

CA Intermediate May 24 Onwards

**FM ICAI
RTP
COMPILER**

*INCLUDES LATEST MAY 2024 RTP
ICAI RTP COMPILER FROM 2018*

*REFER TELEGRAM CHANNEL FOR BEST QUESTIONS
SELECTED PERSONALLY BE ME*



CA Shubham Gupta AIR 10
CFA, US L1 cleared
Scored 83 in CA Final SFM/AFM



MEET ME!

This side, CA Shubham Gupta.

*With a stellar **academic background**, I scored **All India Rank of 10** in the CA Final examinations (May/July 21 attempt) and cleared my CA in the first attempt at the age of 21. Major highlight was the CA Final SFM (finance), where I scored exceptionally well 83.*

*Armed with a solid foundation in commerce, I also earned a Bachelor's degree with Honors in B.Com. Alongside, I cleared Level 1 of the Chartered Financial Analyst (**CFA**), USA program.*

*From the very beginning, I am highly inclined to the world of finance. Be it opening and regularly trading in my own **Demat account from the age of 18** or handling family portfolios running in lakhs to making big financial decisions, I find finance very fascinating and interesting.*

*With **over 2.5 years of invaluable experience in business management consulting** during my job tenure post-qualification, I bring a wealth of practical knowledge to the table having established a comprehensive understanding of the intricacies of the finance industry.*

*I feel very delighted **to start my journey as an educator** in the field of finance and having picked up subjects*

- CA Inter Paper 6 FM-SM
- CA Final Paper 2 AFM

*Do join me for **CA Inter FM Xpress Revision batch** for May 24 onwards, launched in collaboration with our favorite **BB sir – CA Bhanwar Borana & BB Virtuals**. I hope you find the content useful and it adds value to your knowledge helping you clear exams and enter the prestigious CA club!*

Tayyari CA Ki!

Yours CA Shubham Gupta AIR 10

PREFACE

Welcome to the world of **joyous learning with the CA Inter FM Xpress Batch by CA Shubham Gupta**.

In this quick revision, we're here to make your learning journey not just effective but delightful!

It's your secret weapon for a **quick and effective revision of all the concepts**. Our revision is presented in a **colorful and easy-to-understand format**, making learning a joyous experience

Get ready for happy studying where most of **the exam-oriented topics** are covered in a very crisp and concise manner, paying sufficient attention to details.

What makes this revision truly special?

Dive into **handy notes and vibrant revision videos** available on our **YouTube channel**, [BB Virtuals Intermediate](#) & [CASHubhamGuptaAIR10](#), providing the perfect companions for your last-day revision.

Ever wondered about those **tricky ICAI treatments & MCQs** in different sums? Wonder no more! I will guide you through, ensuring you're well-equipped to tackle any challenge

So, if you're feeling the joy, hit that like button (on YouTube), **share the love**, and make sure to subscribe to **our YouTube and Telegram channels** – because learning with CA Shubham Gupta is an experience like no other.

After all, why just study when you can study with joy? Cheers to CA Inter FM success! 🚀

Tayyari CA Ki!

Yours CA Shubham Gupta AIR 10

SOCIAL MEDIA

Our Social Media handles are as follows:

Direct hyperlinks are attached to them

Please click on them to follow and subscribe!

© Author

All Rights Reserved!



[BB Virtuals Intermediate](#)
[CA Shubham Gupta AIR10](#)



Telegram

[CA Shubham Gupta AIR10](#)
[Doubts & Discussions](#)



Instagram

[CA Shubham Gupta AIR10](#)



[CA Shubham Gupta AIR10](#)



BB VIRTUALS

[Free Resources](#)

*Links are attached to the above logos and channel names.
Please click directly to subscribe*

SCAN ME!



Youtube



Telegram



Linkedin



Instagram

*Concept Revision & Super 30 Question videos → **YouTube***

*Concept notes, Super 30 Questions, compilers for MTP, RTP, PYQ,
general discussion, and doubts → **Telegram channel***

PAPER – 8A: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE**PART A: FINANCIAL MANAGEMENT****QUESTIONS****Ratio Analysis**

1. Following figures are available in the books Tirupati Ltd.

Fixed assets turnover ratio	8 times
Capital turnover ratio	2 times
Inventory Turnover	8 times
Receivable turnover	4 times
Payable turnover	6 times
G P Ratio	25%

Gross profit during the year amounts to ₹ 8,00,000. There is no long-term loan or overdraft. Reserve and surplus amount to ₹ 2,00,000. Ending inventory of the year is ₹ 20,000 above the beginning inventory.

Required:

CALCULATE various assets and liabilities and PREPARE a Balance sheet of Tirupati Ltd.

Cost of Capital

2. Navya Limited wishes to raise additional capital of ₹10 lakhs for meeting its modernisation plan. It has ₹ 3,00,000 in the form of retained earnings available for investments purposes. The following are the further details:

Debt/ equity mix	40%/60%
Cost of debt (before tax)	
Upto ₹ 1,80,000	10%
Beyond ₹ 1,80,000	16%
Earnings per share	₹ 4
Dividend pay out	₹ 2
Expected growth rate in dividend	10%
Current market price per share	₹ 44
Tax rate	50%

Required:

- (i) To DETERMINE the pattern for raising the additional finance.

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE 105

- (ii) To CALCULATE the post-tax average cost of additional debt.
- (iii) To CALCULATE the cost of retained earnings and cost of equity, and
- (iv) To DETERMINE the overall weighted average cost of capital (after tax).

Capital Structure Decisions

3. Company P and Q are identical in all respects including risk factors except for debt/equity, company P having issued 10% debentures of ₹ 18 lakhs while company Q is unlevered. Both the companies earn 20% before interest and taxes on their total assets of ₹ 30 lakhs. Assuming a tax rate of 50% and capitalization rate of 15% from an all-equity company.

Required:

CALCULATE the value of companies' P and Q using (i) Net Income Approach and (ii) Net Operating Income Approach.

Leverage

4. CALCULATE the operating leverage, financial leverage and combined leverage from the following data under Situation I and II and Financial Plan A and B:

Installed Capacity	4,000 units
Actual Production and Sales	75% of the Capacity
Selling Price	₹30 per unit
Variable Cost	₹15 per unit

Fixed Cost:

Under Situation I	₹ 15,000
Under Situation-II	₹ 20,000

Capital Structure:

	Financial Plan	
	A (₹)	B (₹)
Equity	10,000	15,000
Debt (Rate of Interest at 20%)	10,000	5,000
	20,000	20,000

Capital Budgeting

5. A company has to make a choice between two projects namely A and B. The initial capital outlay of two Projects are ₹ 1,35,000 and ₹ 2,40,000 respectively for A and B. There will be no scrap value at the end of the life of both the projects. The opportunity Cost of Capital of the company is 16%. The annual incomes are as under:

106

INTERMEDIATE (NEW) EXAMINATION: MAY 2018

Year	Project A (₹)	Project B (₹)	Discounting factor @ 16%
1	--	60,000	0.862
2	30,000	84,000	0.743
3	1,32,000	96,000	0.641
4	84,000	1,02,000	0.552
5	84,000	90,000	0.476

Required:

CALCULATE for each project:

- (i) Discounted payback period
- (ii) Profitability index
- (iii) Net present value

DECIDE which of these projects should be accepted?

Management of Payables (Creditors)

6. A Ltd. is in the manufacturing business and it acquires raw material from X Ltd. on a regular basis. As per the terms of agreement the payment must be made within 40 days of purchase. However, A Ltd. has a choice of paying ₹ 98.50 per ₹ 100 it owes to X Ltd. on or before 10th day of purchase.

Required:

EXAMINE whether A Ltd. should accept the offer of discount assuming average billing of A Ltd. with X Ltd. is ₹ 10,00,000 and an alternative investment yield a return of 15% and company pays the invoice.

Financing of Working Capital

7. Following information is forecasted by the Puja Limited for the year ending 31st March, 20X8:

	Balance as at 1 st April, 20X7 (₹)	Balance as at 31 st March, 20X8 (₹)
Raw Material	45,000	65,356
Work-in-progress	35,000	51,300
Finished goods	60,181	70,175
Debtors	1,12,123	1,35,000
Creditors	50,079	70,469

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE 107

Annual purchases of raw material (all credit)		4,00,000
Annual cost of production		7,50,000
Annual cost of goods sold		9,15,000
Annual operating cost		9,50,000
Annual sales (all credit)		11,00,000

You may take one year as equal to 365 days.

Required:

CALCULATE

- (i) Net operating cycle period.
- (ii) Number of operating cycles in the year.
- (iii) Amount of working capital requirement using operating cycles.

Risk Analysis in Capital Budgeting

8. From the following details relating to a project, analyse the sensitivity of the project to changes in initial project cost, annual cash inflow and cost of capital:

Initial Project Cost (₹)	1,20,000
Annual Cash Inflow (₹)	45,000
Project Life (Years)	4
Cost of Capital	10%

Required:

EXAMINE which of the three factors, the project is most sensitive? (Use annuity factors: for 10% 3.169 and 11% 3.103).

Dividend Decisions

- 9 The following information relates to Navya Ltd:

Earnings of the company	₹ 20,00,000
Dividend pay-out ratio	60%
No. of Shares outstanding	4,00,000
Rate of return on investment	15%
Equity capitalization rate	12%

Required:

- (i) DETERMINE what would be the market value per share as per Walter's model.

108

INTERMEDIATE (NEW) EXAMINATION: MAY 2018

- (ii) COMPUTE optimum dividend pay-out ratio according to Walter's model and the market value of company's share at that pay-out ratio.

Lease Financing

10. A Company is planning to acquire a machine costing ₹5,00,000. Effective life of the machine is 5 years. The Company is considering two options, one is to take the machine on lease and the other is to borrow ₹ 5,00,000 from its bankers at 10% interest p.a. The Principal amount of loan will be paid in 5 equal instalments to be paid annually. The machine will be sold at ₹50,000 at the end of 5th year. Following further information are given:

- (i) Principal, interest, lease rentals are payable on the last day of each year.
 (ii) The machine will be fully depreciated over its effective life.
 (iii) Tax rate is 30% and after tax. Cost of capital is 8%.

Required:

COMPUTE the lease rentals payable which will make the firm indifferent to the loan option.

11. **Miscellaneous**

- (i) "The profit maximization is not an operationally feasible criterion. DISCUSS
 (ii) EXPLAIN the followings:
 (a) Bridge Finance
 (b) Floating Rate Bonds
 (c) Packing Credit.
 (iii) "Financial Leverage is a double-edged sword" DISCUSS

SUGGESTED HINTS/ANSWERS

1. (a) $G.P. \text{ ratio} = \frac{\text{Gross Profit}}{\text{Sales}} = 25\%$
 $\text{Sales} = \frac{\text{Gross Profit}}{25} \times 100 = \frac{₹ 8,00,000}{25} \times 100 = ₹ 32,00,000$
- (b) Cost of Sales = Sales – Gross profit
 = ₹ 32,00,000 - ₹ 8,00,000
 = ₹ 24,00,000
- (c) Receivable turnover = $\frac{\text{Sales}}{\text{Receivables}} = 4$

PAPER – 8: FINANCIAL MANAGEMENT & ECONOMICS FOR FINANCE**PART A: FINANCIAL MANAGEMENT****QUESTIONS****Ratio Analysis**

1. Assuming the current ratio of a Company is 2, STATE in each of the following cases whether the ratio will improve or decline or will have no change:
 - (i) Payment of current liability
 - (ii) Purchase of fixed assets by cash
 - (iii) Cash collected from Customers
 - (iv) Bills receivable dishonoured
 - (v) Issue of new shares

Cost of Capital

2. M/s. Navya Corporation has a capital structure of 40% debt and 60% equity. The company is presently considering several alternative investment proposals costing less than ₹ 20 lakhs. The corporation always raises the required funds without disturbing its present debt equity ratio.

The cost of raising the debt and equity are as under:

Project cost	Cost of debt	Cost of equity
Upto ₹ 2 lakhs	10%	12%
Above ₹ 2 lakhs & upto to ₹ 5 lakhs	11%	13%
Above ₹ 5 lakhs & upto ₹10 lakhs	12%	14%
Above ₹10 lakhs & upto ₹ 20 lakhs	13%	14.5%

Assuming the tax rate at 50%, CALCULATE:

- (i) Cost of capital of two projects X and Y whose fund requirements are ₹ 6.5 lakhs and ₹ 14 lakhs respectively.
- (ii) If a project is expected to give after tax return of 10%, DETERMINE under what conditions it would be acceptable?

Capital Structure Decisions

3. Rounak Ltd. is an all equity financed company with a market value of ₹ 25,00,000 and cost of equity (K_e) 21%. The company wants to buyback equity shares worth ₹ 5,00,000 by issuing and raising 15% perpetual debt of the same amount. Rate of tax may be taken as 30%. After the capital restructuring and applying MM Model (with taxes), you are required to COMPUTE:

INTERMEDIATE (NEW) EXAMINATION: NOVEMBER, 2018

2

- (i) Market value of J Ltd.
- (ii) Cost of Equity (K_e)
- (iii) Weighted average cost of capital (using market weights) and comment on it.

Leverage

4. A firm has sales of ₹ 75,00,000 variable cost is 56% and fixed cost is ₹ 6,00,000. It has a debt of ₹ 45,00,000 at 9% and equity of ₹ 55,00,000. You are required to INTERPRET:
- (i) The firm's ROI?
 - (ii) Does it have favourable financial leverage?
 - (iii) If the firm belongs to an industry whose capital turnover is 3, does it have a high or low capital turnover?
 - (iv) The operating, financial and combined leverages of the firm?
 - (v) If the sales is increased by 10% by what percentage EBIT will increase?
 - (vi) At what level of sales the EBT of the firm will be equal to zero?
 - (vii) If EBIT increases by 20%, by what percentage EBT will increase?

Capital Budgeting

5. Shiv Limited is thinking of replacing its existing machine by a new machine which would cost ₹ 60 lakhs. The company's current production is 80,000 units, and is expected to increase to 1,00,000 units, if the new machine is bought. The selling price of the product would remain unchanged at ₹ 200 per unit. The following is the cost of producing one unit of product using both the existing and new machine:

	Unit cost (₹)		
	Existing Machine (80,000 units)	New Machine (1,00,000 units)	Difference
Materials	75.0	63.75	(11.25)
Wages & Salaries	51.25	37.50	(13.75)
Supervision	20.0	25.0	5.0
Repairs and Maintenance	11.25	7.50	(3.75)
Power and Fuel	15.50	14.25	(1.25)
Depreciation	0.25	5.0	4.75
Allocated Corporate Overheads	10.0	12.50	2.50
	<u>183.25</u>	<u>165.50</u>	<u>(17.75)</u>

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE 3

The existing machine has an accounting book value of ₹ 1,00,000, and it has been fully depreciated for tax purpose. It is estimated that machine will be useful for 5 years. The supplier of the new machine has offered to accept the old machine for ₹ 2,50,000. However, the market price of old machine today is ₹ 1,50,000 and it is expected to be ₹ 35,000 after 5 years. The new machine has a life of 5 years and a salvage value of ₹ 2,50,000 at the end of its economic life. Assume corporate Income tax rate at 40%, and depreciation is charged on straight line basis for Income-tax purposes. Further assume that book profit is treated as ordinary income for tax purpose. The opportunity cost of capital of the Company is 15%.

