Enrolment No. _____

AHMEDABAD UNIVERSITY

AMRUT MODY SCHOOL OF MANAGEMENT

UNDERGRADUATE / GRADUATE PROGRAMMES

2025-2026 MONSOON SEMESTER

END SEMESTER EXAMINATION

FAC633 SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT

Date: 07-12-2025 Total Marks: 25

Time: 08.00 am – 09.30 am No. of printed pages: 03

General Instructions:

1. Students must carry their identity card during the examination.
2. No break is allowed during the examination under any circumstances. In case of an emergency, with prior permission of the invigilator and an escort, a break of maximum five minutes is allowed.
3. No unauthorized devices, such as mobile phones, any kind of watches, other gadgets, or any kind of material is allowed on person.
4. Any violation of examination rules and an intent of malpractice will lead to strict disciplinary action, including a possible expulsion from the university.

Course Specific Instructions:

1. This is a closed-book, closed-notes exam. Students have to answer all five questions.
2. Students have a choice in Question 3. They can answer question 3 OR [3a & 3b]
3. Total Duration of this exam: 1 hours and 30 minutes.
4. Only scientific calculator usage is allowed.
5. Students are prohibited from using cell phones, computers, laptops, or for that matter any electronic gadget.
6. For all questions, a student has to show how he/she has arrived at the answer. Students have to state the frameworks/equations employed to arrive at the answer in a logically progressive manner.
7. Finally, students should write legibly.

1. Consider the following details pertaining to a portfolio managed by Mr. Anush Nambi and the benchmark associated with the portfolio. Using attribution analysis, calculate selection effect and allocation effect for the portfolio under consideration. All things considered, did Anush Nambi add value through his selection skills, his allocation (timing) skills, or both? **[5 Marks]**

Weights	
Policy (benchmark)	**Actual Portfolio**
40% Stocks	50% Stocks
50% Bonds	35% Bonds
10% Hybrid Securities	15% Hybrid Securities
Returns	
Index (benchmark)	**Actual Portfolio**
12% Stocks	14% Stocks
6% Bonds	8% Bonds
8% Hybrid Securities	10% Hybrid Securities

2. Portfolio P constitutes assets A and B. Asset A is 7% annual coupon-paying bond with a tenor of 4 years, while asset B is a 5Y zero bond. The market interest rate is 9%. Assume annual compounding and a par value of ₹ 1000 for this exercise. Should portfolio P be immunized to meet liability payments of (a) ₹ 3,50,000 four years from now and (b) ₹ 3,25,000 five years from now, then derive

   a. prices of assets A and B

   b. quantity of assets A and B that form part of the portfolio P. In other words, derive the number of bonds of assets A and B that make up portfolio.

[5 Marks]

3. What does Jensen's alpha signify? How can it be estimated? How can downside risk (DR) construct in Sortino Measure be estimated? Can DR be negative? **[5 Marks]**

OR

3a. What was the essence of Jane Street Saga that effected the Indian Capital Markets **[3 marks]**

3b. You read this bond quote a few days back on Clearing Corporation of India website "8% GOI 2035 98.76 Yield 6.5071", explain how to read this quote and what is the relationship between Price and Yield , also what is meant by Clean Price and Dirty Price in case of Bonds **[2 Marks]**

4. Patel & Sons had a free cashflow to firm (FCF) of INR 42 million for the year ending December 31, 2024. The firm anticipates a growth rate of 8% for the next four years due to favourable economic conditions. However, the growth rate is expected to decline to 4.25% after four years and remain at that level indefinitely. The firm's cost of capital is 12% for the next four years while its steady-state cost of capital is 11%. Estimate the enterprise value of the firm at the end of the 8% growth period, four years from now (@t=4. Also estimate the firm's enterprise value today.

[5 Marks]

5. As an investor, you have an option to invest in two bonds whose characteristics are as follows.

	Bond A	Bond B
Face Value	Rs 100	Rs 100
Coupon rate	9%	11%
Time to maturity	3 years	4 Years

Assume a flat yield curve of 10% and annual compounding. Estimate the following.

a) Price of both the bonds **[2 Marks]**
b) Macaulay's duration and Modified duration of both the bonds **[3 Mark]**