# PGDM / IB Batch 2021-23 Fixed Income Securities

#### DM / IB- 413

Trimester – IV, End-Term Examination: September 2022

Time allowed: 2 Hours	Max Marks: 40
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Roll No:	

**Instruction:** Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means.** In case of rough work please use answer sheet.

Make assumptions wherever necessary and write them down at the end of solution.

Sections	No. of Questions to attempt	Marks	Marks
А	4 Questions	5 Marks each	4*5 =20
В	Compulsory Case Study	20 Marks	20
		Total Marks	40

### **SECTION A**

**A 1a.** A bond that has a coupon of 14% and a par value of Rs.100 is callable at the end of three years at a premium of 10%. It matures in six years and pays coupons semi-annually. The market price is Rs.109. Given this data, compute yield to call? (CO 2)

OR

**A 1b.** 5-year, 9% corporate bond with a Face Value Rs. 1,000 and interest payable semi-annually matures after 6 years. The bond is available at a yield to maturity of 7%. If the record date for the last coupon has just passed, at what value 50 bonds of the corporate are likely to be quoted in the market? (CO 2)

**A 2a.** A Portfolio Manager is considering buying two bonds. Bond A matures in three years and has a coupon rate of 10% payable semi-annually. Bond B, of the same credit quality, matures in 10 years and has a coupon rate of 12% payable semi-annually. Both Bonds are priced at par. Which Bond would you recommend to the Portfolio Manager? (CO 3)

OR

**A 2b.** Explain Duration with the help of an example. How Macaulay Duration is different from Modified Duration. (CO 3)

A 3a. Explain the interest rate swap agreement with the help of an example. (CO 4)

OR

A 3b. Explain the role of credit rating agencies in the bond market. (CO 4)

**A 4a.** A 8% bond (F.V 1000/-) has a maturity of 30 years with YTM of 9%. It is currently traded at Rs 897.26/-. The duration of a bond is 11.37 yrs. Find out the modified duration. What will be the change in price if the yield increases to 9.2%? (CO1)

OR

**A 4b.** Explain clean price and dirty price mechanism in Bond Trading. (CO1)

#### **SECTION B**

## CASE STUDY (20 Marks)

On April 1, 2019, ABC Ltd plans to issue a 10% coupon, 10-year bonds of face value INR 100 for INR 100 million on October 1, 2019, to finance its expansion project. The cost of debt for the company is 10%. On April 1, September futures with expiry on September 30 are available on 7% coupon GOI securities with maturity on sept 30, 2021. The yield on GOI securities is 8%. The company is concerned that the interest rate may increase /decrease before September and would like to protect this possible increase / decrease in interest rate.

#### Below are the two scenarios:

- I. Assume that the interest rate increases by 100 basis points for the company and the yield on the GOI securities increases by 80 basis points.
- II. Assume that the interest rate decreases by 100 basis for the company and the yield on the GOI securities decreases by 50 basis points.
- a. Explain interest rate futures. How forwards are different from futures contract.
- b. What is the fair price of September futures on 1 April?
- c. Show how ABC Ltd. protects itself from interest rate fluctuations.
- d. Will your answer differs in both the scenarios. Show all relevant calculations

(CO3)