Required:

- (i) ESTIMATE net present value of the replacement decision.
- (ii) CALCULATE the internal rate of return of the replacement decision.
- (iii) Should Company go ahead with the replacement decision? ANALYSE.

Year (t)	1	2	3	4	5
PVIF _{0.15,t}	0.8696	0.7561	0.6575	0.5718	0.4972
PVIF _{0.20,t}	0.8333	0.6944	0.5787	0.4823	0.4019
PVIF _{0.25,t}	0.80	0.64	0.512	0.4096	0.3277
PVIF _{0.30,t}	0.7692	0.5917	0.4552	0.3501	0.2693
PVIF _{0.35,t}	0.7407	0.5487	0.4064	0.3011	0.2230

Management of Receivables (Debtors)

6. Tony Limited, manufacturer of Colour TV sets is considering the liberalization of existing credit terms to three of their large customers A, B and C. The credit period and likely quantity of TV sets that will be sold to the customers in addition to other sales are as follows:

Quantity sold (No. of TV Sets)

Credit Period (Days)	A	B	C
0	1,000	1,000	-
30	1,000	1,500	-
60	1,000	2,000	1,000
90	1,000	2,500	1,500

The selling price per TV set is ₹ 9,000. The expected contribution is 20% of the selling price. The cost of carrying receivable averages 20% per annum.

You are required:

- (a) COMPUTE the credit period to be allowed to each customer.

INTERMEDIATE (NEW) EXAMINATION: NOVEMBER, 2018**4**

(Assume 360 days in a year for calculation purposes).

- (b) DEMONSTRATE the other problems the company might face in allowing the credit period as determined in (a) above?

Financing of Working Capital

7. A company is considering its working capital investment and financial policies for the next year. Estimated fixed assets and current liabilities for the next year are ₹ 2.60 crores and ₹ 2.34 crores respectively. Estimated Sales and EBIT depend on current assets investment, particularly inventories and book-debts. The financial controller of the company is examining the following alternative Working Capital Policies:

(₹ Crores)

Working Capital Policy	Investment in Current Assets	Estimated Sales	EBIT
Conservative	4.50	12.30	1.23
Moderate	3.90	11.50	1.15
Aggressive	2.60	10.00	1.00

After evaluating the working capital policy, the Financial Controller has advised the adoption of the moderate working capital policy. The company is now examining the use of long-term and short-term borrowings for financing its assets. The company will use ₹ 2.50 crores of the equity funds. The corporate tax rate is 35%. The company is considering the following debt alternatives.

(₹ Crores)

Financing Policy	Short-term Debt	Long-term Debt
Conservative	0.54	1.12
Moderate	1.00	0.66
Aggressive	1.50	0.16
Interest rate-Average	12%	16%

You are required to CALCULATE the following:

- (i) Working Capital Investment for each policy:
- Net Working Capital position
 - Rate of Return
 - Current ratio
- (ii) Financing for each policy:
- Net Working Capital position.
 - Rate of Return on Shareholders' equity.
 - Current ratio.

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE**5****Risk Analysis in Capital Budgeting**

8. Gauv Ltd. using certainty-equivalent approach in the evaluation of risky proposals. The following information regarding a new project is as follows:

Year	Expected Cash flow	Certainty-equivalent quotient
0	(4,00,000)	1.0
1	3,20,000	0.8
2	2,80,000	0.7
3	2,60,000	0.6
4	2,40,000	0.4
5	1,60,000	0.3

Riskless rate of interest on the government securities is 6 per cent. DETERMINE whether the project should be accepted?

Lease Financing

9. XYZ Ltd. requires an equipment costing ₹50,00,000; the same will be utilized over a period of 5 years. It has two financing options in this regard:
- Arrangement of a loan of ₹50,00,000 at an interest rate of 14 percent per annum; the loan being repayable in 5 equal year end instalments; the equipment can be sold at the end of fifth year for ₹5,00,000.
 - Leasing the equipment for a period of five years at an early rental of ₹16,50,000 payable at the year end.

The rate of depreciation is 15 percent on Written Down Value (WDV) basis, income tax rate is 35 percent and discount rate is 12 percent.

ADVISE which of the financing options should XYZ Ltd. exercise and why?

Dividend Decisions

10. The earnings per share of a company is ₹ 10 and the rate of capitalisation applicable to it is 10 per cent. The company has three options of paying dividend i.e. (i) 50%, (ii) 75% and (iii) 100%.

CALCULATE the market price of the share as per Walter's model if it can earn a return of (a) 15, (b) 10 and (c) 5 per cent on its retained earnings.

Miscellaneous

11. (i) "The profit maximization is not an operationally feasible criterion." IDENTIFY.
 (ii) EXPLAIN the difference between Financial Lease and Operating Lease.

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE**SECTION A: FINANCIAL MANAGEMENT****QUESTIONS****Ratio Analysis**

1. From the following table of financial ratios of R. Textiles Limited, comment on various ratios given at the end:

Ratios	2017	2018	Average of Textile Industry
Liquidity Ratios			
Current ratio	2.2	2.5	2.5
Quick ratio	1.5	2	1.5
Receivable turnover ratio	6	6	6
Inventory turnover	9	10	6
Receivables collection period	87 days	86 days	85 days
Operating profitability			
Operating income –ROI	25%	22%	15%
Operating profit margin	19%	19%	10%
Financing decisions			
Debt ratio	49.00%	48.00%	57%
Return			
Return on equity	24%	25%	15%

COMMENT on the following aspect of R. Textiles Limited

- (i) Liquidity
- (ii) Operating profits
- (iii) Financing
- (iv) Return to the shareholders

Cost of Capital

2. As a financial analyst of a large electronics company, you are required to DETERMINE the weighted average cost of capital of the company using (a) book value weights and (b) market value weights. The following information is available for your perusal.

2

INTERMEDIATE (NEW) EXAMINATION: MAY, 2019

The Company's present book value capital structure is:

	(₹)
Debentures (₹100 per debenture)	8,00,000
Preference shares (₹100 per share)	2,00,000
Equity shares (₹10 per share)	<u>10,00,000</u>
	<u>20,00,000</u>

All these securities are traded in the capital markets. Recent prices are:

Debentures, ₹110 per debenture, Preference shares, ₹120 per share, and Equity shares, ₹22 per share

Anticipated external financing opportunities are:

- (i) ₹100 per debenture redeemable at par; 10 year maturity, 11 per cent coupon rate, 4 per cent flotation costs, sale price, ₹100
- (ii) ₹100 preference share redeemable at par; 10 year maturity, 12 per cent dividend rate, 5 per cent flotation costs, sale price, ₹100.
- (iii) Equity shares: ₹2 per share flotation costs, sale price = ₹22.

In addition, the dividend expected on the equity share at the end of the year is ₹2 per share, the anticipated growth rate in dividends is 7 per cent and the firm has the practice of paying all its earnings in the form of dividends. The corporate tax rate is 35 per cent.

Capital Structure

3. Akash Limited provides you the following information:

	(₹)
Profit (EBIT)	2,80,000
Less: Interest on Debenture @ 10%	(40,000)
EBT	2,40,000
Less Income Tax @ 50%	(1,20,000)
	1,20,000
No. of Equity Shares (₹10 each)	30,000
Earnings per share (EPS)	4
Price /EPS (PE) Ratio	10

The company has reserves and surplus of ₹7,00,000 and required ₹4,00,000 further for modernisation. Return on Capital Employed (ROCE) is constant. Debt (Debt/ Debt + Equity) Ratio higher than 40% will bring the P/E Ratio down to 8 and increase the interest

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE**3**

rate on additional debts to 12%. You are required to ASCERTAIN the probable price of the share.

- (i) If the additional capital are raised as debt; and
- (ii) If the amount is raised by issuing equity shares at ruling market price.

Leverage

4. A Company had the following Balance Sheet as on March 31, 2019:

Equity and Liabilities	(₹ in crore)	Assets	(₹ in crore)
Equity Share Capital (10 crore shares of ₹ 10 each)	100	Fixed Assets (Net)	250
Reserves and Surplus	20	Current Assets	150
15% Debentures	200		
Current Liabilities	80		
	400		400

The additional information given is as under:

Fixed Costs per annum (excluding interest)	₹ 80 crores
Variable operating costs ratio	65%
Total Assets turnover ratio	2.5
Income-tax rate	40%

Required:

CALCULATE the following and comment:

- (i) Earnings per share
- (ii) Operating Leverage
- (iii) Financial Leverage
- (iv) Combined Leverage.

Capital Budgeting

5. BT Pathology Lab Ltd. is using an X-ray machines which reached at the end of their useful lives. Following new X-ray machines are of two different brands with same features are available for the purchase.

Brand	Cost of Machine	Life of Machine	Maintenance Cost			Rate of Depreciation
			Year 1-5	Year 6-10	Year 11-15	
XYZ	₹6,00,000	15 years	₹ 20,000	₹ 28,000	₹ 39,000	4%
ABC	₹4,50,000	10 years	₹ 31,000	₹ 53,000	--	6%

4

INTERMEDIATE (NEW) EXAMINATION: MAY, 2019

Residual Value of both of above machines shall be dropped by 1/3 of Purchase price in the first year and thereafter shall be depreciated at the rate mentioned above.

Alternatively, the machine of Brand ABC can also be taken on rent to be returned back to the owner after use on the following terms and conditions:

- Annual Rent shall be paid in the beginning of each year and for first year it shall be ₹ 1,02,000.
- Annual Rent for the subsequent 4 years shall be ₹ 1,02,500.
- Annual Rent for the final 5 years shall be ₹ 1,09,950.
- The Rent Agreement can be terminated by BT Labs by making a payment of ₹ 1,00,000 as penalty. This penalty would be reduced by ₹ 10,000 each year of the period of rental agreement.

You are required to:

- (a) ADVISE which brand of X-ray machine should be acquired assuming that the use of machine shall be continued for a period of 20 years.
- (b) STATE which of the option is most economical if machine is likely to be used for a period of 5 years?

The cost of capital of BT Labs is 12%.

Working Capital Management

6. A company is considering its working capital investment and financial policies for the next year. Estimated fixed assets and current liabilities for the next year are ₹ 2.60 crores and ₹ 2.34 crores respectively. Estimated Sales and EBIT depend on current assets investment, particularly inventories and book-debts. The Financial Controller of the company is examining the following alternative Working Capital Policies:

(₹ in crore)			
Working Capital Policy	Investment in Current Assets	Estimated Sales	EBIT
Conservative	4.50	12.30	1.23
Moderate	3.90	11.50	1.15
Aggressive	2.60	10.00	1.00

After evaluating the working capital policy, the Financial Controller has advised the adoption of the moderate working capital policy. The company is now examining the use of long-term and short-term borrowings for financing its assets. The company will use ₹ 2.50 crores of the equity funds. The corporate tax rate is 35%. The company is considering the following debt alternatives.

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE

5

(₹ in crore)

Financing Policy	Short-term Debt	Long-term Debt
Conservative	0.54	1.12
Moderate	1.00	0.66
Aggressive	1.50	0.16
Interest rate-Average	12%	16%

You are required to CALCULATE the following:

- (i) Working Capital Investment for each policy:
 - (a) Net Working Capital position
 - (b) Rate of Return
 - (c) Current ratio
- (ii) Financing for each policy:
 - (a) Net Working Capital position.
 - (b) Rate of Return on Shareholders' equity.
 - (c) Current ratio.

Management of Working Capital

7. A proforma cost sheet of a company provides the following particulars:

	Amount per unit (₹)
Raw materials cost	100.00
Direct labour cost	37.50
Overheads cost	75.00
Total cost	212.50
Profit	37.50
Selling Price	250.00

The Company keeps raw material in stock, on an average for one month; work-in-progress, on an average for one week; and finished goods in stock, on an average for two weeks.

The credit allowed by suppliers is three weeks and company allows four weeks credit to its debtors. The lag in payment of wages is one week and lag in payment of overhead expenses is two weeks.

The Company sells one-fifth of the output against cash and maintains cash-in-hand and at bank put together at ₹37,500.

6

INTERMEDIATE (NEW) EXAMINATION: MAY, 2019

Required:

PREPARE a statement showing estimate of Working Capital needed to finance an activity level of 1,30,000 units of production. Assume that production is carried on evenly throughout the year, and wages and overheads accrue similarly. Work-in-progress stock is 80% complete in all respects.

Risk Analysis in Capital Budgeting

8. An enterprise is investing ₹ 100 lakhs in a project. The risk-free rate of return is 7%. Risk premium expected by the Management is 7%. The life of the project is 5 years. Following are the cash flows that are estimated over the life of the project.

Year	Cash flows (₹ In lakhs)
1	25
2	60
3	75
4	80
5	65

CALCULATE Net Present Value of the project based on Risk free rate and also on the basis of Risks adjusted discount rate.

Dividend Decision

9. The following figures are collected from the annual report of XYZ Ltd.:

Net Profit	₹30 lakhs
Outstanding 12% preference shares	₹100 lakhs
No. of equity shares	3 lakhs
Return on Investment	20%
Cost of capital i.e. (K_e)	16%

CALCULATE price per share using Gordon's Model when dividend pay-out is (i) 25%; (ii) 50% and (iii) 100%.

Miscellaneous

10. Write short notes on the following:
- Functions of Finance Manager.
 - Inter relationship between investment, financing and dividend decisions.
 - Debt securitisation

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE**SECTION A: FINANCIAL MANAGEMENT****QUESTIONS****Ratio Analysis**

1. The following is the Profit and loss account and Balance sheet of KLM LLP.

Trading and Profit & Loss Account

Particulars	Amount (₹)	Particulars	Amount (₹)
To Opening stock	12,46,000	By Sales	1,96,56,000
To Purchases	1,56,20,000	By Closing stock	14,28,000
To Gross profit c/d	42,18,000		
	2,10,84,000		2,10,84,000
		By Gross profit b/d	42,18,000
To Administrative expenses	18,40,000	By Interest on investment	24,600
To Selling & distribution expenses	7,56,000	By Dividend received	22,000
To Interest on loan	2,60,000		
To Net profit	14,08,600		
	42,64,600		42,64,600

Balance Sheet as on.....

Capital & Liabilities	Amount (₹)	Assets	Amount (₹)
Capital	20,00,000	Plant & machinery	24,00,000
Retained earnings	42,00,000	Building	42,00,000
General reserve	12,00,000	Furniture	12,00,000
Term loan from bank	26,00,000	Sundry receivables	13,50,000
Sundry Payables	7,20,000	Inventory	14,28,000
Other liabilities	2,80,000	Cash & Bank balance	4,22,000
	1,10,00,000		1,10,00,000

You are required to COMPUTE:

- (i) Gross profit ratio (ii) Net profit ratio (iii) Operating cost ratio
 (iv) Operating profit ratio (v) Inventory turnover ratio (vi) Current ratio
 (vii) Quick ratio (viii) Interest coverage ratio (ix) Return on capital employed

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE

91

- (x) Debt to assets ratio.

