The WAY CA test series – SEPT 2025

CA FINAL **P2: ADVANCED FINANCIAL MANAGEMENT** **13.07.2025**

[SYLLABUS : DERIVATIVES, IRRM]

TIME : 2 HRS **Maximum Marks : 70**

All Question Papers are uploaded Here ⬇

https://t.me/catestseries_thewaychannel

GENERAL INSTRUCTIONS TO CANDIDATES

1. Write your name and subject name at the top of the first page of your answer sheet
2. The question paper comprises of two parts, Part I and Part II.
3. Part I comprises of MCQs and Part II comprises of descriptive questions.
4. Working notes should form part of answer, if any.
5. Answers should be written only in English.
6. Duration of the examination is 2 hrs only.
7. Students who want to get their paper evaluated follow the instructions given in the channel link above.

PART I

1. Answer all MCQs
2. After each MCQ, four options are given. Choose the correct and most appropriate option, and write the letter corresponding to that option on the first page of your answer sheet.

PART II

1. Question paper comprises 4 questions.

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PART I — 14 Marks

1. On 31-8-2011, the value of stock index was ₹ 2,200. The risk free rate of return has been 8% per annum. The dividend yield on this Stock Index is as under:

Month	Dividend Paid (p.a.)
January	3%
February	4%
March	3%
April	3%
May	4%
June	3%
July	3%
August	4%
September	3%
October	3%
November	4%
December	3%

Assuming that interest is continuously compounded daily, find out the future price of contract deliverable on 31-12-2011. Given: e0.01583 =1.01593, e-0.01583 =0.98429, e0.08 = 1.0833, e0.0325 = 1.0330 **(1 × 2 = 2)**

a) ₹ 2,165.49

b) ₹ 2,272.67

c) ₹ 2,383.23

d) ₹ 2,235.05

Case Study - 1

X and Y are two friends. Since Y has earned a lot of profit from trading in financial derivative market, X is also considering speculating on Gamma Corporation's shares which is currently trading at ₹ 700 per share through taking positions in options in stocks of same company. Accordingly, X took following contract positions in the options on Gama Corporation's stock:

i. Purchasing one contract of 2-month call option with a premium of ₹ 35 and an exercise price of ₹ 750.
ii. Purchasing one contract of 2-month put option with a premium of ₹ 25 and an exercise price of ₹ 600.

After some time, trading in Option Market and understanding the nitty-gritties of same, X being CEO in an organization advised his team to implement the concept of Financial Options in the Capital Budgeting decisions called 'Real Option'.

On the basis of the information provided above, you are required to choose the most appropriate answer to the below mentioned questions 2 to 5

(3 × 2 = 6)

2. Assuming that the contract size of each option contract is 100 and the price of Gama Corporation's share after two months falls to ₹ 550, the net pay-off of X will be……

a) ₹ 1,000 Loss
b) ₹ 1,000 Profit
c) ₹ 3,000 Profit
d) ₹ 3,000 Loss

3. The per share price of Gama Corporation's stock after 2 months at which X shall be at Break Even is…..
   a) ₹ 540
   b) ₹ 600
   c) ₹ 625
   d) ₹ 785

4. Which of the following statement is false regarding Real Options?
   a) Real Options methodology is an approach to capital budgeting that relies on Option Pricing theory to evaluate projects.
   b) Real options approach is intended to supplement, and not replace, capital budgeting analyses based on standard Discounted Cash Flow (DCF) methodologies.
   c) Real options are different from financial options as their periods start from the end of 1st year and are higher than financial options.
   d) Real options are normally traded in the market and are priced.

