CA FINAL

GROUP I – PAPER 2

ADVANCED FINANCIAL MANAGEMENT

(Series 4)

Time Allowed: - 3 Hours **Maximum Marks: 100**

This question paper comprises two parts, Part I and Part II.
Part I comprises MCQ & Part II comprises questions which require descriptive answers.

PART – I (MCQs)

All MCQs are compulsory

Question no. 1-15 carry 2 marks each

Case Study 1

In the bustling entrepreneurial landscape of India, numerous startups emerge every day, fueled by innovative ideas and ambitious dreams. Among the myriad challenges they face, financing, pitching to investors, and understanding regulatory frameworks are paramount. This case delves into the journey of a budding entrepreneur, Maya, and her startup venture, XYZ Pvt. Ltd., exploring the nuances of the Startup India initiative, innovative financing options, pitch presentations, the concept of unicorns, and modes of venture capital funding.

Maya founded XYZ Pvt. Ltd. in April 2022, envisioning a sustainable future powered by renewable energy solutions. As Maya embarks on her entrepreneurial journey, she encounters various challenges and opportunities that shape her startup's trajectory. The company also develops and markets a mobile application that provides personalized financial management solutions to users.

XYZ Pvt. Ltd. has been operational for two years and its turnover was less than 10 crore rupees in each year. It has raised seed funding from angel investors to support its business activities.

XYZ Pvt. Ltd. is engaged in providing technology-driven solutions, which align with the spirit of innovation and entrepreneurship promoted by the Startup India initiative; therefore, it seeks to register itself as a startup under the Startup India initiative to access various benefits such as tax exemptions, funding support, and regulatory relaxations offered by the government. This registration will not only provide the company with financial advantages but also enhance its credibility and visibility in the startup ecosystem, facilitating further growth and expansion opportunities.

You are required to answer the following:

1. Is XYZ Pvt. Ltd. eligible to be classified as a startup under the Startup India initiative?

(a) XYZ Pvt. Ltd. is eligible to be classified as a startup under the Startup India initiative since it fulfills the criteria of 10 years limit and turnover not exceeding 10 crore rupees since incorporation.

(b) XYZ Pvt. Ltd. is eligible to be classified as a startup under the Startup India initiative since it fulfills the criteria of 10 years limit and turnover not exceeding 10 crore rupees in last year.

(c) XYZ Pvt. Ltd. is eligible to be classified as a startup under the Startup India initiative since it fulfills the criteria of 10 years limit and turnover not exceeding 100 crore rupees since incorporation.

(d) XYZ Pvt. Ltd. is eligible to be classified as a startup under the Startup India initiative since it fulfills the criteria of 10 years limit and turnover not exceeding 100 crore rupees in last year.

2. Which of the following is not an innovative way to finance a startup?

(a) Peer-to-peer lending

(b) Venture capital funding

(c) Factoring accounts receivables

(d) Personal credit lines

3. What is the primary purpose of a pitch presentation for startups?

(a) Securing regulatory approvals

(b) Generating revenue from customers

(c) Convincing investors to invest in the business

(d) Establishing partnerships with competitors

4. Which stage of venture capital funding typically involves market expansion and product development for a profit-making company?

(a) Seed Money

(b) Start Up

(c) Third Round

(d) Fourth Round

5. In the context of XYZ Pvt. Ltd., which of the following accurately describes the implications of raising seed funding from angel investors?

(a) It indicates that XYZ has successfully completed the Fourth Round of venture capital funding.

(b) This funding typically involves securing loans from financial institutions to initiate business activities.

(c) It suggests that XYZ has attracted early-stage investment from individuals who provide capital and mentorship.

(d) Seed funding from angel investors implies direct government support through grants and subsidies.

Case Study 2

Mr. A is holding 1,000 shares of face value of ₹ 100 each of M/s. ABC Ltd. He wants to hold these shares for long term and have no intention to sell.

On 1st January 2023, M/s XYZ Ltd. has made short sales of M/s. ABC Ltd.'s shares and approached Mr. A to lend his shares under Stock Lending Scheme with following terms:

(i) Shares to be borrowed for 3 months from 01-01-2023 to 31-03-2023,

(ii) Lending Charges/Fees of 1% to be paid every month on the closing price of the stock quoted in Stock Exchange and

(iii) Bank Guarantee will be provided as collateral for the value as on 01-01-2023.