Cost of Capital

2. KM Ltd. has the following capital structure on September 30, 2019:

Sources of capital	(₹)
Equity Share Capital (40,00,000 Shares of ₹ 10 each)	4,00,00,000
Reserves & Surplus	4,00,00,000
12% Preference Shares	2,00,00,000
9% Debentures	6,00,00,000
	16,00,00,000

The market price of equity share is ₹60. It is expected that the company will pay next year a dividend of ₹6 per share, which will grow at 10% forever. Assume 40% income tax rate. You are required to COMPUTE weighted average cost of capital using market value weights.

Capital Structure

3. The management of RT Ltd. wants to raise its funds from market to meet out the financial demands of its long-term projects. The company has various combinations of proposals to raise its funds. You are given the following proposals of the company:

Proposal	Equity shares (%)	Debts (%)	Preference shares (%)
P	100	-	-
Q	50	50	-
R	50	-	50

- (i) Cost of debt and preference shares is 12% each.
(ii) Tax rate –40%
(iii) Equity shares of the face value of ₹10 each will be issued at a premium of ₹10 per share.
(iv) Total investment to be raised ₹8,00,00,000.
(v) Expected earnings before interest and tax ₹3,60,00,000.

From the above proposals the management wants to take advice from you for appropriate plan after computing the following:

- Earnings per share
- Financial break-even-point

COMPUTE the EBIT range among the plans for indifference.

92

INTERMEDIATE (NEW) EXAMINATION: NOVEMBER, 2019

Leverage

4. The following summarises the percentage changes in operating income, percentage changes in revenues, and betas for four listed firms.

Firm	Change in revenue	Change in operating income	Beta
A Ltd.	35%	22%	1.00
B Ltd.	24%	35%	1.65
C Ltd.	29%	26%	1.15
D Ltd.	32%	30%	1.20

Required:

- (i) CALCULATE the degree of operating leverage for each of these firms. Comment also.
- (ii) Use the operating leverage to EXPLAIN why these firms have different beta.

Capital Budgeting

5. MTR Limited is considering buying a new machine which would have a useful economic life of five years, at a cost of ₹25,00,000 and a scrap value of ₹3,00,000, with 80 per cent of the cost being payable at the start of the project and 20 per cent at the end of the first year. The machine would produce 75,000 units per annum of a new product with an estimated selling price of ₹300 per unit. Direct costs would be ₹285 per unit and annual fixed costs, including depreciation calculated on a straight-line basis, would be ₹8,40,000 per annum.

In the first year and the second year, special sales promotion expenditure, not included in the above costs, would be incurred, amounting to ₹1,00,000 and ₹1,50,000 respectively.

EVALUATE the project using the NPV method of investment appraisal, assuming the company's cost of capital to be 15 percent.

Risk Analysis in Capital Budgeting

6. SL Ltd. has invested ₹1,000 lakhs in a project. The risk-free rate of return is 5%. Risk premium expected by the Management is 10%. The life of the project is 5 years. Following are the cash flows that are estimated over the life of the project.

Year	Cash flows (₹ in lakhs)
1	125
2	300
3	375
4	400
5	325

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE**93**

CALCULATE Net Present Value of the project based on Risk free rate and also on the basis of Risks adjusted discount rate.

Dividend Decision

7. The following information pertains to SD Ltd.

Earnings of the Company	₹ 50,00,000
Dividend Payout ratio	60%
No. of shares outstanding	10,00,000
Equity capitalization rate	12%
Rate of return on investment	15%

- (i) COMPUTE the market value per share as per Walter's model?
(ii) COMPUTE the optimum dividend payout ratio according to Walter's model and the market value of Company's share at that payout ratio?

Management of Working Capital

8. Following are cost information of KG Ltd., which has commenced a new project for an annual production of 24,000 units which is the full capacity:

	Costs per unit (₹)
Materials	80.00
Direct labour and variable expenses	40.00
Fixed manufacturing expenses	12.00
Depreciation	20.00
Fixed administration expenses	8.00
	160.00

The selling price per unit is expected to be ₹192 and the selling expenses ₹10 per unit, 80% of which is variable.

In the first two years of operations, production and sales are expected to be as follows:

Year	Production (No. of units)	Sales (No. of units)
1	12,000	10,000
2	18,000	17,000

To assess the working capital requirements, the following additional information is available:

- (a) Stock of materials 2 months' average consumption

94

INTERMEDIATE (NEW) EXAMINATION: NOVEMBER, 2019

- (b) Work-in-process Nil
- (c) Debtors 2 month's average sales.
- (d) Cash balance ₹ 1,00,000
- (e) Creditors for supply of materials 1 month's average purchase during the year.
- (f) Creditors for expenses 1 month's average of all expenses during the year.

PREPARE, for the two years:

- (i) A projected statement of Profit/Loss (Ignoring taxation); and
- (ii) A projected statement of working capital requirements

Management of Working Capital

9. A regular customer of your company has approached to you for extension of credit facility for purchasing of goods. On analysis of past performance and on the basis of information supplied, the following pattern of payment schedule emerges:

Pattern of Payment Schedule	
At the end of 30 days	20% of the bill
At the end of 60 days	30% of the bill.
At the end of 90 days	30% of the bill.
At the end of 100 days	18% of the bill.
Non-recovery	2% of the bill.

The customer wants to enter into a firm commitment for purchase of goods of ₹30 lakhs in 2019, deliveries to be made in equal quantities on the first day of each quarter in the calendar year. The price per unit of commodity is ₹300 on which a profit of ₹10 per unit is expected to be made. It is anticipated that taking up of this contract would mean an extra recurring expenditure of ₹10,000 per annum. If the opportunity cost is 18% per annum, would you as the finance manager of the company RECOMMEND the grant of credit to the customer? Assume 1 year = 360 days.

Miscellaneous

10. Write short notes on the following:
- (a) STATE the meaning of Payback Reciprocal.
- (b) STATE the functions of treasury department.
- (c) DESCRIBE the Inter relationship between investment, financing and dividend decisions.

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE**SECTION A: FINANCIAL MANAGEMENT
QUESTIONS****Ratio Analysis**

1. MT Limited has the following Balance Sheet as on March 31, 2019 and March 31, 2020:

Balance Sheet

	₹ in lakhs	
	March 31, 2019	March 31, 2020
Sources of Funds:		
Shareholders' Funds	2,500	2,500
Loan Funds	3,500	3,000
	6,000	5,500
Applications of Funds:		
Fixed Assets	3,500	3,000
Cash and bank	450	400
Receivables	1,400	1,100
Inventories	2,500	2,000
Other Current Assets	1,500	1,000
Less: Current Liabilities	(1,850)	(2,000)
	6,000	5,500

The Income Statement of the MT Ltd. for the year ended is as follows:

	₹ in lakhs	
	March 31, 2019	March 31, 2020
Sales	22,500	23,800
Less: Cost of Goods sold	(20,860)	(21,100)
Gross Profit	1,640	2,700
Less: Selling, General and Administrative expenses	(1,100)	(1,750)
Earnings before Interest and Tax (EBIT)	540	950
Less: Interest Expense	(350)	(300)
Earnings before Tax (EBT)	190	650
Less: Tax	(57)	(195)
Profits after Tax (PAT)	133	455

2

INTERMEDIATE (NEW) EXAMINATION: MAY, 2020

Required:

CALCULATE for the year 2019-20-

- (a) Inventory turnover ratio
- (b) Financial Leverage
- (c) Return on Capital Employed (ROCE)
- (d) Return on Equity (ROE)
- (e) Average Collection period.

[Take 1 year = 365 days]

Cost of Capital

2. PK Ltd. has the following book-value capital structure as on March 31, 2020.

	(₹)
Equity share capital (10,00,000 shares)	2,00,00,000
11.5% Preference shares	60,00,000
10% Debentures	1,00,00,000
	3,60,00,000

The equity shares of the company are sold for ₹ 200. It is expected that the company will pay next year a dividend of ₹ 10 per equity share, which is expected to grow by 5% p.a. forever. Assume a 35% corporate tax rate.

Required:

- (i) COMPUTE weighted average cost of capital (WACC) of the company based on the existing capital structure.
- (ii) COMPUTE the new WACC, if the company raises an additional ₹50 lakhs debt by issuing 12% debentures. This would result in increasing the expected equity dividend to ₹12.40 and leave the growth rate unchanged, but the price of equity share will fall to ₹ 160 per share.

Capital Structure Decisions

3. CALCULATE the level of earnings before interest and tax (EBIT) at which the EPS indifference point between the following financing alternatives will occur.
 - (i) Equity share capital of ₹60,00,000 and 12% debentures of ₹40,00,000.

Or

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE 3

- (ii) Equity share capital of ₹40,00,000, 14% preference share capital of ₹20,00,000 and 12% debentures of ₹40,00,000.

Assume the corporate tax rate is 35% and par value of equity share is ₹100 in each case.

Leverage

4. The following information is related to YZ Company Ltd. for the year ended 31st March, 2020:

Equity share capital (of ₹ 10 each)	₹ 50 lakhs
12% Bonds of ₹ 1,000 each	₹ 37 lakhs
Sales	₹ 84 lakhs
Fixed cost (excluding interest)	₹ 6.96 lakhs
Financial leverage	1.49
Profit-volume Ratio	27.55%
Income Tax Applicable	40%

You are required to CALCULATE:

- (i) Operating Leverage;
 (ii) Combined leverage; and
 (iii) Earnings per share.

Show calculations up-to two decimal points.

Capital Budgeting

5. A company is considering the proposal of taking up a new project which requires an investment of ₹800 lakhs on machinery and other assets. The project is expected to yield the following earnings (before depreciation and taxes) over the next five years:

Year	Earnings (₹ in lakhs)
1	320
2	320
3	360
4	360
5	300

The cost of raising the additional capital is 12% and assets have to be depreciated at 20% on written down value basis. The scrap value at the end of the five year period may be taken as zero. Income-tax applicable to the company is 40%.

4

INTERMEDIATE (NEW) EXAMINATION: MAY, 2020

You are required to CALCULATE the net present value of the project and advise the management to take appropriate decision. Also CALCULATE the Internal Rate of Return of the Project.

Note: Present values of Re. 1 at different rates of interest are as follows:

Year	10%	12%	14%	16%	20%
1	0.91	0.89	0.88	0.86	0.83
2	0.83	0.80	0.77	0.74	0.69
3	0.75	0.71	0.67	0.64	0.58
4	0.68	0.64	0.59	0.55	0.48
5	0.62	0.57	0.52	0.48	0.40

Management of Receivables (Debtors)

6. TM Limited, a manufacturer of colour TV sets is considering the liberalization of existing credit terms to three of their large customers A, B and C. The credit period and likely quantity of TV sets that will be sold to the customers in addition to other sales are as follows:

Quantity sold (No. of TV Sets)

Credit Period (Days)	A	B	C
0	10,000	10,000	-
30	10,000	15,000	-
60	10,000	20,000	10,000
90	10,000	25,000	15,000

The selling price per TV set is ₹15,000. The expected contribution is 50% of the selling price. The cost of carrying receivable averages 20% per annum.

You are required to COMPUTE the credit period to be allowed to each customer.

(Assume 360 days in a year for calculation purposes).

Risk Analysis in Capital Budgeting

7. G Ltd. using certainty-equivalent approach in the evaluation of risky proposals. The following information regarding a new project is as follows:

Year	Expected Cash flow	Certainty-equivalent quotient
0	(8,00,000)	1.0
1	6,40,000	0.8
2	5,60,000	0.7

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE**5**

3	5,20,000	0.6
4	4,80,000	0.4
5	3,20,000	0.3

Riskless rate of interest on the government securities is 6 per cent. DETERMINE whether the project should be accepted?

Dividend Decisions

8. Following information relating to Jee Ltd. is given:

Particulars

Profit after tax	₹ 10,00,000
Dividend pay-out ratio	50%
Number of Equity Shares	50,000
Cost of Equity	10%
Rate of Return on Investment	12%

- CALCULATE market value per share as per Walter's Model?
- What is the optimum dividend pay-out ratio according to Walter's Model and Market value of equity share at that pay-out ratio?

Management of working Capital

9. Day Ltd., a newly formed company has applied to the Private Bank for the first time for financing its Working Capital Requirements. The following information is available about the projections for the current year:

Estimated Level of Activity	Completed Units of Production 31,200 plus unit of work in progress 12,000
Raw Material Cost	₹ 40 per unit
Direct Wages Cost	₹ 15 per unit
Overhead	₹ 40 per unit (inclusive of Depreciation ₹10 per unit)
Selling Price	₹ 130 per unit
Raw Material in Stock	Average 30 days consumption
Work in Progress Stock	Material 100% and Conversion Cost 50%
Finished Goods Stock	24,000 Units
Credit Allowed by the supplier	30 days
Credit Allowed to Purchasers	60 days

6

INTERMEDIATE (NEW) EXAMINATION: MAY, 2020

Direct Wages (Lag in payment)	15 days
Expected Cash Balance	₹ 2,00,000

Assume that production is carried on evenly throughout the year (360 days) and wages and overheads accrue similarly. All sales are on the credit basis. You are required to CALCULATE the Net Working Capital Requirement on Cash Cost Basis.

Miscellaneous

10. (i) "The profit maximization is not an operationally feasible criterion." IDENTIFY.
(ii) EXPLAIN the basics of debt securitisation process.

SUGGESTED HINTS/ANSWERS**1. Ratios for the year 2019-2020****(a) Inventory turnover ratio**

$$= \frac{\text{COGS}}{\text{Average Inventory}} = \frac{₹ 21,100}{\frac{₹ (2,500 + 2,000)}{2}} = 9.4$$

(b) Financial leverage

$$= \frac{\text{EBIT}}{\text{EBT}} = \frac{₹ 950}{₹ 650} = 1.46$$

(c) ROCE

$$= \frac{\text{EBIT} (1-t)}{\text{Average Capital Employed}} = \frac{₹ 950 (1-0.3)}{\frac{₹ (6,000 + 5,500)}{2}} = \frac{₹ 665}{₹ 5,750} \times 100 = 11.56 \%$$

[Here Return on Capital Employed (ROCE) is calculated after Tax]

(d) ROE

$$= \frac{\text{Profits after tax}}{\text{Average shareholders' funds}} = \frac{₹ 455}{₹ 2,500} \times 100 = 18.2\%$$

(e) Average Collection Period

$$\text{Average Sales per day} = \frac{₹ 23,800}{365} = ₹ 65.20 \text{ lakhs}$$

PAPER – 8: FINANCIAL MANAGEMENT & ECONOMICS FOR FINANCE**PART A: FINANCIAL MANAGEMENT****QUESTIONS****Ratio Analysis**

1. Following information has been provided from the books of M/s Laxmi & Co. for the year ending on 31st March, 2020:

Net Working Capital	₹ 4,80,000
Bank overdraft	₹ 80,000
Fixed Assets to Proprietary ratio	0.75
Reserves and Surplus	₹ 3,20,000
Current ratio	2.5
Liquid ratio (Quick Ratio)	1.5

You are required to PREPARE a summarised Balance Sheet as at 31st March, 2020.