Case Study - 2

P Ltd., a dealer quotes 'All-in-cost' for a generic swap at 8% against six months LIBOR flat. If the Notional principal amount of swap is ₹5,00,000 :

Note: Generic swap is based on 30/360 days basis. **(3 × 2 = 6)**

5. Calculate semi-annual fixed payment.
   a) ₹ 10,000
   b) ₹ 20,000

c) ₹ 30,000

d) ₹ 40,000

6. Find the first floating rate payment for (i) above if the six month period from the effective date of swap to the settlement date comprises 181 days and that the corresponding LIBOR was 6% on the effective date of swap

a) ₹ 30,000

b) ₹ 15,083

c) ₹ 14,644

d) ₹ 16,000

7. In (ii) above, if the settlement is on 'net' basis, how much the fixed rate payer would pay to the floating rate payer

a) ₹ 15,083

b) ₹ 20,000

c) ₹ 4,917

d) ₹ 5,917

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PART – II | 56 Marks

Question : 1(a) | 6 Marks

Mr. V is a commodity trader and specialized himself in trading of rice. He has 24,000 Kg. of rice.

The following details are available as on date:

Spot price	₹/Kg. 70
3 month's future is trading at	₹/Kg 68
Expected Lower price after 3 months	₹/Kg 64
Contract size	500 Kg./ contract

You are required to advise to Mr. V:

i. How to mitigate the risk of fall in price.

ii. How to use the futures market.

iii. What will be the effective realized price for his sales if, after 3 months, spot price is ₹ 69/ Kg. and the 3 months future contract price is

a) ₹ 72/ Kg.

b) ₹ 67/Kg.

Question : 1(b) | 4 Marks

Derivative Bank entered into a plain vanilla swap through on OIS (Overnight Index Swap) on a principal of ₹10 crores and agreed to receive MIBOR overnight floating rate for a fixed payment on the principal. The swap was

entered into on Monday, 2nd August, 2010 and was to commence on 3rd August, 2010 and run for a period of 7 days.

Respective MIBOR rates for Tuesday to Monday were: 7.75%, 8.15%, 8.12%, 7.95%, 7.98%, and 8.15%. If Derivative Bank received 317 net on settlement calculate fixed rate and interest under both legs.

Notes:

(a) Sunday is Holiday.
(b) Work in rounded rupees and avoid decimal working

Question : 1(c) **4 Marks**

Mr. SG sold five 4 – Month Nifty Futures on 1st February 2020 for ₹ 9,00,000. At the time of closing of trading on the last Thursday of May 2020 (expiry), Index turned out to be 2100. The contract multiplier is 75.

Based on the above information calculate:

i. The price of one Future Contract on 1st February 2020.
ii. Approximate Nifty Sensex on 1st February 2020 if the Price of Future Contract on same date was theoretically correct. On the same day Risk Free Rate of Interest and Dividend Yield on Index was 9% and 6% p.a. respectively.
iii. The maximum Contango / Backwardation.
iv. The pay – off of the transaction.

Note: Carry out calculation on month basis.

Question : 2(a) **5 Marks**

XYZ Limited borrows £15 M illion of six months LIBOR 10.00% for a period of 24 months. The company anticipates a rise in LIBOR; hence it proposes to buy a Cap Option from its Bankersat the strike rate of 8.00%. The lump sum premium is 1.00% for the entire reset periods and the f ixed rate of interest is 7.00% per annum. The actual position of LIBOR during the forthcoming reset period is as under:

RESET PERIOD	LIBOR
1	9.00%
2	9.50%
3	10.00%

You are required to show how far interest rate risk is hedged through Cap Option.

For calculation, work out figures at each stage up to four decimal points and amount nearest to £.

Question : 2(b) **5 Marks**

The price of ACC stock on 31 December 2022 was ₹ 220 and the Futures price on the same stock on the same date, i.e., 31 December 2022 for March 2023 was ₹ 222. Other features of the Futures contract and related information are as follows:

Time to expiration - 3 months (0.25 year)

Borrowing rate - 15% p.a.

Annual Dividend on the stock - 25% payable before 31.03. 2023

Face Value of the Stock - ₹ 10

Advise the investor the course of action to be followed by him so as to earn Risk free income if he can sell the stock short at spot price.

Question : 2(b) **4 Marks**

Define Interest Rate Swaption. State its principal features.