Other Information:

(a) Cost of Bank Guarantee is 8% per annum,

(b) On 28-02-2023 M/s. ABC Ltd., declared dividend of 25%,

(c) Closing Price of M/s. ABC Ltd.'s share quoted in Stock Exchange on various dates are as follows:

Date	Share Price in Scenario-1 Bullish	Share Price in Scenario-2 Bearish
01-01-2023	1,000	1,000
31-01-2023	1,020	980
28-02-2023	1,040	960
31-03-2023	1,050	940

You are required to answer the following:

6. **What is the total earning of Mr. A through the Stock Lending Scheme from 01-01-2023 to 31-03-2023 in Scenario 1?**

   (a) ₹ 31,100

   (b) ₹ 28,800

   (c) ₹ 56,100

   (d) ₹ 53,800

7. **In Scenario 2, what is the total profit or loss to M/s. XYZ from shortening the shares through the Stock Lending Scheme?**

   (a) Loss of ₹ 1,01,100

   (b) Loss of ₹ 11,200

   (c) Gain of ₹ 1,01,100

   (d) Gain of ₹ 11,200

8. **What is the earning of Mr. A through the Stock Lending Scheme on 28-02-2023 in Scenario 1?**

   (a) ₹ 10.20

   (b) ₹ 10.40

   (c) ₹ 9.80

   (d) ₹ 9.60

9. **How much dividend income per share did Mr. A receive on 31-01-2023 in Scenario 1?**

   (a) ₹ 25.00

   (b) ₹ 31.10

   (c) ₹ 56,100

   (d) ₹ 53,800

10. **What is the total earning of Mr. A from 01-01-2023 to 31-03-2023 in Scenario 2?**

    (a) ₹ 31,100

    (b) ₹ 28,800

    (c) ₹ 56,100

    (d) ₹ 53,800

Case Study 3

In the bustling world of financial markets, where volatility reigns supreme, one investor, let's call him Mr. X, finds himself at a crossroads, contemplating the purchase of call options on the equity shares of X Ltd. With a myriad of factors influencing market dynamics, Mr. X meticulously analyzes the current scenario. He as an investor had purchased a 4 months call option on the equity shares of X Ltd. for a premium of ₹ 10 each, the current market price of the share is ₹ 132 and the exercise price ₹ 150. You expect the price to range between ₹ 120 to ₹ 190.

The expected share price of X Ltd. and related probability is given below:

Expected Price (₹)	120	140	160	180	190
Probability	0.05	0.20	0.50	0.10	0.15

You are required to answer the following:

11. What is the expected share price of X Ltd. at the end of 4 months?

(a) ₹ 160.50

(b) ₹ 190

(c) ₹ 150

(d) ₹ 132

12. What is the value of the call option at the end of 4 months if the exercise price prevails?

(a) Nil

(b) ₹ 10

(c) ₹ 150

(d) ₹ 132

13. If the option is held to maturity, what will be the expected value of the call option?

(a) ₹ 0

(b) ₹ 5

(c) ₹ 14

(d) ₹ 40

14. What is the expected probability of exercising call option in above case?

(a) 0.10

(b) 0.15

(c) 0.50

(d) 0.75

15. If the market price goes below ₹ 150, what is the value of the call option?

(a) ₹ 0

(b) ₹ 10

(c) ₹ 30

(d) ₹ 40

PART – II (Descriptive Answers)

This part comprises 6 questions. Question No. 1 is compulsory. Attempt any 4 questions out of the remaining 5 questions.

Question 1A **(6 Marks)**

Mr. Tamarind intends to invest in equity shares of a company the value of which depends upon various parameters as mentioned below:

Factor	Beta	Expected value in %	Actual value in %
GNP	1.20	7.70	7.70
Inflation	1.75	5.50	7.00
Interest rate	1.30	7.75	9.00
Stock market index	1.70	10.00	12.00
Industrial production	1.00	7.00	7.50

Risk free rate of interest is 25 basis points over and above the actual interest rate.

(i) How much is the return of the share under Arbitrage Pricing Theory?

(ii) Also calculate return using CAPM.

Question 1B **(4 Marks)**

R Ltd. and S Ltd. operating in same industry are not experiencing any rapid growth but providing a steady stream of earnings. R Ltd.'s management is interested in acquisition of S. Ltd. due to its excess plant capacity. Share of S Ltd. is trading in market at ₹ 3.20 each.

Other data relating to S Ltd. is as follows:

Balance Sheet of S Ltd.

