Roll No……

GL BAJAJ Institute of Management & Research, PGDM Institute, Greater Noida
FIND YOUR SPARK

Plot No. 2, Knowledge Park-III, Greater Noida (U.P.) –201306

POST GRADUATE DIPLOMA IN MANAGEMENT (2024-26)
END TERM EXAMINATION (TERM -V)

Subject Name: **Fixed Income Security** Time: **02.00 hrs**
Sub. Code: **PGF53** Max Marks: **40**

Note:

Note: All questions are compulsory. Section A carries 12 marks: 6 questions of 2 marks each, Section B carries 18 marks having 3 questions (with internal choice question in each) of 6 marks each and Section C carries 10 marks one Case Study having 2 questions of 5 marks each.

Kindly write the all the course outcomes as per your TLEP in the box given below:

S. No.	Course Outcomes (COs)	Bloom's Taxonomy Level
CO-1	Identify and evaluate the structural features of various fixed income instruments and analyze the diverse risks—including interest rate, credit, and liquidity risks—that impact investors in the fixed income market.	**Evaluate** -L-5
CO-2	Apply discounted cash flow (DCF) techniques and Time Value of Money (TVM) principles to accurately price zero-coupon and coupon bonds, while interpreting the fundamental inverse relationship between bond prices and yields.	**Apply** -L-3
CO-3	Measure bond price sensitivity using duration and convexity and assess how these tools, along with immunization techniques, are used to manage interest rate risk in fixed income portfolios.	**Analyze** -L-4

SECTION - A

Attempt all questions. All questions are compulsory. 2×**6 = 12 Marks**

Questions	CO	Bloom's Level
Q. 1 (A): Analyze how a sudden credit rating downgrade of a major infrastructure firm would simultaneously affect the **Credit Risk** and the **Liquidity Risk** of its outstanding debentures.	CO-1	L-5
Q. 1 (B): How Amortization of security works?	CO-1	L-3
Q. 1 (C): Differentiate between Assets backed Securities and Mortgage Backed securities.	CO-1	L-5
Q. 1 (D): A zero-coupon bond with a par value of $10,000 due in five years from now is selling today for $9,000. What is the yield to maturity?	CO-2	L-3
Q. 1 (E): Consider a bond paying a coupon rate of 8% per year semiannually when the market interest rate is only 7% per annum. The bond has five years until maturity. Find today's bond price.	CO-2	L-2
Q.1: (F). What will be the relationship among coupon rate, current yield and yield to maturity for a bond selling at discount from par?	CO-2	L-5

SECTION – B

All questions are compulsory (Each question have an internal choice. Attempt any one (either A or B) from the internal choice) **6 x 3 = 18 Marks**

Questions	CO	Bloom's Level
Q. 2: (A). Compare a Callable Corporate Bond with a Putable Corporate Bond in a volatile interest rate environment. If you anticipate a sharp decline in market rates over the next 24 months, evaluate which instrument offers a better	CO-1	L-4

risk-reward profile for the investor. Justify your choice by assessing the impact of interest rate risk and the "embedded option" value. **Or**		
Q. 2: (B). A portfolio manager is considering two fixed-income instruments: a Zero-Coupon Bond and a Coupon Bond, both having the same 10-year maturity. Evaluate which instrument is more sensitive to interest rate fluctuations. Critique the statement: *"Maturity is the only structural feature that determines a bond's price sensitivity to interest rate changes."*	CO-1	L-4
Q. 3: (A). Bond of NTPC, with a par vale -1000, is trading at Rs 960. The bond will mature in the next 5 years, and have a 7% annual coupon rate paid semiannually. Calculate: i. Current yield and ii. Yield to maturity	CO-2	L-3
Or		
Q. 3: (B). Analyze the "Inverse Relationship" between bond prices and yields. If the Reserve Bank of India (RBI) unexpectedly increases the Repo Rate, examine the structural reasons why existing fixed-rate coupon bonds see an immediate price decline. How does the "opportunity cost" of capital drive this market adjustment?	CO-2	L-4
Q. 4: (A) Suppose that the yield to maturity of the 5% coupon, 10 years maturity bond falls to 6% from 7% by the end of the first year and that the investor sells the bond after the first year. If the investor's tax rate on interest income is 20% and the tax rate on capital gain is 10%, what is the investor's after-tax rate of return?	CO-3	L-3
Or		
Q. 4: (B). How convexity is different from Duration in a Corporate Bond.?	CO-3	L-5

SECTION – C

Read the case and answer the questions 5×**02 = 10 Marks**

Questions	**CO**	**Bloom's Level**
Q. 5: Case Study: **IRFC has issued bond with the following characteristics:** Coupon- 7% Yield to maturity- 8% Maturity- 10 Years Macaulay Duration 6.5 years 5 (A) Calculate modified duration using the above information. Explain why modified duration is better measure than maturity when calculating the bond sensitivity to changes in interest rate. 5 (B) Identify the direction of change in modified duration if: i) The coupon of bond was 5%, not 7% ii) The maturity of the bond was 06 years, not 10 years.	CO-3	L-4

Kindly fill the total marks allocated to each CO's in the table below:

COs	**Marks Allocated**
CO1	12 Marks
CO2	12 Marks
CO3	16 Marks