Cost of Capital

2. CALCULATE the WACC using the following data by using:
- Book value weights
 - Market value weights

The capital structure of the company is as under:

Particulars	(₹)
Debentures (₹ 100 per debenture)	5,00,000
Preference shares (₹ 100 per share)	5,00,000
Equity shares (₹ 10 per share)	10,00,000
	20,00,000

The market prices of these securities are:

Debentures	₹ 105 per debenture
Preference shares	₹ 110 per preference share
Equity shares	₹ 24 each.

Additional information:

- ₹ 100 per debenture redeemable at par, 10% coupon rate, 4% floatation costs, 10-year maturity.

2 INTERMEDIATE (NEW) EXAMINATION: NOVEMBER, 2020

(ii) ₹ 100 per preference share redeemable at par, 5% coupon rate, 2% floatation cost and 10-year maturity.

(iii) Equity shares has ₹ 4 floatation cost and market price ₹ 24 per share.

The next year expected dividend is ₹ 1 with annual growth of 5%. The firm has practice of paying all earnings in the form of dividend.

Corporate tax rate is 30%. Use YTM method to calculate cost of debentures and preference shares.

Capital Structure

3. Xylo Ltd. is considering two alternative financing plans as follows:

Particulars	Plan – A (₹)	Plan – B (₹)
Equity shares of ₹ 10 each	8,00,000	8,00,000
Preference Shares of ₹ 100 each	-	4,00,000
12% Debentures	4,00,000	-
	12,00,000	12,00,000

The indifference point between the plans is ₹ 4,80,000. Corporate tax rate is 30%. CALCULATE the rate of dividend on preference shares.

Leverage

4. The capital structure of PS Ltd. for the year ended 31st March, 2020 consisted as follows:

Particulars	Amount in ₹
Equity share capital (face value ₹ 100 each)	10,00,000
10% debentures (₹ 100 each)	10,00,000

During the year 2019-20, sales decreased to 1,00,000 units as compared to 1,20,000 units in the previous year. However, the selling price stood at ₹ 12 per unit and variable cost at ₹ 8 per unit for both the years. The fixed expenses were at ₹ 2,00,000 p.a. and the income tax rate is 30%.

You are required to CALCULATE the following:

- The degree of financial leverage at 1,20,000 units and 1,00,000 units.
- The degree of operating leverage at 1,20,000 units and 1,00,000 units.
- The percentage change in EPS.

PAPER – 8: FINANCIAL MANAGEMENT & ECONOMICS FOR FINANCE

3

Investment Decisions

5. A large profit making company is considering the installation of a machine to process the waste produced by one of its existing manufacturing process to be converted into a marketable product. At present, the waste is removed by a contractor for disposal on payment by the company of ₹ 150 lakh per annum for the next four years. The contract can be terminated upon installation of the aforesaid machine on payment of a compensation of ₹ 90 lakh before the processing operation starts. This compensation is not allowed as deduction for tax purposes.

The machine required for carrying out the processing will cost ₹ 600 lakh to be financed by a loan repayable in 4 equal instalments commencing from end of the year 1. The interest rate is 14% per annum. At the end of the 4th year, the machine can be sold for ₹ 60 lakh and the cost of dismantling and removal will be ₹ 45 lakh.

Sales and direct costs of the product emerging from waste processing for 4 years are estimated as under:

(₹ In lakh)

Year	1	2	3	4
Sales	966	966	1,254	1,254
Material consumption	90	120	255	255
Wages	225	225	255	300
Other expenses	120	135	162	210
Factory overheads	165	180	330	435
Depreciation (as per income tax rules)	150	114	84	63

Initial stock of materials required before commencement of the processing operations is ₹ 60 lakh at the start of year 1. The stock levels of materials to be maintained at the end of year 1, 2 and 3 will be ₹ 165 lakh and the stocks at the end of year 4 will be nil. The storage of materials will utilise space which would otherwise have been rented out for ₹ 30 lakh per annum. Labour costs include wages of 40 workers, whose transfer to this process will reduce idle time payments of ₹ 45 lakh in the year - 1 and ₹ 30 lakh in the year - 2. Factory overheads include apportionment of general factory overheads except to the extent of insurance charges of ₹ 90 lakh per annum payable on this venture. The company's tax rate is 30%.

Present value factors for four years are as under:

Year	1	2	3	4
PV factors @14%	0.877	0.769	0.674	0.592

ADVISE the management on the desirability of installing the machine for processing the waste. All calculations should form part of the answer.

4

INTERMEDIATE (NEW) EXAMINATION: NOVEMBER, 2020**Management of Receivables (Debtors)**

6. A company wants to follow a more prudent policy to improve its sales for the region which is ₹ 9 lakhs per annum at present, having an average collection period of 45 days. After certain researches, the management consultant of the company reveals the following information:

Credit Policy	Increase in collection period	Increase in sales	Present default anticipated
W	15 days	₹ 60,000	1.5%
X	30 days	₹ 90,000	2%
Y	45 days	₹ 1,50,000	3%
Z	70 days	₹ 2,10,000	4%

The selling price per unit is ₹ 3. Average cost per unit is ₹ 2.25 and variable costs per unit are ₹ 2. The current bad debt loss is 1%. Required return on additional investment is 20%. (Assume 360 days year)

ANALYSE which of the above policies would you recommend for adoption?

Risk Analysis in Capital Budgeting

7. A&R Ltd. is considering one of two mutually exclusive proposals, Projects- X and Y, which require cash outlays of ₹ 42,50,000 and ₹ 41,25,000 respectively. The certainty-equivalent (C.E) approach is used in incorporating risk in capital budgeting decisions. The current yield on government bonds is 5.5% and this is used as the risk-free rate. The expected net cash flows and their certainty equivalents are as follows:

Year-end	Project X		Project Y	
	Cash Flow (₹)	C.E.	Cash Flow (₹)	C.E.
1	16,50,000	0.8	16,50,000	0.9
2	15,00,000	0.7	16,50,000	0.8
3	15,00,000	0.5	15,00,000	0.7
4	20,00,000	0.4	10,00,000	0.8
5	21,00,000	0.6	8,00,000	0.9

The Present value (PV) factor @ 5.5% is as follows:

Year	0	1	2	3	4	5
PV factor	1	0.947	0.898	0.851	0.807	0.765

Required:

DETERMINE the project that should be accepted?

PAPER – 8: FINANCIAL MANAGEMENT & ECONOMICS FOR FINANCE

5

Dividend Decisions

8. The following information is given for QB Ltd.

Earnings per share ₹ 120

Dividend per share ₹ 36

Cost of capital 15%

Internal Rate of Return on investment 20%

CALCULATE the market price per share using

(a) Gordon's formula

(b) Walter's formula

Management of working Capital

9. The following figures and ratios are related to a company:

(i) Sales for the year (all credit)	₹ 90,00,000
(ii) Gross Profit ratio	35 percent
(iii) Fixed assets turnover (based on cost of goods sold)	1.5
(iv) Stock turnover (based on cost of goods sold)	6
(v) Liquid ratio	1.5:1
(vi) Current ratio	2.5:1
(vii) Receivables (Debtors) collection period	1 month
(viii) Reserves and surplus to Share capital	1:1.5
(ix) Capital gearing ratio	0.7875
(x) Fixed assets to net worth	1.3 : 1

You are required to PREPARE:

(a) Balance Sheet of the company on the basis of above details.

(b) The statement showing working capital requirement, if the company wants to make a provision for contingencies @ 15 percent of net working capital.

Miscellaneous

10. (a) EXPLAIN agency problem and agency cost. How to address the issues of the same.

(b) COMPARE between Financial Lease and Operating Lease.

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE**PART A: FINANCIAL MANAGEMENT****QUESTIONS****Ratio Analysis**

1. Given below are the estimations for the next year by Niti Ltd.:

Particulars	(₹ in crores)
Fixed Assets	5.20
Current Liabilities	4.68
Current Assets	7.80
Sales	23.00
EBIT	2.30

The company will issue equity funds of ₹ 5 crores in the next year. It is also considering the debt alternatives of ₹ 3.32 crores for financing the assets. The company wants to adopt one of the policies given below:

(₹ in crores)

Financing Policy	Short term debt @ 12%	Long term debt @ 16%	Total
Conservative	1.08	2.24	3.32
Moderate	2.00	1.32	3.32
Aggressive	3.00	0.32	3.32

Assuming corporate tax rate at 30%, CALCULATE the following for each of the financing policy:

- (i) Return on total assets
- (ii) Return on owner's equity
- (iii) Net Working capital
- (iv) Current Ratio

Also advise which Financing policy should be adopted if the company wants high returns.

Cost of Capital

2. Indel Ltd. has the following capital structure, which is considered to be optimum as on 31st March, 2021:

Particulars	(₹)
14% Debentures	60,000

210

INTERMEDIATE (NEW) EXAMINATION: MAY, 2021

11% Preference shares	20,000
Equity Shares (10,000 shares)	3,20,000
	4,00,000

The company share has a market price of ₹ 47.20. Next year dividend per share is 50% of year 2020 EPS. The following is the uniform trend of EPS for the preceding 10 years which is expected to continue in future.

Year	EPS (₹)	Year	EPS (₹)
2011	2.00	2016	3.22
2012	2.20	2017	3.54
2013	2.42	2018	3.90
2014	2.66	2019	4.29
2015	2.93	2020	4.72

The company issued new debentures carrying 16% rate of interest and the current market price of debenture is ₹ 96.

Preference shares of ₹ 18.50 (with annual dividend of ₹ 2.22 per share) were also issued. The company is in 30% tax bracket.

(A) CALCULATE after tax:

- (i) Cost of new debt
- (ii) Cost of new preference shares
- (iii) New equity share (assuming new equity from retained earnings)

(B) CALCULATE marginal cost of capital when no new shares are issued.

(C) DETERMINE the amount that can be spent for capital investment before new ordinary shares must be sold, assuming that the retained earnings for next year's investment is 50 percent of earnings of 2020.

(D) COMPUTE marginal cost of capital when the fund exceeds the amount calculated in (C), assuming new equity is issued at ₹ 40 per share?

Capital Structure

3. Zordon Ltd. has net operating income of ₹ 5,00,000 and total capitalization of ₹ 50,00,000 during the current year. The company is contemplating to introduce debt financing in capital structure and has various options for the same. The following information is available at different levels of debt value:

Debt value (₹)	Interest rate (%)	Equity capitalization rate (%)
0	-	10.00

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE 211

5,00,000	6.0	10.50
10,00,000	6.0	11.00
15,00,000	6.2	11.30
20,00,000	7.0	12.40
25,00,000	7.5	13.50
30,00,000	8.0	16.00

Assuming no tax and that the firm always maintains books at book values, you are REQUIRED to calculate:

- (i) Amount of debt to be employed by firm as per traditional approach.
- (ii) Equity capitalization rate, if MM approach is followed.

Leverage

4. Following information has been extracted from the accounts of newly incorporated Textyl Pvt. Ltd. for the Financial Year 2020-21:

Sales	₹ 15,00,000
P/V ratio	70%
Operating Leverage	1.4 times
Financial Leverage	1.25 times

Using the concept of leverage, find out and verify in each case:

- (i) The percentage change in taxable income if sales increase by 15%.
- (ii) The percentage change in EBIT if sales decrease by 10%.
- (iii) The percentage change in taxable income if EBIT increase by 15%.

Investment Decisions

5. The General Manager of Merry Ltd. is considering the replacement of five-year-old equipment. The company has to incur excessive maintenance cost of the equipment. The equipment has zero written down value. It can be modernized at a cost of ₹ 1,40,000 enhancing its economic life to 5 years. The equipment could be sold for ₹ 30,000 after 5 years. The modernization would help in material handling and in reducing labour, maintenance & repairs costs.

The company has another alternative to buy a new machine at a cost of ₹ 3,50,000 with an economic life of 5 years and salvage value of ₹ 60,000. The new machine is expected to be more efficient in reducing costs of material handling, labour, maintenance & repairs, etc.

212

INTERMEDIATE (NEW) EXAMINATION: MAY, 2021

The annual cost are as follows:

	Existing Equipment (₹)	Modernization (₹)	New Machine (₹)
Wages & Salaries	45,000	35,500	15,000
Supervision	20,000	10,000	7,000
Maintenance	25,000	5,000	2,500
Power	30,000	20,000	15,000
	1,20,000	70,500	39,500

Assuming tax rate of 50% and required rate of return of 10%, should the company modernize the equipment or buy a new machine?

PV factor at 10% are as follows:

Year	1	2	3	4	5
PV factor	0.909	0.826	0.751	0.683	0.621

Risk Analysis in Capital Budgeting

6. X Ltd is considering installation of new machine with the following details:

Sr. No.	Particulars	Figures
1	Initial Investment	₹ 1400 Crore
2	Annual unit sales	100 Crore
3	Selling price per unit	₹ 40
4	Variable cost per unit	₹ 20
5	Annual Fixed costs	₹ 500 Crore
6	Depreciation	₹ 200 Crore
7	Discount Rate	12%
8	Tax rate	30%

Consider Life of the project as 4 years with no salvage value.

Required:

- CALCULATE the expected NPV of the project.
- COMPUTE the impact on the project's NPV if change in variables is as under and also compute which variable is having maximum impact on NPV.

Sr. No.	Variable	Figures
1	Unit sold per year	85 Crore
2	Selling price per unit	₹ 39

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE 213

3	Variable cost per unit	₹ 22
4	Annual Fixed costs	₹ 575 Crore

PV factor at 12% are as follows:

Year	1	2	3	4
PV factor	0.893	0.797	0.712	0.636

Dividend Decision

7. The following information is supplied to you:

	(₹)
Total Earnings	2,00,000
No. of equity shares (of ₹ 100 each)	20,000
Dividend paid	1,50,000
Price/ Earnings ratio	12.5

Applying Walter's Model:

- ANALYSE whether the company is following an optimal dividend policy.
- COMPUTE P/E ratio at which the dividend policy will have no effect on the value of the share.
- Will your decision change if the P/E ratio is 8 instead of 12.5? ANALYSE.

Management of Working Capital

8. MT Ltd. has been operating its manufacturing facilities till 31.3.2021 on a single shift working with the following cost structure:

	Per unit (₹)
Cost of Materials	24
Wages (out of which 60% variable)	20
Overheads (out of which 20% variable)	20
	64
Profit	8
Selling Price	72

As at 31.3.2021 with the sales of ₹ 17,28,000, the company held:

	(₹)
Stock of raw materials (at cost)	1,44,000
Work-in-progress (valued at prime cost)	88,000
Finished goods (valued at total cost)	2,88,000
Sundry debtors	4,32,000

214

INTERMEDIATE (NEW) EXAMINATION: MAY, 2021

In view of increased market demand, it is proposed to double production by working an extra shift. It is expected that a 10% discount will be available from suppliers of raw materials in view of increased volume of business. Selling price will remain the same. The credit period allowed to customers will remain unaltered. Credit availed from suppliers will continue to remain at the present level i.e. 2 months. Lag in payment of wages and overheads will continue to remain at one month.