Liabilities	Amount (₹)	Assets	Amount (₹)
Current Liabilities	1,59,80,000	Current Assets	2,48,75,000
Long Term Liabilities	1,28,00,000	Other Assets	94,00,000
Reserve & Surplus	2,79,95,000	Property, Plants & Equipment	3,45,00,000
Share Capital	1,20,00,000		
(80 Lakhs shares of ₹ 1.5 each)			
Total	**6,87,75,000**	**Total**	**6,87,75,000**

Particulars	R Ltd. (₹)	S Ltd. (₹)	Combined Entity (₹)
Profit after Tax	86,50,000	49,72,000	1,21,85,000
Residual Net Cash Flows per year	90,10,000	54,87,000	1,85,00,000
Required return on equity	13.75%	13.05%	12.5%

You are required to compute the following:

(i) Minimum price per share S Ltd. should accept from R Ltd.

(ii) Maximum price per share R Ltd. shall be willing to offer to S Ltd.

(iii) Floor Value of per share of S Ltd., whether it shall play any role in decision for its acquisition by R Ltd.

Question 1C **(4 Marks)**

In recent time because of globalization, growth in information and communications, pandemic situation etc. their range of responsibilities has been drastically expanded, driven by complexity, and changing expectations. Now a days in addition to fulfilling traditional role relating to governance, compliances and controls, and business ethics as a part of the leadership of role CFOs are also expected to contribute their support in strategic and operational decision making. Explain.

Question 2A **(8 Marks)**

XYZ, an Indian firm, will need to pay JAPANESE YEN (JY) 5,00,000 on 30th June. In order to hedge the risk involved in foreign currency transaction, the firm is considering two alternative methods i.e. forward market cover and currency option contract.

On 1st April, following quotations (JY/INR) are made available:

Spot	3 months forward
1.9516/1.9711	1.9726/1.9923

The prices for forex currency option on purchase are as follows:

Strike Price	JY 2.125
Call option (June)	JY 0.047
Put option (June)	JY 0.098

For excess or balance of JY covered, the firm would use forward rate as future spot rate. You are required to recommend cheaper hedging alternative for XYZ.

Question 2B **(6 Marks)**

On 1st April, an open ended scheme of mutual fund had 300 lakh units outstanding with Net Assets Value (NAV) of ₹ 18.75. At the end of April, it issued 6 lakh units at opening NAV plus 2% load, adjusted for dividend equalization. At the end of May, 3 Lakh units were repurchased at opening NAV less 2% exit load adjusted for dividend equalization. At the end of June, 70% of its available income was distributed.

In respect of April-June quarter, the following additional information are available:

	₹ in lakh
Portfolio value appreciation	425.47
Income of April	22.950
Income for May	34.425
Income for June	45.450

You are required to calculate

(i) Income available for distribution;

(ii) Issue price at the end of April;

(iii) repurchase price at the end of May; and

(iv) net asset value (NAV) as on 30th June.

Note: Calculate figure in lakh upto 4 decimal points.

Question 3A **(8 Marks)**

New Projects Ltd. is evaluating 3 projects, P-I, P-II, P-III. Following information is available in respect of these projects:

	P-I	P-II	P-III
Cost	₹ 15,00,000	₹ 11,00,000	₹ 19,00,000
Inflows: Year 1	6,00,000	6,00,000	4,00,000
Year 2	6,00,000	4,00,000	6,00,000
Year 3	6,00,000	5,00,000	8,00,000
Year 4	6,00,000	2,00,000	12,00,000
Risk Index	1.80	1.00	0.60

Minimum required rate of return of the firm is 15% and applicable tax rate is 40%. The risk free interest rate is 10%.

Required:

(i) Find out the risk-adjusted discount rate (RADR) for these projects.

(ii) Which project is the best?

Question 3B **(6 Marks)**

Capital structure of Sun Ltd., as at 31.3.2022 was as under:

	(₹ in lakhs)
Equity share capital (Paid-up value per share is ₹ 100)	80
8% Preference share capital	40
12% Debentures	64
Reserves	32

Sun Ltd., earns a profit of ₹ 32 lakhs annually on an average before deduction of income-tax, which works out to 35%, and interest on debentures.

Normal return on equity shares of companies similarly placed is 9.6% provided:

(a) Profit after tax covers fixed interest and fixed dividends at least 3 times.

(b) Capital gearing ratio is 0.75.

(c) Yield on share is calculated at 50% of profits distributed and at 5% on undistributed profits.

Sun Ltd., has been regularly paying equity dividend of 8%.

Compute the value per equity share of the company assuming:

(i) 1% for every one time of difference for Interest and Fixed Dividend Coverage.

(ii) 2% for every one time of difference for Capital Gearing Ratio.

Question 4A **(6 Marks)**

With relaxation of norms in India for investment in international market upto $ 2,50,000, Mr. X to hedge himself against the risk of declining Indian economy and weakening of Indian Rupee during last few years, decided to diversify in the International Market.

