost of equity capital increases *i.e.*, the cost of equity capital depends on debt-equity ratio.
(ii) **Nature of K_e curve :**	Under this approach, the cost of equity capital remains fixed even if the debt-equity ratio is changed. So, the cost of equity capital curve is parallel to the horizontal axis.	Under this approach, the cost of equity capital increases immediately with increase in the amount of debt-capital, the cost of equity capital curve becomes upward sloping.
(iii) **Overall cost of capital :**	Under this approach, if the amount of debt-capital is increased, the overall cost of capital increases *i.e.*, the overall cost of capital depends on capital structure.	Under this approach, it is assumed that the overall cost of capital remains fixed *i.e.*, the overall cost of capital doesn't depend on capital structure.
(iv) **Nature of K_0 curve :**	In this case, the overall cost of capital (K_0) curve is downward slopping.	In this case, the overall cost of capital (K_0) curve is parallel to the horizontal axis.
(v) **Value of the firm :**	In this case, the value of the firm depends on capital structure.	In this case the value of the firm does not depend on capital structure.
(vi) **Market value of equity :**	According to this approach, the market value of equity share (E) $= \frac{EBIT - I}{K_e}$ *i.e.*, the market value of equity share is not considered as a residual value.	According to this approach, the market value of equity share (E) $= (V - D)$ *i.e.*, the market value of equity share is considered as a residual value.
(vii) **Optimum capital structure :**	According to this approach, every firm may have an optimum capital structure.	According to this approach, there is nothing as optimum capital structure.
(viii) **Relevancy :**	According to this approach, the capital structure decision is a relevant matter.	According to this approach, the capital structure decision is an irrelevant matter.

Answer 6:

Statement of Working Capital Requirement Forecast

Particulars	Amount(₹)	Amount(₹)
A. Current Assets:		
Stock	19,20,000	
Debtors	10,00,000	
Cash Balance	40,000	
Total Current Assets		29,60,000
B. Current Liabilities		
Creditors for Material		4,80,000
C. Working Capital Requirement (A-B)		**24,80,000**

Working Notes:

a) Projected Annual Sales = ₹. 1,20,00,000

b) % of GP = 25% of Cost of Purchase i.e. 20% on sales

c) Cost of Goods sold = Sales – GP
= ₹. (1,20,00,000 – 20% on 1,20,00,000) = ₹. 1,20,00,000 - ₹. 24,00,000
= ₹. 96,00,000

d) **Stock:**
Stock turnover = 5 times in a year

We know that,

$$\text{Stock Turnover} = \frac{96,00,000}{\text{Average Stock}}$$

$$\text{Or, } 5 = \frac{96,00,000}{\text{Average Stock}}$$

Average Stock = ₹. 19,20,000

Since, this is a new concern, there would be no opening stock.

So, average stock = Closing Stock = ₹. 19,20,000

e) Debtors:
Credit period allowed to debtors = 1 months
We know that,

$$\text{Debtors Turnover} = \frac{Debtors\ x\ 12}{Annual\ Credit\ Sales}$$

$$\text{Or, } 1 = \frac{Debtors\ x\ 12}{1,20,00,000}$$

Debtors = ₹. 1,20,00,000 x 1/12 = ₹. 10,00,000

f) Expected Cash Balance:
Average cash holding = 1 month's expenses (assumed both fixed and variable)

	Amount (₹)
Fixed expenses per month	20,000
Variable expenses per month	20,000
@ 2% on ₹. 1,20,00,000 x 1/12	
	40,000

g) Creditors:

Credit period allowed by suppliers = 0.5 months,

We know that,

Creditors Turnover = $\frac{Creditors\ x\ 12}{Annual\ Credit\ Purchases}$

Or, 0.5 = $\frac{Creditors\ x\ 12}{1{,}15{,}20{,}000}$

∴ Creditors = ₹. 1,15,20,000 x 0.5/12 = ₹. 4,80,000

[N.B. Purchase = Cost of goods sold + Closing stock – Opening Stock
= ₹. (96,00,000 + 19,20,000 – NIL)]

Answer 6 (Or):

The working capital cycle (WCC) is the amount of time it takes to turn the net current assets and current liabilities into cash. The longer the cycle is, the longer a business is tying up capital in its working capital without earning a return on it. Therefore, companies strive to reduce its working capital cycle by collecting receivables quicker or sometimes stretching accounts payable.