You are required to CALCULATE the additional working capital requirements, if the policy to increase output is implemented, to assess the impact of double shift for long term as a matter of production policy.

9. While applying for financing of working capital requirements to a commercial bank, TN Industries Ltd. projected the following information for the next year:

Cost Element	Per unit (₹)	Per unit (₹)
Raw materials		
X	30	
Y	7	
Z	6	43
Direct Labour		25
Manufacturing and administration overheads (excluding depreciation)		20
Depreciation		10
Selling overheads		15
		113

Additional Information:

- (a) Raw Materials are purchased from different suppliers leading to different credit period allowed as follows:
X – 2 months; Y – 1 months; Z – ½ month
- (b) Production cycle is of ½ month. Production process requires full unit of X and Y in the beginning of the production. Z is required only to the extent of half unit in the beginning and the remaining half unit is needed at a uniform rate during the production process.
- (c) X is required to be stored for 2 months and other materials for 1 month.
- (d) Finished goods are held for 1 month.
- (e) 25% of the total sales is on cash basis and remaining on credit basis. The credit allowed by debtors is 2 months.

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE 215

- (f) Average time lag in payment of all overheads is 1 months and ½ months for direct labour.
- (g) Minimum cash balance of ₹ 8,00,000 is to be maintained.

CALCULATE the estimated working capital required by the company on cash cost basis if the budgeted level of activity is 1,50,000 units for the next year. The company also intends to increase the estimated working capital requirement by 10% to meet the contingencies. (You may assume that production is carried on evenly throughout the year and direct labour and other overheads accrue similarly.)

Miscellaneous

10. (i) "Profit Maximization cannot be the sole objective of a company". COMMENT.
- (ii) DISCUSS the advantages and disadvantages of raising funds by issue of preference shares.

SUGGESTED ANSWERS**1. (i) Return on total assets**

$$\begin{aligned} \text{Return on total assets} &= \frac{\text{EBIT} (1 - T)}{\text{Total assets (FA + CA)}} \\ &= \frac{\text{₹ 2.30 crores} (1 - 0.3)}{\text{₹ 5.20 crores} + \text{₹ 7.80 crores}} \\ &= \frac{\text{₹ 1.61 crores}}{\text{₹ 13 crores}} = 0.1238 \text{ or } 12.38\% \end{aligned}$$

(ii) Return on owner's equity

(Amount in ₹)

	Financing policy (₹)		
	Conservative	Moderate	Aggressive
Expected EBIT	2,30,00,000	2,30,00,000	2,30,00,000
Less: Interest			
Short term Debt @ 12%	12,96,000	24,00,000	36,00,000
Long term Debt @ 16%	35,84,000	21,12,000	5,12,000
Earnings before tax (EBT)	1,81,20,000	1,84,88,000	1,88,88,000
Less: Tax @ 30%	54,36,000	55,46,400	56,66,400
Earnings after Tax (EAT)	1,26,84,000	1,29,41,600	1,32,21,600

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE**PART A: FINANCIAL MANAGEMENT****QUESTIONS****Ratio Analysis**

1. Following information has been gathered from the books of Cram Ltd. for the year ended 31st March 2021, the equity shares of which is trading in the stock market at ₹ 28:

Particulars	Amount (₹)
Equity Share Capital (Face value @ ₹ 20)	20,00,000
10% Preference Share capital	4,00,000
Reserves & Surplus	16,00,000
12.5% Debentures	12,00,000
Profit before Interest and Tax for the year	8,00,000

CALCULATE the following when company falls within 25% tax bracket:

- (i) Return on Capital Employed
- (ii) Earnings Per share
- (iii) P/E Ratio

Cost of Capital

2. Kalyanam Ltd. has an operating profit of ₹ 34,50,000 and has employed Debt which gives total Interest Charge of ₹ 7,50,000. The firm has an existing Cost of Equity and Cost of Debt as 16% and 8% respectively. The firm has a new proposal before it, which requires funds of ₹ 75 Lakhs and is expected to bring an additional profit of ₹ 14,25,000. To finance the proposal, the firm is expecting to issue an additional debt at 8% and will not be issuing any new equity shares in the market. Assume no tax culture.

You are required to CALCULATE the Weighted Average Cost of Capital (WACC) of Kalyanam Ltd.:

- (i) Before the new Proposal
- (ii) After the new Proposal

Capital Structure

3. Blue Ltd., an all equity financed company is considering the repurchase of ₹ 275 lakhs equity shares and to replace it with 15% debentures of the same amount. Current market value of the company is ₹ 1,750 lakhs with its cost of capital of 20%. The company's Earnings before Interest and Taxes (EBIT) are expected to remain constant in future years. The company also has a policy of distributing its entire earnings as dividend.

2 INTERMEDIATE (NEW) EXAMINATION: NOVEMBER, 2021

Assuming the corporate tax rate as 30%, you are required to CALCULATE the impact on the following on account of the change in the capital structure as per Modigliani and Miller (MM) Approach:

- (i) Market value of the company
- (ii) Overall Cost of capital
- (iii) Cost of equity

Leverage

4. The following particulars relating to Navya Ltd. for the year ended 31st March 2021 is given:

Output	1,00,000 units at normal capacity
Selling price per unit	₹ 40
Variable cost per unit	₹ 20
Fixed cost	₹ 10,00,000

The capital structure of the company as on 31st March, 2021 is as follows:

Particulars	₹
Equity share capital (1,00,000 shares of ₹ 10 each)	10,00,000
Reserves and surplus	5,00,000
7% debentures	10,00,000
Current liabilities	5,00,000
Total	30,00,000

Navya Ltd. has decided to undertake an expansion project to use the market potential, that will involve ₹ 10 lakhs. The company expects an increase in output by 50%. Fixed cost will be increased by ₹ 5,00,000 and variable cost per unit will be decreased by 10%. The additional output can be sold at the existing selling price without any adverse impact on the market.

The following alternative schemes for financing the proposed expansion programme are planned:

- (i) Entirely by equity shares of ₹ 10 each at par.
- (ii) ₹ 5 lakh by issue of equity shares of ₹ 10 each and the balance by issue of 6% debentures of ₹ 100 each at par.
- (iii) Entirely by 6% debentures of ₹ 100 each at par.

FIND out which of the above-mentioned alternatives would you recommend for Navya Ltd. with reference to the risk and return involved, assuming a corporate tax of 40%.

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE 3

Investment Decisions

5. HMR Ltd. is considering replacing a manually operated old machine with a fully automatic new machine. The old machine had been fully depreciated for tax purpose but has a book value of ₹ 2,40,000 on 31st March 2021. The machine has begun causing problems with breakdowns and it cannot fetch more than ₹ 30,000 if sold in the market at present. It will have no realizable value after 10 years. The company has been offered ₹ 1,00,000 for the old machine as a trade in on the new machine which has a price (before allowance for trade in) of ₹ 4,50,000. The expected life of new machine is 10 years with salvage value of ₹ 35,000.

Further, the company follows straight line depreciation method but for tax purpose, written down value method depreciation @ 7.5% is allowed taking that this is the only machine in the block of assets.

Given below are the expected sales and costs from both old and new machine:

	Old machine (₹)	New machine (₹)
Sales	8,10,000	8,10,000
Material cost	1,80,000	1,26,250
Labour cost	1,35,000	1,10,000
Variable overhead	56,250	47,500
Fixed overhead	90,000	97,500
Depreciation	24,000	41,500
PBT	3,24,750	3,87,250
Tax @ 30%	97,425	1,16,175
PAT	2,27,325	2,71,075

From the above information, ANALYSE whether the old machine should be replaced or not if required rate of return is 10%? Ignore capital gain tax.

PV factors @ 10%:

Year	1	2	3	4	5	6	7	8	9	10
PVF	0.909	0.826	0.751	0.683	0.621	0.564	0.513	0.467	0.424	0.386

Risk Analysis in Capital Budgeting

6. TIP Ltd. is considering two mutually exclusive projects M and N. You have been given below the Net Cash flow probability distribution of each project:

Project-M		Project-N	
Net Cash Flow (₹)	Probability	Net Cash Flow (₹)	Probability
62,500	0.30	1,62,500	0.20
75,000	0.30	1,37,500	0.30
87,500	0.40	1,12,500	0.50

4 INTERMEDIATE (NEW) EXAMINATION: NOVEMBER, 2021

- (i) REQUIRED:
- Expected Net Cash Flow of each project.
 - Variance of each project.
 - Standard Deviation of each project.
 - Coefficient of Variation of each project.
- (ii) IDENTIFY which project would you recommend? Give reasons.

Dividend Decision

7. Aakash Ltd. has 10 lakh equity shares outstanding at the start of the accounting year 2021. The existing market price per share is ₹ 150. Expected dividend is ₹ 8 per share. The rate of capitalization appropriate to the risk class to which the company belongs is 10%.
- CALCULATE the market price per share when expected dividends are: (a) declared, and (b) not declared, based on the Miller – Modigliani approach.
 - CALCULATE number of shares to be issued by the company at the end of the accounting year on the assumption that the net income for the year is ₹ 3 crore, investment budget is ₹ 6 crores, when (a) Dividends are declared, and (b) Dividends are not declared.
 - PROOF that the market value of the shares at the end of the accounting year will remain unchanged irrespective of whether (a) Dividends are declared, or (ii) Dividends are not declared.

Management of Receivables (Debtors)

8. The Alliance Ltd., a Petrochemical sector company had just invested huge amount in its new expansion project. Due to huge capital investment, the company is in need of an additional ₹ 1,50,000 in working capital immediately. The Finance Manger has determined the following three feasible sources of working capital funds:
- Bank loan: The Company's bank will lend ₹ 2,00,000 at 15%. A 10% compensating balance will be required, which otherwise would not be maintained by the company.
 - Trade credit: The company has been offered credit terms from its major supplier of 3/30, net 90 for purchasing raw materials worth ₹ 1,00,000 per month.
 - Factoring: A factoring firm will buy the company's receivables of ₹ 2,00,000 per month, which have a collection period of 60 days. The factor will advance up to 75% of the face value of the receivables at 12% on an annual basis. The factor will also charge commission of 2% on all receivables purchased. It has been estimated that the factor's services will save the company a credit department expense and bad debt expense of ₹ 1,250 and ₹ 1,750 per month respectively.

On the basis of annual percentage cost, ADVISE which alternative should the company select? Assume 360 days year.

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE

5

Management of Working Capital

9. The management of Trux Company Ltd. is planning to expand its business and consults you to prepare an estimated working capital statement. The records of the company reveals the following annual information:

	(₹)
Sales – Domestic at one month's credit	18,00,000
Export at three month's credit (sales price 10% below domestic price)	8,10,000
Materials used (suppliers extend two months credit)	6,75,000
Lag in payment of wages – ½ month	5,40,000
Lag in payment of manufacturing expenses (cash) – 1 month	7,65,000
Lag in payment of Administration Expenses – 1 month	1,80,000
Selling expenses payable quarterly in advance	1,12,500
Income tax payable in four installments, of which one falls in the next financial year	1,68,000

Rate of gross profit is 20%. Ignore work-in-progress and depreciation.

The company keeps one month's stock of raw materials and finished goods (each) and believes in keeping ₹ 2,50,000 available to it including the overdraft limit of ₹ 75,000 not yet utilized by the company.

The management is also of the opinion to make 10% margin for contingencies on computed figure.

You are required to PREPARE the estimated working capital statement for the next year.

Miscellaneous

10. (a) DISCUSS the points that demonstrates the Importance of good financial management.
 (b) EXPLAIN some common methods of Venture capital financing.

SUGGESTED ANSWERS/HINTS

1. (i) **Return on Capital Employed (ROCE)**

$$\begin{aligned} \text{ROCE (Pre-tax)} &= \frac{\text{Profit before interest and taxes (PBIT)}}{\text{Capital Employed}} \times 100 \\ &= \frac{\text{₹ 8,00,000}}{\text{₹ 52,00,000}} \times 100 \end{aligned}$$

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE**PART A: FINANCIAL MANAGEMENT****QUESTIONS****Ratio Analysis**

1. FM Ltd. is in a competitive market where every company offers credit. To maintain the competition, FM Ltd. sold all its goods on credit and simultaneously received the goods on credit. The company provides the following information relating to current financial year:

Debtors Velocity	3 months
Creditors Velocity	2 months
Stock Turnover Ratio (on Cost of Goods Sold)	1.5
Fixed Assets turnover Ratio (on Cost of Goods Sold)	4
Gross Profit Ratio	25%
Bills Receivables	₹ 75,000
Bills Payables	₹ 30,000
Gross Profit	₹ 12,00,000

FM Ltd. has the tendency of maintaining extra stock of ₹ 30,000 at the end of the period than that at the beginning.

DETERMINE:

- (i) Sales and cost of goods sold
- (ii) Sundry Debtors
- (iii) Closing Stock
- (iv) Sundry Creditors
- (v) Fixed Assets

Cost of Capital

2. The information relating to book value (BV) and market value (MV) weights of Ex Limited is given below:

Sources	Book Value (₹)	Market Value (₹)
Equity shares	2,40,00,000	4,00,00,000
Retained earnings	60,00,000	-
Preference shares	72,00,000	67,50,000
Debentures	18,00,000	20,80,000

2

INTERMEDIATE EXAMINATION: MAY, 2022

Additional information:

- I. Equity shares are quoted at ₹ 130 per share and a new issue priced at ₹ 125 per share will be fully subscribed; flotation costs will be ₹ 5 per share on face value.
- II. During the previous 5 years, dividends have steadily increased from ₹ 10 to ₹ 16.105 per share. Dividend at the end of the current year is expected to be ₹ 17.716 per share.
- III. 15% Preference shares with face value of ₹ 100 would realise ₹ 105 per share.
- IV. The company proposes to issue 11-year 15% debentures but the yield on debentures of similar maturity and risk class is 16%; flotation cost is 2% on face value.
- V. Corporate tax rate is 30%.

You are required to DETERMINE the weighted average cost of capital of Ex Limited using both the weights.

Capital Structure

3. The following data relates to two companies belonging to the same risk class:

Particulars	Bee Ltd.	Cee Ltd.
12% Debt	₹ 27,00,000	-
Equity Capitalization Rate	-	18
Expected Net Operating Income	₹ 9,00,000	₹ 9,00,000

You are required to:

- (a) DETERMINE the total market value, Equity capitalization rate and weighted average cost of capital for each company assuming no taxes as per M.M. Approach.
- (b) DETERMINE the total market value, Equity capitalization rate and weighted average cost of capital for each company assuming 40% taxes as per M.M. Approach.

Leverage

4. Company P and Q are having same earnings before tax. However, the margin of safety of Company P is 0.20 and, for Company Q, is 1.25 times than that of Company P. The interest expense of Company P is ₹ 1,50,000 and, for Company Q, is 1/3rd less than that of Company P. Further, the financial leverage of Company P is 4 and, for Company Q, is 75% of Company P.

Other information is given as below:

Particulars	Company P	Company Q
Profit volume ratio	25%	33.33%
Tax rate	45%	45%

You are required to PREPARE Income Statement for both the companies.