Accordingly, Mr. X invested a sum of ₹ 1.58 crore on 1.1.2025 in Standard & Poor Index. On 1.1.2026, Mr. X sold his investment. The other relevant data is given below:

	1.1.2025	**1.1.2026**
Index of Stock Market in India	7395	?
Standard & Poor Index	2028	1919
Exchange Rate (₹/$)	62.00/62.25	67.25/67.50

You are required to calculate:

(i) The return for a US investor.

(ii) Holding Period Return to Mr. X.

(iii) The value of Index of Stock Market in India as on 1.1.2026 at which Mr. X would be indifferent between investment in Standard & Poor Index and Indian Stock Market.

Question 4B **(4 Marks)**

B International Ltd. (BIL) has purchased 5 years 15.28% convertible debentures on 1.04.2021. The convertible debentures will mature on 31.03.2026. Each debenture can be converted into 20 equity shares of face value of ₹ 1 at any point of time but before maturity. Debentures will be redeemed at ₹ 100 on maturity.

The required rate of return of BIL is 10% per annum on a 5-year security.

The Reputed, a consultant has projected the following price behaviour of the shares:

Period		**Price Range (₹)**		
From	**To**	**Passive**	**Most likely**	**Optimistic**
1.04.2021	31.12.2022	4	4.5	5
1.01.2023	30.06.2025	4.5	6.5	7
1.07.2025	31.03.2026	3.5	5	5.5

BIL, as a matter of policy, rounds up the amount. You are required to calculate

(a) The break-even price at which the debentures can be converted

(b) The ideal period in which BIL shall convert and dispose of the shares

Given:

PVIF (10%, 5) 0.6209 PVIFA (10%, 5) 3.7908

Question 4C **(4 Marks)**

Reporting of securitized assets in the books of originator is another area of concern. Although securitization is slated to an off balance sheet instrument but in true sense receivables are removed from originator's balance sheet. Which obstacle is this in the growth of securitization? Also discuss all other obstacles in process of securitisation.

Question 5A **(6 Marks)**

From the following data for certain stock, find the value of a call option:

Price of stock now	₹ 80
Exercise price	₹ 75
Standard deviation of continuously compounded annual return	0.40
Maturity period	6 months
Annual interest rate	12%

Note: Round off z value upto 4 decimal points and all other calculations upto 2 decimal points.

Given:

ln(1.0667) = 0.0646

$e^{0.06} = 1.062$

Area of the left or right (one tail) of Number of S.D. from Mean:

Number of S.D. from Mean, (z)	Area of the left or right (one tail)
0.25	0.4013
0.30	0.3821
0.55	0.2912
0.60	0.2743

Question 5B **(4 Marks)**

On 30th June 2021, PNB Bank proposes to borrow a sum of ₹ 400 crore from CB Bank via Repo @ 11.65% using 10.00% GOI Securities 2031 (face value ₹ 10,000) for a period of 14 days with a 3.00% haircut.

The current price of the securities is ₹ 9,872. The coupon dates are 30 April and 30 September. You are required to determine:

(i) Nominal Amount as well as No. of Securities to be delivered in the beginning of the Repo.

(ii) The cash amount to be repaid at the end of the Repo.

Question 5C **(4 Marks)**

"In Deal Structuring, in many structures to facilitate the exit, the Venture Capital may put a tag-along clause". What do you mean by that clause? Explain Deal Structuring and Exit Plan to Venture Capital Investment Process.

Question 6A **(8 Marks)**

Five portfolios experienced the following results during a 7 year period:

Portfolio	Average Annual Return (R_p) (%)	Standard Deviation (S_p)	Correlation with the market returns (r)
A	19.0	2.5	0.840
B	15.0	2.0	0.540

C	15.0	0.8	0.975
D	17.5	2.0	0.750
E	17.1	1.8	0.600
Market Risk (σ_m)		1.2	
Market rate of Return (R_m)	14.0		
Risk-free Rate (R_f)	9.0		

Rank the portfolios using (a) Sharpe's method, (b) Treynor's method and (c) Jensen's Alpha

Question 6B **(6 Marks)**

In March 2025, SMD Bank sold 7% Interest Rate Futures underlying Notional 7.5% Coupon Bonds. The exchange provides following details of eligible securities that can be delivered:

Security	Quoted Spot Price of Bonds	Conversion Factor
6.55 GOI 2028	9,264	0.9060
6.80 GOI 2032	8,775	0.9195
6.85 GOI 2029	9,723	0.9643
8.44 GOI 2030	11,463	1.1734
8.85 GOI 2031	12,017	1.2428

Recommend the Cheapest to Deliver (CTD) security that should be delivered by SMD Bank if Future settlement price is 10,000.