A positive working capital cycle balances incoming and outgoing payments to minimize net working capital and maximize free cash flow. For example, a company that pays its suppliers in 30 days but takes 60 days to collect its receivables has a working capital cycle of 30 days. This 30-day cycle usually needs to be funded through a bank operating line, and the interest on this financing is a carrying cost that reduces the company's profitability.

Factors Affecting the Working Capital Cycle:

- **Time Lag:** The Volume of Working Capital requirement however depends on several stages of working capital cycle such as, duration of raw material, storage period, processing period, finished goods storage period, period of credit allowed to customer and so on. If these time periods in different stages are changed then the duration of working capital cycle is also changed.
- **Production Efficiency:** the duration of working capital cycle also depends on the efficiency of the production process.
- **Availability of Raw Materials:** The duration of Working capital cycle depends on the availability of raw materials in the market.
- **Relationship between Production and Sales Departments:** The Production Department can able to assess the pattern of sales during an accounting period, only when there is a cordial relationship between the production and sales department.
- **Credit Collection Policy:** The duration of working capital cycle depends on how fast cash is collected from the customers

- **Debt Payment Policy:** The duration of working capital cycle depends on the debt repayment policy of the firm.
- **Other factors:** The duration of working capital cycle however depends on certain other factors such as the nature of the business, type of market, discount allowed to customers, discount received from creditors and so on.

Answer 7:

Statement showing computation of Net Cash Inflows of Different Projects:

Year	Project A		Project B	
	NCFAT	Cumulative NCFAT	NCFAT	Cumulative NCFAT
1	16,000	16,000	15,000	15,000
2	18,000	34,000	19,000	34,000
3	21,000	55,000	20,000	54,000
4	22,000	77,000	16,000	70,000
5	20,000	97,000	25,000	95,000
6	-	-	28,000	1,23,000

[N. B. NCFAT = Net Cash Flow After Tax]

It is evident from the above table that the initial investment of ₹. 55,000 will be recovered within 3 years in case of Project A whereas the initial investment of project B is recovered within 4 years.

Statement showing Ranking of the Projects under Payback Period Method

Projects	Payback Period	Ranking
Project A	3 years	I
Project B	4 years	II

Statement Showing computation of Post Payback Profitability

Particulars	Project A	Project B
Total Expected annual cash inflows after tax (a)	97,000	1,23,000
Initial Investment (b)	55,000	70,000
Post Payback Profitability (a-b)	42,000	53,000
Rank	II	I

Recommendation: According to the criterion of Payback Period method, Project A should be accepted as it has shorter Payback period than the project B. But if we follow Payback Profitability Method for evaluation of investment proposals then Project B should be accepted as it contributes more after recovering its initial investment. Therefore, it is advisable to invest in Project B.

Answer 7(Or):

Capital budgeting is the process a business undertakes to evaluate potential major projects or investments. Construction of a new plant or a big investment in an outside venture are examples of projects that would require capital budgeting before they are approved or rejected. As part of capital budgeting, a company might assess a prospective project's lifetime cash inflows and outflows to determine whether the potential returns that would be generated meet a sufficient target benchmark. The process is also known as investment appraisal. Ideally, businesses would pursue any and all projects and opportunities that enhance shareholder value. However, because the amount of capital any business has available for new projects is limited, management uses capital budgeting techniques to determine which projects will yield the best return over an applicable period.

Capital budgeting is set of techniques used to decide which investments to make in projects. There are a number of capital budgeting techniques available, which include the following:

- ***Discounted cash flows*:** Estimate the amount of all cash inflows and outflows associated with a project through its estimated useful life, and then apply a discount rate to these cash flows to determine their present value. If the present value is positive, accept the funding proposal.
- ***Internal rate of return*:** Determine the discount rate at which the cash flows from a project net to zero. The project with the highest internal rate of return is selected.
- ***Constraint analysis*:** Examine the impact of a proposed project on the bottleneck operation of the business. If the proposal either increases the capacity of the bottleneck or routes work around the bottleneck, thereby increasing throughput, then accept the funding proposal.
- ***Breakeven analysis*:** Determine the required sales level at which a proposal will result in positive cash flow. If the sales level is low enough to be reasonably attainable, then accept the funding proposal.
- ***Discounted payback*:** Determine the amount of time it will take for the discounted cash flows from a proposal to earn back the initial investment. If the period is sufficiently short, then accept the proposal.
- ***Accounting rate of return*:** This is the ratio of an investment's average annual profits to the amount invested in it. If the outcome exceeds a threshold value, then an investment is approved.