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE

3

Investment Decisions

5. ABC & Co. is considering whether to replace an existing machine or to spend money on revamping it. ABC & Co. currently pays no taxes. The replacement machine costs ₹ 18,00,000 now and requires maintenance of ₹ 2,00,000 at the end of every year for eight years. At the end of eight years, it would have a salvage value of ₹ 4,00,000 and would be sold. The existing machine requires increasing amounts of maintenance each year and its salvage value fall each year as follows:

Year	Maintenance (₹)	Salvage (₹)
Present	0	8,00,000
1	2,00,000	5,00,000
2	4,00,000	3,00,000
3	6,00,000	2,00,000
4	8,00,000	0

The opportunity cost of capital for ABC & Co. is 15%.

REQUIRED:

When should the company replace the machine?

The following present value table is given for you:

Year	Present value of ₹ 1 at 15% discount rate
1	0.8696
2	0.7561
3	0.6575
4	0.5718
5	0.4972
6	0.4323
7	0.3759
8	0.3269

Risk Analysis in Capital Budgeting

6. ASG Ltd. is considering a project “Z” with an initial outlay of ₹ 15,00,000 and life of 5 years. The estimates of project are as follows:

	Lower Estimates	Base	Upper Estimates
Sales (units)	9,000	10,000	11,000
	(₹)	(₹)	(₹)
Selling Price p.u.	175	200	225

4

INTERMEDIATE EXAMINATION: MAY, 2022

Variable cost p.u.	100	125	150
Fixed Cost	1,00,000	1,50,000	2,00,000

Depreciation included in Fixed cost is ₹ 70,000 and corporate tax is 25%.

Assuming the cost of capital as 15%, DETERMINE NPV in three scenarios i.e worst, base and best case scenario.

PV factor for 5 years at 15% are as follows:

Years	1	2	3	4	5
P.V. factor	0.870	0.756	0.658	0.572	0.497

Dividend Decision

7. The following figures have been collected from the annual report of ABC Ltd. for the current financial year:

Net Profit	₹ 75 lakhs
Outstanding 12% preference shares	₹ 250 lakhs
No. of equity shares	7.50 lakhs
Return on Investment	20%
Cost of capital i.e. (K_e)	16%

- (a) COMPUTE the approximate dividend pay-out ratio so as to keep the share price at ₹ 42 by using Walter's model?
- (b) DETERMINE the optimum dividend pay-out ratio and the price of the share at such pay-out.
- (c) PROVE that the dividend pay-out ratio as determined above in (b) is optimum by using random pay-out ratio.

Management of Cash

8. You are given below the Profit & Loss Accounts for two years for a company:

Profit and Loss Account

	Year 1	Year 2		Year 1	Year 2
	(₹)	(₹)		(₹)	(₹)
To Opening stock	32,00,000	40,00,000	By Sales	3,20,00,000	4,00,00,000
To Raw materials	1,20,00,000	1,60,00,000	By Closing stock	40,00,000	60,00,000
To Stores	38,40,000	48,00,000	By Misc. Income	4,00,000	4,00,000
To Manufacturing Expenses	51,20,000	64,00,000			

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE **5**

To Other Expenses	40,00,000	40,00,000			
To Depreciation	40,00,000	40,00,000			
To Net Profit	42,40,000	72,00,000		-	-
	3,64,00,000	4,64,00,000		3,64,00,000	4,64,00,000

Sales are expected to be ₹ 4,80,00,000 in year 3.

As a result, other expenses will increase by ₹ 20,00,000 besides other charges. Only raw materials are in stock. Assume sales and purchases are in cash terms and the closing stock is expected to go up by the same amount as between year 1 and 2. You may assume that no dividend is being paid. The Company can use 75% of the cash generated to service a loan. COMPUTE how much cash from operations will be available in year 3 for the purpose? Ignore income tax.

Management of Working Capital

9. PQR Ltd., a company newly commencing business in the year 2021-22, provides the following projected Profit and Loss Account:

	(₹)	(₹)
Sales		5,04,000
Cost of goods sold		<u>3,67,200</u>
Gross Profit		1,36,800
Administrative Expenses	33,600	
Selling Expenses	<u>31,200</u>	<u>64,800</u>
Profit before tax		72,000
Provision for taxation		<u>24,000</u>
Profit after tax		<u>48,000</u>
The cost of goods sold has been arrived at as under:		
Materials used	2,01,600	
Wages and manufacturing Expenses	1,50,000	
Depreciation	<u>56,400</u>	
	4,08,000	
Less: Stock of Finished goods (10% of goods produced not yet sold)	<u>40,800</u>	
	<u>3,67,200</u>	

The figure given above relate only to finished goods and not to work-in-progress. Goods equal to 15% of the year's production (in terms of physical units) will be in process on the

6

INTERMEDIATE EXAMINATION: MAY, 2022

average requiring full materials but only 40% of the other expenses. The company believes in keeping materials equal to two months' consumption in stock.

All expenses will be paid one month in advance. Suppliers of materials will extend 1-1/2 months credit. Sales will be 20% for cash and the rest at two months' credit. 70% of the Income tax will be paid in advance in quarterly instalments. The company wishes to keep ₹ 19,200 in cash. 10% must be added to the estimated figure for unforeseen contingencies.

PREPARE an estimate of working capital.

Miscellaneous

10. (a) 'Profit maximisation is not the sole objective of a company. It is at best a limited objective. If profit is given undue importance, a number of problems can arise.' DISCUSS four of such problems.
- (b) DISCUSS Agency problem and its cost. HOW it arises and HOW it can be addressed?

SUGGESTED ANSWERS/HINTS

1. (i) **Determination of Sales and Cost of goods sold:**

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100$$

$$\text{Or, } \frac{25}{100} = \frac{\text{₹ } 12,00,000}{\text{Sales}}$$

$$\text{Or, Sales} = \frac{12,00,00,000}{25} = \text{₹ } 48,00,000$$

$$\begin{aligned} \text{Cost of Goods Sold} &= \text{Sales} - \text{Gross Profit} \\ &= \text{₹ } 48,00,000 - \text{₹ } 12,00,000 = \text{₹ } 36,00,000 \end{aligned}$$

- (ii) **Determination of Sundry Debtors:**

Debtors' velocity is 3 months or Debtors' collection period is 3 months,

$$\text{So, Debtors' turnover ratio} = \frac{12 \text{ months}}{3 \text{ months}} = 4$$

$$\begin{aligned} \text{Debtors' turnover ratio} &= \frac{\text{Credit Sales}}{\text{Average Accounts Receivable}} \\ &= \frac{\text{₹ } 48,00,000}{\text{Bills Receivable} + \text{Sundry Debtors}} = 4 \end{aligned}$$

$$\text{Or, Sundry Debtors} + \text{Bills receivable} = \text{₹ } 12,00,000$$

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE**PART A: FINANCIAL MANAGEMENT****QUESTIONS****Ratio Analysis**

1. The following information of ASD Ltd. relate to the year ended 31st March, 2022:

Net profit	8% of sales
Raw materials consumed	20% of Cost of Goods Sold
Direct wages	10% of Cost of Goods Sold
Stock of raw materials	3 months' usage
Stock of finished goods	6% of Cost of Goods Sold
Gross Profit	15% of Sales
Debt collection period	2 Months
(All sales are on credit)	
Current ratio	2 : 1
Fixed assets to Current assets	13 : 11
Fixed assets to sales	1 : 3
Long-term loans to Current liabilities	2 : 1
Capital to Reserves and Surplus	1 : 4

You are required to PREPARE-

- (a) Profit & Loss Statement of ASD Limited for the year ended 31st March, 2022 in the following format.

Particulars	(₹)	Particulars	(₹)
To Direct Materials consumed	?	By Sales	?
To Direct Wages	?		
To Works (Overhead)	?		
To Gross Profit c/d	?		
	?		?
To Selling and Distribution Expenses	?	By Gross Profit b/d	?
To Net Profit	?		
	?		?

2

INTERMEDIATE EXAMINATION: NOVEMBER, 2022

(b) Balance Sheet as on 31st March, 2022 in the following format.

Liabilities	(₹)	Assets	(₹)
Share Capital	?	Fixed Assets	1,30,00,000
Reserves and Surplus	?	Current Assets:	
Long term loans	?	Stock of Raw Material	?
Current liabilities	?	Stock of Finished Goods	?
		Debtors	?
		Cash	?
	?		?

Cost of Capital

2. Bounce Ltd. evaluates all its capital projects using discounting rate of 15%. Its capital structure consists of equity share capital, retained earnings, bank term loan and debentures redeemable at par.

Rate of interest on bank term loan is 1.5 times that of debenture. Remaining tenure of debenture and bank loan is 3 years and 5 years respectively. Book value of equity share capital, retained earnings and bank loan is ₹ 10,00,000, ₹ 15,00,000 and ₹ 10,00,000 respectively. Debentures which are having book value of ₹ 15,00,000 are currently trading at ₹ 97 per debenture. The ongoing P/E multiple for the shares of the company stands at 5. You are required to CALCULATE the rate of interest on bank loan and debentures if tax rate applicable is 25%.

Capital Structure

3. ABC Limited provides you the following information:

	(₹)
Profit (EBIT)	2,80,000
Less: Intt. on Debt @10%	<u>40,000</u>
EBT	2,40,000
Less: Income Tax @ 50%	<u>1,20,000</u>
	<u>1,20,000</u>
No. of Equity Shares (₹ 10 each)	30,000
Earnings per share (EPS)	4
Price / EPS (P/E) Ratio	10
Ruling Market price per share	40

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE 3

The company has undistributed reserves of ₹ 7,00,000 and needs ₹ 4,00,000 further for expansion. This investment is expected to earn the same rate as funds already invested. You are informed that a debt equity (debt/ debt +equity) ratio higher than 32% will push the P/E ratio down to 8 and raise the interest rate on additional borrowings (debentures) to 12%. You are required to ASCERTAIN the probable price of the share.

- (i) If the additional funds are raised as debt; and
- (ii) If the amount is raised by issuing equity shares at ruling market price of ₹ 40 per share.

Leverage

4. Debu Ltd. currently has an equity share capital of ₹ 1,30,00,000 consisting of 13,00,000 Equity shares. The company is going through a major expansion plan requiring to raise funds to the tune of ₹ 78,00,000. To finance the expansion the management has following plans:

Plan-I : Issue 7,80,000 Equity shares of ₹ 10 each.

Plan-II : Issue 5,20,000 Equity shares of ₹ 10 each and the balance through long-term borrowing at 12% interest p.a.

Plan-III : Issue 3,90,000 Equity shares of ₹ 10 each and 39,000, 9% Debentures of ₹ 100 each.

Plan-IV : Issue 3,90,000 Equity shares of ₹ 10 each and the balance through 6% preference shares.

EBIT of the company is expected to be ₹ 52,00,000 p.a.

Considering corporate tax rate @ 40%, you are required to-

- (i) CALCULATE EPS in each of the above plans.
- (ii) ASCERTAIN financial leverage in each plan and comment.

Investment Decisions

5. K. K. M. M Hospital is considering purchasing an MRI machine. Presently, the hospital is outsourcing the work received relating to MRI machine and is earning commission of ₹ 6,60,000 per annum (net of tax). The following details are given regarding the machine:

	(₹)
Cost of MRI machine	90,00,000
Operating cost per annum (excluding Depreciation)	14,00,000
Expected revenue per annum	45,00,000
Salvage value of the machine (after 5 years)	10,00,000
Expected life of the machine	5 years

4

INTERMEDIATE EXAMINATION: NOVEMBER, 2022

Assuming tax rate @ 40%, whether it would be profitable for the hospital to purchase the machine?

Give your RECOMMENDATION under:

- (i) Net Present Value Method, and
- (ii) Profitability Index Method.

PV factors at 10% are given below:

Year	1	2	3	4	5
PV factor	0.909	0.826	0.751	0.683	0.620

Risk Analysis in Capital Budgeting

6. Consider the below mentioned table for the risk premium and the coefficient of variation

Co-efficient of Variation	Risk Premium
0	0
0 to 0.25	2%
0.25 to 0.50	3%
0.50 to 0.75	4%
0.75 to 1	6%

A company is evaluating two projects with an initial investment of ₹ 1,50,000 for each project with cash inflows from them occurring at the end of 5th Year which depends on possible scenarios prevailing during the investment period. The details of the same are as follows:

Scenario	Project X		Project Y	
	Cash Flow (₹)	Probability	Cash Flow (₹)	Probability
Superb	5,00,000	0.20	4,00,000	0.30
Better	3,00,000	0.30	3,50,000	0.20
Moderate	1,50,000	0.15	2,50,000	0.20
Bad	50,000	0.20	75,000	0.20
Worse	10,000	0.15	5,000	0.10

If the ongoing government bond yield is 6%, identify WHICH project to be undertaken.

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE 5**Dividend Decision**

7. Ordinary shares of a listed company are currently trading at ₹ 10 per share with two lakh shares outstanding. The company anticipates that its earnings for next year will be ₹ 5,00,000. Existing cost of capital for equity shares is 15%. The company has certain investment proposals under discussion which will cause an additional 26,089 ordinary shares to be issued if no dividend is paid or an additional 47,619 ordinary shares to be issued if dividend is paid.

Applying the MM hypothesis on dividend decisions, CALCULATE the amount of investment and dividend that is under consideration by the company.

Management of Cash

8. A company was incorporated w.e.f. 1st April, 2021. Its authorised capital was ₹ 1,00,00,000 divided into 10 lakh equity shares of ₹ 10 each. It intends to raise capital by issuing equity shares of ₹ 50,00,000 (fully paid) on 1st April. Besides this, a loan of ₹ 6,50,000 @ 12% per annum will be obtained from a financial institution on 1st April and further borrowings will be made at same rate of interest on the first day of the month in which borrowing is required. All borrowings will be repaid along with interest on the expiry of one year. The company will make payment for the following assets in April.

Particulars	(₹)
Plant and Machinery	10,00,000
Land and Building	20,00,000
Furniture	5,00,000
Motor Vehicles	5,00,000
Stock of Raw Materials	5,00,000

The following further details are available:

- (1) Projected Sales (April-September):

	(₹)
April	15,00,000
May	17,50,000
June	17,50,000
July	20,00,000
August	20,00,000
September	22,50,000

- (2) Gross profit margin will be 25% on sales.
 (3) The company will make credit sales only and these will be collected in the second month following sales.

6

INTERMEDIATE EXAMINATION: NOVEMBER, 2022

- (4) Creditors will be paid in the first month following credit purchases. There will be credit purchases only.
- (5) The company will keep minimum stock of raw materials of ₹ 5,00,000.
- (6) Depreciation will be charged @ 10% per annum on cost on all fixed assets.
- (7) Payment of miscellaneous expenses of ₹ 50,000 will be made in April.
- (8) Wages and salaries will be ₹ 1,00,000 each month and will be paid on the first day of the next month.
- (9) Administrative expenses of ₹ 50,000 per month will be paid in the month of their incurrence.
- (10) No minimum cash balance is required.

You are required to PREPARE the monthly cash budget (April-September), the projected Income Statement for the 6 months period and the projected Balance Sheet as on 30th September, 2021.