Question : 3(a) **7 Marks**

On April 1, 2015, an investor has a portfolio consisting of eight securities as shown below:

Security	Market Price	No. of Shares	Value
A	29.40	400	0.59
B	318.70	800	1.32
C	660.20	150	0.87
D	5.20	300	0.35
E	281.90	400	1.16
F	275.40	750	1.24
G	514.60	300	1.05
H	170.50	900	0.76

The cost of capital for the investor is 20% p.a. continuously compounded. The investor fears a fall in the prices of the shares in the near future. Accordingly, he approaches you for the advice to protect the interest of his portfolio.

You can make use of the following information:

1) The current NIFTY value is 8500.
2) NIFTY futures can be traded in units of 25 only.
3) Futures for May are currently quoted at 8700 and Futures for June are being quoted at 8850.

You are required to calculate:

i. the beta of his portfolio.
ii. the theoretical value of the futures contract for contracts expiring in May and June.
Given (e0.03 =1.03045, e0.04 = 1.04081, e0.05 =1.05127)
iii. the number of NIFTY contracts that he would have to sell if he desires to hedge until June in each of the following cases:
   a) His total portfolio
   b) 50% of his portfolio
   c) 120% of his portfolio

Question : 3(b) **7 Marks**

IF an Indian firm has its subsidiary in Singapore and SF a Singapore firm has its subsidiary in India and face the following interest rates:

Company	IF	SF
INR Floating Rate	BPLR+0.5%	BPLR+1.5%
SGD (Fixed Rate)	3%	3.50%

SF wishes to borrow Rupee loan at a floating rate and IF wishes to borrow SGD at a fixed rate. The amount of loan required by both the companies is same at the current exchange rate. A Ban arranges a swap and requires 50 basis points as its commission, which is to be shared equally. IF requires a minimum gain of 20 basis points and SF requires a minimum gain of 10 basis points for structuring the deal. The Bank is very keen to structure the deal, even if, it has to forego a part of its commission.

You are required to find out:

i. Whether there are any advantages available to IF and SF?
ii. Whether a swap can be arranged which may be beneficial to both the firms?
iii. What rate of interest will they end up paying? Show detailed working.

Question : 4(a) **7 Marks**

The shares of TIC Ltd. are currently priced at ₹415 and call option exercisable in three months' time has an exercise rate of ₹400. Risk free rate of interest is 5% p.a. and standard deviation (Volatility) of share price is 22%.

i. Based on the assumption that TIC Ltd. is not going to declare any dividend over the next three months, is the option worth buying for ₹ 25
ii. Calculate value of the call option based on Black Scholes valuation model if the current price is considered as ₹ 380
iii. What would be the worth of put option if the current price is considered ₹ 380
iv. If TIC share price is taken as ₹408 and a dividend of ₹10 is expected to be paid in the two months' time then calculate value of the call option.

Given: In(1.0375) = 0.03681 ; In(0.95) = -0.05129 ; In (0.9952) = -0.00481

$e^{0.0125}$ = 1.012578 ; $e^{0.008333}$ = 1.0084

Cumulative Area of Number of S.D. from Mean:

Z	0.0150	0.1250	0.3933	0.5033	-0.2976	-0.4076
Area	0.5060	0.5497	0.6530	0.6926	0.3830	0.3418

Question : 4(b) **7 Marks**

Electraspace is consumer electronics wholesaler. The business of the firm is highly seasonal in nature. In 6 months of a year, firm has a huge cash deposits and especially near Christmas time and other 6 months firm cash crunch, leading to borrowing of money to cover up its exposures for running the business.

It is expected that firm shall borrow a sum of €50 million for the entire period of slack season in about 3 months.

A Bank has given the following quotations:

Spot	5.50% - 5.75%
3 × 6 FRA	5.59% - 5.82%
3 × 9 FRA	5.64% - 5.94%

3 months €50,000 future contract maturing in a period of 3 months is quoted at 94.15 (5.85%).

You are required to determine:

i. How an FRA, shall be useful if the actual interest rate after 3 months turnout to be:

   a) 4.5%

   b) 6.5%

ii. How 3 months Future contract shall be useful for company if interest rate turns out as mentioned in part (a) above.

ALL THE BEST