Answer 8(a):

Computation of Discounted Payback Period:

Year	CFAT	PV Factor @ 10%	Discounted Cash Flow	Cumulative Discounted Cash Flows
1	1,00,000	0.909	90,900	90,900
2	1,00,000	0.826	82,600	1,73,500
3	80,000	0.751	60,080	2,33,580

Discounted Payback Period = 2years, because the initial investment of ₹. 1,73,500 is fully recover in year 2.

8(b) **Statement showing of optional combination:**

Rank	Proposals	Initial Investment (₹)	Cumulative Initial Investment(₹)	NPV(₹)
I	X2	1,00,000	1,00,000	45,000
II	X3	1,50,000	2,50,000	60,000
III	X4	50,000 (Balancing figure)	3,00,000	18,500
Total				**1,23,500**

Comment: Since the proposals are divisible, so the firm can accept proposals X2 and X3 in full and X4 in part (28.57%) and thereby it can result the maximum NPV of ₹. 1,23,500.

Answer 9 (a):

Different types of dividend are:-

Based on form of payments

a) Cash Dividend

b) Bonus Dividend

Based on timing of payment

a) Final Dividend

b) Interim Dividend

Based on variability

a) Fixed Dividend

b) Fluctuation Dividend

Answer 9 (b):

EPS= $\frac{1500000}{300000} = 5$

DPS = $\frac{600000}{300000} = 2$

K= $\frac{E}{p} = \frac{1}{(P/E)} = \frac{1}{10} = 0.10$

R= 20% or 0.20

Walter Model gives;

$$P = \frac{D + (E - D) * \frac{r}{K}}{K}$$

$$= \frac{2 + (5 - 2) * \frac{0.20}{0.10}}{0.10}$$

= ₹ 80

As per Walter's model when r<K, it is preferred not to pay dividend, therefore dividend pay-out ratio should be 0 (zero)

Answer 10:

Statement showing Evaluation of Credit Policy:

Particulars	**Policy I (₹)**	**Policy II(₹)**	**Policy III(₹)**	**Policy IV(₹)**
A. Sales	50,00,000	60,00,000	75,00,000	90,00,000
B. Cost of Sales:				
Variable Cost (80% on sales)	40,00,000	48,00,000	60,00,000	72,00,000
Fixed Cost	10,00,000	10,00,000	10,00,000	10,00,000
	50,00,000	58,00,000	70,00,000	82,00,000
C. New level of Profit (A-B)	NIL	2,00,000	5,00,000	8,00,000
D. Present Level of Loss (Note 1)	2,00,000	2,00,000	2,00,000	2,00,000
Increase in Profit (C+D)	2,00,000	4,00,000	7,00,000	10,00,000
E. Cost of Additional Capital (Note 3)	32,889	98,667	1,77,333	2,72,000
F. Incremental Profit (D-E)	1,67,111	3,01,333	5,22,667	7,28,000

Comment: Incremental profit being highest in Policy No. IV. Therefore, the company should follow this policy.

Note 1: Statement showing calculation of Present level of loss:

Particulars	Amount(₹)
Sales	40,00,000
Less: Variable Cost @ 80%	32,00,000
Contribution	8,00,000
Less: Fixed Cost	10,00,000
Present level of loss	2,00,000

Note 2: Statement showing calculation of Present level of Cost of Sales:

Particulars	Amount(₹)
Variable Cost (40,00,000 × 80%)	32,00,000
Fixed Cost	10,00,000
Old Cost of Sales (COS_o)	42,00,000

Note 3: Statement showing calculation of cost of additional capital:

Particulars	**Policy I (₹)**	**Policy II(₹)**	**Policy III(₹)**	**Policy IV(₹)**
Sales	50,00,000	60,00,000	75,00,000	90,00,000
Variable Cost @ 80% of sales	40,00,000	48,00,000	60,00,000	72,00,000
Fixed Cost	10,00,000	10,00,000	10,00,000	10,00,000
New Cost of Sales (COS_n)	50,00,000	58,00,000	70,00,000	82,00,000
New Average Collection Period (ACP_n)	40	60	75	90
New Level of Receivable at Cost $\frac{COSn \times ACPn}{360}$	5,55,556	9,66,667	14,58,333	20,50,000
Less: Old Level of Receivable at Cost $\frac{COSo \times ACPo}{360} = \frac{42,00,000 \times 30}{360}$	3,50,000	3,50,000	3,50,000	3,50,000
Incremental Investment in Receivable	2,05,556	6,16,667	11,08,333	17,00,000
Cost of Additional Capital [16% of incremental investment in receivable]	32,889	98,667	1,77,333	2,72,000