Management of Working Capital

9. Trading and Profit and Loss Account of Beat Ltd. for the year ended 31st March, 2022 is given below:

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
To Opening Stock:			By Sales (Credit)		1,60,00,000
- Raw Materials	14,40,000		By Closing Stock:		
- Work-in- progress	4,80,000		- Raw Materials	16,00,000	
- Finished Goods	20,80,000	40,00,000	- Work-in-progress	8,00,000	
To Purchases (credit)		88,00,000	- Finished Goods	24,00,000	48,00,000
To Wages		24,00,000			
To Production Exp.		16,00,000			
To Gross Profit c/d		40,00,000			
		2,08,00,000			2,08,00,000
To Administration Exp.		14,00,000	By Gross Profit b/d		40,00,000
To Selling Exp.		6,00,000			
To Net Profit		20,00,000			
		40,00,000			40,00,000

The opening and closing payables for raw materials were ₹ 16,00,000 and ₹ 19,20,000 respectively whereas the opening and closing balances of receivables were ₹ 12,00,000 and ₹ 16,00,000 respectively.

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE **7**

You are required to ASCERTAIN the working capital requirement by operating cycle method.

Miscellaneous

10. (a) Under financial lease, lessee bears the risk of obsolescence; while under operating lease, lessor bears the risk of obsolescence. In view of this, you are required to COMPARE the financial lease and operating lease.
- (b) BRIEF OUT salient features of Samurai Bond.

SUGGESTED ANSWERS

1. Working Notes:

- (i) Calculation of Sales

$$\frac{\text{Fixed Assets}}{\text{Sales}} = \frac{1}{3}$$

$$\therefore \frac{1,30,00,000}{\text{Sales}} = \frac{1}{3} \Rightarrow \text{Sales} = ₹ 3,90,00,000$$

- (ii) Calculation of Current Assets

$$\frac{\text{Fixed Assets}}{\text{Current Assets}} = \frac{13}{11}$$

$$\therefore \frac{1,30,00,000}{\text{Current Assets}} = \frac{13}{11} \Rightarrow \text{Current Assets} = ₹ 1,10,00,000$$

- (iii) Calculation of Raw Material Consumption and Direct Wages

	₹
Sales	3,90,00,000
Less: Gross Profit (15 % of Sales)	<u>58,50,000</u>
Cost of Goods sold	<u>3,31,50,000</u>

Raw Material Consumption (20% of Cost of Goods Sold) ₹ 66,30,000

Direct Wages (10% of Cost of Goods Sold) ₹ 33,15,000

- (iv) Calculation of Stock of Raw Materials (= 3 months usage)

$$= 66,30,000 \times \frac{3}{12} = ₹ 16,57,500$$

- (v) Calculation of Stock of Finished Goods (= 6% of Cost of Goods Sold)

PAPER – 8: FINANCIAL MANAGEMENT AND ECONOMICS FOR FINANCE**PART A: FINANCIAL MANAGEMENT****QUESTIONS****Ratio Analysis**

1. From the following information, find out missing figures and REWRITE the balance sheet of Mukesh Enterprise.

Current Ratio = 2:1

Acid Test ratio = 3:2

Reserves and surplus = 20% of equity share capital

Long term debt = 45% of net worth

Stock turnover velocity = 1.5 months

Receivables turnover velocity = 2 months

You may assume closing Receivables as average Receivables.

Gross profit ratio = 20%

Sales is ₹ 21,00,000 (25% sales are on cash basis and balance on credit basis)

Closing stock is ₹ 40,000 more than opening stock.

Accumulated depreciation is 1/6 of original cost of fixed assets.

Balance sheet of the company is as follows:

Liabilities	(₹)	Assets	(₹)
Equity Share Capital	?	Fixed Assets (Cost)	?
Reserves & Surplus	?	Less: Accumulated. Depreciation	?
Long Term Loans	6,75,000	Fixed Assets (WDV)	?
Bank Overdraft	60,000	Stock	?
Creditors	?	Debtors	?
		Cash	?
Total	?	Total	?

Cost of Capital

2. **Amrit Corporation has the following book value capital structure:**

Equity Capital (50 lakh shares of ₹ 10 each).	₹ 5,00,00000
---	--------------

2

INTERMEDIATE EXAMINATION: MAY, 2023

15% Preference share (50,000 shares ₹ 100 each)	₹ 50,00,000
Retained earnings	₹ 4,00,00,000
Debentures 14% (2,50,000 debentures ₹ 100 each)	₹ 2,50,00,000
Term loan 13%	₹ 4,00,00,000

The companies last year earnings per share was ₹ 5, and it maintains a dividend pay-out ratio of 60% and returns on equity is 10%. The market price per share is ₹ 20.8. Preference share redeemable after 10 years is currently selling for ₹ 90 per share. Debentures redeemable after 6 years are currently selling for ₹ 75 per debenture. The income tax rate is 40%.

- CALCULATE the Weighted Average Cost of Capital (WACC) using market value proportions.
- DETERMINE the Marginal Cost of Capital (MACC) if it needs ₹ 5,00,00,000 next year assuming the amount will be raised by 60% equity, 20% debt and 20% retained earnings. Equity issues will fetch a net price of ₹ 14 and cost of debt will be 13% before tax up to ₹ 40,00,000 and beyond ₹ 40,00,000 it will be 15% before tax.

Capital Structure

- Current Capital Structure of XYZ Ltd is as follows:

Equity Share Capital of 7 lakh shares of face value ₹ 20 each

Reserves of ₹ 10,00,000

9% bonds of ₹ 3,00,00,000

11% preference capital: 3,00,000 shares of face value ₹ 50 each

Additional Funds required for XYZ Ltd are ₹ 5,00,00,000.

XYZ Ltd is evaluating the following alternatives:

- Proposed alternative I: Raise the funds via 25% equity capital and 75% debt at 10%. PE ratio in such scenario would be 12.
- Proposed alternative II: Raise the funds via 50% equity capital and rest from 12% Preference capital. PE ratio in such scenario would be 11.

Any new equity capital would be issued at a face value of ₹ 20 each. Any new preferential capital would be issued at a face value of ₹ 20 each. Tax rate is 34%

DETERMINE the indifference point under both the alternatives.

Leverages

- The selected financial data for A, B and C companies for the current year ended 31st March are as follows:

PAPER – 8A: FINANCIAL MANAGEMENT

3

Particulars	A	B	C
Variable Expenses as a % of sales	60	50	40
Interest	₹ 1,00,000	₹ 4,00,000	₹ 6,00,000
Degree of Operating Leverage	4:1	3:1	2.5:1
Degree of Financial Leverage	3:1	5:1	2.5:1
Income Tax Rate	30%	30%	30%

- (a) PREPARE income statement for A, B and C companies
 (b) COMMENT on the financial position and structure of these companies

Investment Decisions

5. Dharma Ltd, an existing profit-making company, is planning to introduce a new product with a projected life of 8 years. Initial equipment cost will be ₹ 240 lakhs and additional equipment costing ₹ 26 lakhs will be needed at the beginning of third year. At the end of 8 years, the original equipment will have resale value equivalent to the cost of removal, but the additional equipment would be sold for ₹ 2 lakhs. Working Capital of ₹ 25 lakhs will be needed at the beginning of the operations. The 100% capacity of the plant is of 4,00,000 units per annum, but the production and sales volume expected are as under:

Year	Capacity (%)
1	20
2	30
3-5	75
6-8	50

A sale price of ₹ 100 per unit with a profit volume ratio (contribution/sales) of 60% is likely to be obtained. Fixed operating cash cost are likely to be ₹ 16 lakhs per annum. In addition to this the advertisement expenditure will have to be incurred as under:

Year	1	2	3-5	6-8
Expenditure (₹ Lakhs each year)	30	15	10	4

The company is subjected to 50% tax rate and consider 12% to be an appropriate cost of capital. Straight line method of depreciation is followed by the company. ADVISE the management on the desirability of the project.

Risk analysis in Capital Budgeting

6. Remi limited is a manufacturer of mobile phones in India. Currently the company is dependent on the foreign supplier for import of the battery. It is considering investment of ₹ 55,00,000 in a new machine for manufacturing battery of mobile phones. The expected

4

INTERMEDIATE EXAMINATION: MAY, 2023

life of machine is 5 years and has no scrap value. It is expected that 3 lakhs units will be produced and sold each year at a selling price of ₹ 20 per unit. The estimated variable costs and annual fixed costs will be ₹ 12 per unit and ₹ 6,00,000 respectively. Consider 14% to be an appropriate cost of capital. Ignore the taxation and depreciation.

CALCULATE the expected net present value of the project.

You are also Required to MEASURE the sensitivity of the projects NPV to a 10% decrease in the project variables sale price per unit and sales volume and 10% increase in Fixed Cost

Dividend Decisions

7. Rambo Limited Has 1,00,000 equity shares outstanding for the year 2022. The current market price of the shares is ₹ 100 each. Company is planning to pay dividend of ₹ 10 per share. Required rate of return is 15%. Based on Modigliani-Miller approach, calculate the market price of the share of the company when the recommended dividend is 1) declared and 2) not declared.

How many new shares are to be issued by the company at the end of the year on the assumption that net income for the year is ₹ 40 Lac and the investment budget is ₹ 50,00,000 when dividend is declared, or dividend is not declared.

PROOF that the market value of the company at the end of the accounting year will remain same whether dividends are distributed or not distributed.

Management of Receivables

8. River limited currently uses the credit terms of 1.5/15 net 45 days and average collection period was 30 days. The company presently having sales of ₹ 50,00,000 and 30% customers availing the discount. The chances of default are currently 5%. Variable cost constitutes 65% and total cost constitute 85% of sales. The company is planning liberalization of credit terms to 2/20 net 50 days. It is expected that sales are likely to increase by ₹ 5,00,000, the default chances are 10% and average collection period will decline to 25 days. There won't be any change in the fixed cost and 50% customers are expected to avail the discount. Tax rate is 35%.

EVALUATE this policy in comparison with the current policy and recommend whether the new policy should be implemented. Assume cost of capital to be 10% (post tax) and 360 days in a year.

Management of Working Capital

9. Kalyan limited has provided you the following information for the year 2021-22:

By working at 60% of its capacity the company was able to generate sales of ₹ 72,00,000. Direct labour cost per unit amounted to ₹ 20 per unit. Direct material cost per unit was 40% of the selling price per unit. Selling price was 3 times the direct labour cost per unit. Profit margin was 25% on the total cost.

PAPER – 8A: FINANCIAL MANAGEMENT**5**

For the year 2022-23, the company makes the following estimates:

Production and sales will increase to 90% of its capacity. Raw material per unit price will remain unchanged. Direct expense per unit will increase by 50%. Direct labour per unit will increase by 10%. Despite the fluctuations in the cost structure, the company wants to maintain the same profit margin on sales.

Raw materials will be in stock for one month whereas finished goods will remain in stock for two months. Production cycle is for 2 months. Credit period allowed by suppliers is 2 months. Sales are made to three zones:

Zone	Percentage of sale	Mode of Credit
A	50%	Credit period of 2 months
B	30%	Credit period of 3 months
C	20%	Cash Sales

There are no cash purchases and cash balance will be ₹ 1,11,000

The company plans to apply for a working capital financing from bank for the year 2022-23. ESTIMATE Net Working Capital of the Company receivables to be taken on sales and also COMPUTE the maximum permissible bank finance for the company using 3 criteria of Tandon Committee Norms. (Assume stock of finished goods to be a core current asset)

Miscellaneous

10. (a) HIGHLIGHT the similarities and differences between Samurai Bond and Bull Dog Bond.
(b) EXPLAIN the process of Debt Securitisation.

SUGGESTED ANSWERS

1.

Liabilities	(₹)	Assets	(₹)
Equity Share Capital	12,50,000	Fixed Assets (cost)	20,58,000
Reserves & Surplus	2,50,000	Less: Acc. Depreciation	(3,43,000)
Long Term Loans	6,75,000	Fixed Assets (WDV)	17,15,000
Bank Overdraft	60,000	Stock	2,30,000
Payables	4,00,000	Receivables	2,62,500
		Cash	4,27,500
Total	26,35,000	Total	26,35,000

PAPER – 8: FINANCIAL MANAGEMENT & ECONOMICS FOR FINANCE**PART A: FINANCIAL MANAGEMENT****QUESTIONS****Ratio Analysis**

1. From the following table of financial ratios of Prabhu Chemicals Limited, comment on various ratios given at the end:

Ratios	2021	2022	Average of Chemical Industry
Liquidity Ratios			
Current ratio	2.1	2.3	2.4
Quick ratio	1.4	1.8	1.4
Receivable turnover ratio	8	9	8
Inventory turnover	8	9	5
Receivables collection period	46 days	41 days	46 days
Operating profitability			
Operating income –ROI	24%	21%	18%
Operating profit margin	18%	18%	12%
Financing decisions			
Debt ratio	45%	44%	60%
Return			
Return on equity	26%	28%	18%

COMMENT on the following aspect of Prabhu Chemicals Limited

- (i) Liquidity
- (ii) Operating profits
- (iii) Financing
- (iv) Return to the shareholders

Cost of Capital

2. Jason Limited is planning to raise additional finance of ₹ 20 lakhs for meeting its new project plans. It has ₹ 4,20,000 in the form of retained earnings available for investment purposes. Further details are as following:

2

INTERMEDIATE EXAMINATION: NOVEMBER 2023

Debt / Equity Mix	30 / 70
Cost of Debt	
Upto ₹ 3,60,000	8 % (before tax)
Beyond ₹ 3,60,000	12 % (before tax)
Earnings per share	₹ 4
Dividend pay-out	50% of earnings
Current Market Price per share	₹ 44
Expected Growth rate in Dividend	10 %
Tax	40%

You are required:

- To determine the cost of retained earnings and cost of equity.
- To determine the post-tax average cost of additional debt.
- To determine the pattern for raising the additional finance, and
- Compute the overall weighted average after tax cost of additional finance.

Capital Structure

3. Prakash Limited provides you the following information:

	(₹)
Profit (EBIT)	3,00,000
Less: Interest on Debenture @ 10%	(50,000)
EBT	2,50,000
Less Income Tax @ 50%	(1,25,000)
	1,25,000
No. of Equity Shares (₹ 10 each)	25,000
Earnings per share (EPS)	5
Price /EPS (PE) Ratio	10

The company has reserves and surplus of ₹ 7,50,000 and required ₹ 5,00,000 further for modernisation. Return on Capital Employed (ROCE) is constant. Debt (Debt/ Debt + Equity) Ratio higher than 40% will bring the P/E Ratio down to 8 and increase the interest rate on additional debts to 12%. You are required to ASCERTAIN the probable price of the share.

- If the additional capital is raised as debt; and
- If the amount is raised by issuing equity shares at ruling market price

PAPER – 8: FINANCIAL MANAGEMENT & ECONOMICS FOR FINANCE**3****Leverage**

4. The capital structure of ABC Ltd. for the year ended 31st March 2022 consisted as follows:

Particulars	Amount in ₹
Equity share capital (face value ₹ 100 each)	20,00,000
10% debentures (₹ 100 each)	20,00,000

During the year 2021-22, sales decreased to 1,00,000 units as compared to 1,20,000 units in the previous year. However, the selling price stood at ₹ 15 per unit and variable cost at ₹ 10 per unit for both the years. The fixed expenses were at ₹ 2,00,000 p.a. and the income tax rate is 30%.

You are required to CALCULATE the following:

- The degree of financial leverage at 1,20,000 units and 1,00,000 units.
- The degree of operating leverage at 1,20,000 units and 1,00,000 units.
- The percentage change in EPS.

Investment Decisions

5. PQR Limited is considering buying a new machine which would have a useful economic life of five years, at a cost of ₹ 40,00,000 and a scrap value of ₹ 5,00,000, with 80 per cent of the cost being payable at the start of the project and 20 per cent at the end of the first year. The machine would produce 80,000 units per annum of a new product with an estimated selling price of ₹ 400 per unit. Direct costs would be ₹ 375 per unit and annual fixed costs, including depreciation calculated on a straight- line basis, would be ₹ 10,40,000 per annum.

In the first year and the second year, special sales promotion expenditure, not included in the above costs, would be incurred, amounting to ₹ 1,25,000 and ₹ 1,75,000 respectively.

EVALUATE the project using the NPV method of investment appraisal, assuming the company's cost of capital to be 12 percent.

Management of Receivables (Debtors)

6. A regular customer of your company has approached to you for extension of credit facility for purchasing of goods. On analysis of past performance and on the basis of information supplied, the following pattern of payment schedule emerges:

Pattern of Payment Schedule	
At the end of 30 days	20% of the bill
At the end of 60 days	30% of the bill.

4

INTERMEDIATE EXAMINATION: NOVEMBER 2023

At the end of 90 days	30% of the bill
At the end of 100 days	18% of the bill
Non-recovery	2% of the bill

The customer wants to enter into a firm commitment for purchase of goods of ₹ 40 lakhs in 2022, deliveries to be made in equal quantities on the first day of each quarter in the calendar year. The price per unit of commodity is ₹ 400 on which a profit of ₹ 20 per unit is expected to be made. It is anticipated that taking up of this contract would mean an extra recurring expenditure of ₹ 20,000 per annum. If the opportunity cost is 18% per annum, would you as the finance manager of the company RECOMMEND the grant of credit to the customer? Assume 1 year = 360 days.

Risk Analysis in Capital Budgeting

7. An enterprise is investing ₹ 200 lakhs in a project. The risk-free rate of return is 7%. Risk premium expected by the Management is 7%. The life of the project is 5 years. Following are the cash flows that are estimated over the life of the project.

Year	Cash flows (₹ In lakhs)
1	50
2	120
3	150
4	160
5	130

CALCULATE Net Present Value of the project based on Risk free rate and also on the basis of Risks adjusted discount rate.

Dividend Decisions

8. HM Ltd. is listed on Bombay Stock Exchange which is currently been evaluated by Mr. A on certain parameters.

Mr. A collated following information:

- The company generally gives a quarterly interim dividend. ₹ 2.5 per share is the last dividend declared.
- The company's sales are growing by 20% on a 5-year Compounded Annual Growth Rate (CAGR) basis, however the company expects following retention amounts against probabilities mentioned as contention is dependent upon cash requirements for the company. Rate of return is 10% generated by the company.

PAPER – 8: FINANCIAL MANAGEMENT & ECONOMICS FOR FINANCE**5**

Situation	Prob.	Retention Ratio
A	30%	50%
B	40%	60%
C	30%	50%

- (c) The current risk-free rate is 3.75% and with a beta of 1.2 company is having a risk premium of 4.25%.

You are required to help Mr. A in calculating the current market price using Gordon's formula.

Management of working Capital

9. Consider the following figures and ratios:

(i) Sales for the year (all credit)	₹ 1,05,00,000
(ii) Gross Profit ratio	35 percent
(iii) Fixed assets turnover (based on cost of goods sold)	1.5
(iv) Stock turnover (based on cost of goods sold)	6
(v) Liquid ratio	1.5:1
(vi) Current ratio	2.5:1
(vii) Receivables (Debtors) collection period	1 month
(viii) Reserves and surplus to Share capital	1:1.5
(ix) Capital gearing ratio	0.7875
(x) Fixed assets to net worth	1.3 : 1

You are required to PREPARE:

- (a) Balance Sheet as on 31/3/2022 based on above details.
 (b) The statement showing working capital requirement if the company wants to make a provision for contingencies @ 14 percent of net working capital.

Miscellaneous

10. (a) EXPLAIN agency problem and agency cost. How to address the issues of the same.
 (b) DESCRIBE the inter relationship between investing, financing, and dividend decisions.
 (c) STATE the meaning of debt securitization.



PAPER – 6: FINANCIAL MANAGEMENT AND STRATEGIC MANAGEMENT

6A: FINANCIAL MANAGEMENT



QUESTIONS

Division A: Case Scenario

Working Capital

1. ArMore LLP is a newly established startup dealing in manufacture of a revolutionary product HDHMR which is a substitute to conventional wood and plywood. It is an economical substitute for manufacture of furniture and home furnishing. It has been asked by a venture capitalist for an estimated amount of funds required for setting up plant and also the amount of circulating capital required. A consultant hired by the entity has advised that the cost of setting up the plant would be ₹ 5 Crores and it will require 1 year to make the plant operational. The anticipated revenue and associated cost numbers are as follows:

Units to be sold = 3 lakh sq metres p.a.

Sale Price of each sq mtr = ₹ 1000

Raw Material cost = ₹ 200 per sq mtr

Labour cost = ₹ 50 per hour

Labour hours per sq mtr = 3 hours

Cash Manufacturing Overheads = ₹ 75 per machine hour

REVISION TEST PAPER**INTERMEDIATE EXAMINATION**

Machine hours per sq mtr = 2 hours

Selling and credit administration Overheads = ₹ 250 per sq mtr

Being a new product in the industry, the firm will have to give a longer credit period of 3 months to its customers. It will maintain a stock of raw material equal to 15% of annual consumption. Based on negotiation with the creditors, the payment period has been agreed to be 1 month from the date of purchase. The entity will hold finished goods equal to 2 months of units to be sold. All other expenses are to be paid one month in arrears. Cash and Bank balance to the tune of ₹ 25,00,000 is required to be maintained.

The entity is also considering reducing the working capital requirement by either of the two options: a) reducing the credit period to customers by a month which will lead to reduction in sales by 5%. b) Engaging with a factor for managing the receivables, who will charge a commission of 2% of invoice value and will also advance 65% of receivables @ 12% p.a. This will lead to savings in administration and bad debts cost to the extent of ₹ 20 lakhs and 16 lakhs respectively.

The entity is also considering funding a part of working capital by bank loan. For this purpose, bank has stipulated that it will grant 75% of net current assets as advance against working capital. The bank has quoted 16.5% rate of interest with a condition of opening a current account with it, which will require 10% of loan amount to be minimum average balance.

You being an finance manager, has been asked the following questions:

- (i) The anticipated profit before tax per annum after the plant is operational is
- (A) 750 Lakhs
(B) 570 Lakhs
(C) 370 Lakhs
(D) 525 Lakhs
- (ii) The estimated current assets requirement in the first year of operation (debtors calculated at cost) is

REVISION TEST PAPER**FINANCIAL MANAGEMENT AND
STRATEGIC MANAGEMENT**

- (A) 9,42,50,000
 (B) 2,17,08,333
 (C) 7,25,41,667
 (D) 67,08,333
- (iii) The net working capital requirement for the first year of operation is
- (A) 9,42,50,000
 (B) 2,17,08,333
 (C) 7,25,41,667
 (D) 67,08,333
- (iv) The annualised % cost of two options for reducing the working capital is
- (A) 18.18% and 16.92%
 (B) 18.33% and 16.92%
 (C) 18.59% and 18.33%
 (D) 16.92% and 19.05%
- (v) What will be the Maximum Permissible Bank Finance by the bank and annualised % cost of the same?
- (A) 4,55,03,630 and 18.33%
 (B) 5,44,06,250 and 18.33%
 (C) 4,45,86,025 and 18.59%
 (D) 3,45,89,020 and 19.85%

Division B: Descriptive Questions**Ratio Analysis**

1. From the following information and ratios, PREPARE the Balance Sheet as on 31st March 2023 and Income Statement for the year ended on that date for Limelite & Co.

REVISION TEST PAPER

INTERMEDIATE EXAMINATION

Gross Profit	₹ 1,20,000
Shareholders' Funds	₹ 5,00,000
Gross Profit margin	40%
Net Profit Margin	10%
PBIT to PBT	2:1
Credit sales to Total sales	80%
Total Assets turnover	0.4 times
Inventory turnover (Use sales as turnover)	5 times
Average collection period (a 360 days year)	30 days
Current ratio	2
Operating expenses (excluding interest)	₹ 60,000
Long-term Debt to Equity	40%
Tax	Nil

Cost of Capital

2. Tutto Ltd. has following capital structure as on 31st December 2023, which is considered to be optimum:

	(₹)
12% Debenture	4,50,000
10% Preference share capital	1,50,000
Equity shares capital (2,00,000 shares)	24,00,000

The company's share has a current market price of ₹ 30.25 per share. The expected dividend per share in next year is 50 percent of the 2023 EPS. The EPS of last 10 years is as follows. The past trends are expected to continue:

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
EPS (₹)	1.180	1.311	1.456	1.616	1.794	1.99	2.209	2.452	2.723	3.023

The company can issue 14 percent new debenture and 12 percent new preference share. The company's debenture is currently selling at ₹ 99.

REVISION TEST PAPER**FINANCIAL MANAGEMENT AND
STRATEGIC MANAGEMENT**

The new preference issue can be sold at a net price of ₹ 9.90, paying a dividend of ₹ 1.25 per share. The company's marginal tax rate is 50%.

- (i) CALCULATE the after-tax cost (a) of new debts and new preference share capital, (b) of ordinary equity, assuming new equity comes from retained earnings.
- (ii) CALCULATE the marginal cost of capital for the new funds raised.
- (iii) How much can be spent for capital investment before new ordinary share must be sold? Marginal cost of capital remains to be constant. (Assuming that retained earnings available for next year's investment is 50% of 2023 earnings.)
- (iv) What will be marginal cost of capital (cost of fund raised in excess of the amount calculated in part (iii) if the company can sell new ordinary shares of ₹ 22 per share? Assuming both the cost of debt and of preference share capital to be constant.

Capital Structure

3. Following data is available in respect of two companies having same business risk:

Capital employed = ₹ 3,00,000, EBIT = ₹ 45,000 and $K_e = 12.5\%$

Sources	A Ltd	B Ltd
	Levered Company (₹)	Unlevered Company (₹)
Debt (@10%)	1,50,000	Nil
Equity	1,50,000	3,00,000

An investor is holding 20% shares in levered company. CALCULATE the increase in annual earnings of investor if he switches his holding from Levered to Unlevered company.

Leverage

4. From the following financial data of Company A and Company B, PREPARE their Income Statements.

	Company A (₹)	Company B (₹)
Variable Cost	88,000	50% of sales

REVISION TEST PAPER

INTERMEDIATE EXAMINATION

Fixed Cost	26,500	-
Interest Expenses	14,000	11,000
Financial Leverage	5 : 1	-
Margin of Safety	-	0.25
Income Tax Rate	30%	30%
EBIT	-	14,000

Investment Decisions

5. HMR Ltd. is considering replacing a manually operated old machine with a fully automatic new machine. The old machine had been fully depreciated for tax purpose but has a book value of ₹ 2,50,000 on 31st March. The machine has begun causing problems with breakdowns and it cannot fetch more than ₹ 40,000 if sold in the market at present. It will have no realizable value after 10 years. The company has been offered ₹ 1,50,000 for the old machine as a trade in on the new machine which has a price (before allowance for trade in) of ₹ 6,00,000. The expected life of new machine is 10 years with salvage value of ₹ 35,000.

Further, the company follows written down value method depreciation @ 10% but for tax purpose, straight line method depreciation is used considering that this is the only machine in the block of assets. A working capital of ₹ 50,000 will be needed and it will be released at the end of tenth year.

Given below are the expected sales and costs from both old and new machine:

	Old machine	New machine
Annual output	60,000 units	80,000 units
Selling price per unit	₹ 18	₹ 18
Annual operating hours	2,800	2,800
Material cost per unit	₹ 5	₹ 5
Labour cost per hour	₹ 50	₹ 75
Indirect cash cost per annum	₹ 1,00,000	₹ 1,75,000

From the above information, ANALYSE whether the old machine should be replaced or not if the opportunity cost of capital of the Company is 10%?

REVISION TEST PAPER**FINANCIAL MANAGEMENT AND
STRATEGIC MANAGEMENT**

The Income tax rate is 30%. Further assume that book profit is treated as ordinary income for tax purpose.

Also ESTIMATE the internal rate of return of the replacement decision.

All calculations to be calculated to 3 decimal places.

Dividend Decision

6. MCO Ltd. has a paid-up share capital of ₹ 10,00,000, face value of ₹ 10 each. The current market price of the shares is ₹20 each. The Board of Directors of the company has an agenda of meeting to pay a dividend of 25% to its shareholders. The company expects a net income of ₹ 5,20,000 at the end of the current financial year. Company also plans for a capital expenditure for the next financial year for a cost of ₹ 7,50,000, which can be financed through retained earnings and issue of new equity shares.

Company's desired rate of investment is 15%.

Required:

Following the Modigliani- Miller (MM) Hypothesis, DETERMINE value of the company when:

- (i) It does not pay dividend and
- (ii) It does pay dividend

Working Capital

7. PQ Ltd. has commenced new business segment in 2023-24. The following information has been ascertained for annual production of 25,000 units which is the full capacity.

	Cost per unit (₹)
Material	100
Labour and variable overhead expenses	50
Fixed manufacturing expenses	35
Depreciation	15
Selling expenses (80% variable)	10

REVISION TEST PAPER**INTERMEDIATE EXAMINATION**

In the first two years of operations, production and sales are expected to be as follows:

Year	Production (No. of units)	Sales (No. of units)
1	12,000	10,000
2	18,000	19,000

The selling price is expected to be ₹ 250 .

To assess the working capital requirements, the following additional information is available:

- | | | |
|-----|-----------------------------------|---|
| (a) | Stock of materials | 2 months' average consumption |
| (b) | Debtors | 1.5 month's average sales. |
| (c) | Cash balance | ₹ 50,000 |
| (d) | Creditors for supply of materials | 1 month's average purchase during the year. |
| (e) | Expenses | All expenses will be paid 1 month in advance during the year. |

Goods equal to 15% of the year's production (in terms of physical units) will be in process on the average requiring full materials but only 40% of the other expenses.

The management is also of the opinion to make 10% margin for contingencies on computed figure and value the closing stock at cost of production.

PREPARE, for the two years:

- A projected statement of Profit/Loss (Ignoring taxation); and
- A projected statement of working capital requirements on a cash cost basis.

Miscellaneous

- EXPLAIN as to how the wealth maximisation objective is superior to the profit maximisation objective
 - EXPLAIN the importance of trade credit and accruals as source of working capital. What is the cost of these sources?