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65048

Class: SYBFM – Semester IV

Subject: Debt Markets II

N.B.: (1) All questions are compulsory

(2) Figures to the brackets to the right indicate marks.

Total Marks: 75

Duration: 2½ Hours

Q1. (A) State whether true or false (Any 8):

- |   |              |
|---|--------------|
| (1) Junk bond has lower risk.   | (8)          |
| (2) Current yield relates interest on a security to its current market price.   | <b>False</b> |
| (3) When interest rates rise, bond prices also rises  | <b>True</b>  |
| (4) Hybrid bonds have the features of both equity and Debt.   | <b>False</b> |
| (5) A bonds rating indicates its interest rate risk.  | <b>True</b>  |
| (6) A callable bond pays an investor a lower coupon than a non-callable bond.   | <b>False</b> |
| (7) Passive portfolio includes stocks/bonds with high risk/high return.   | <b>False</b> |
| (8) The YTM calculation assumes that the cash flows received through the life of the bond are reinvested at a rate equal to maturity. | <b>True</b>  |
| (9) Passive portfolio strategies imply that prices are assumed to reflect fair value.   | <b>True</b>  |
| (10) New orders data is a leading indicator.  | <b>True</b>  |

Q1. (B) Match the following Columns (Any 7):

(7)

Column A		Column B	
1	Liquidity	a	Objectives of Portfolio Management
2	Bond Covenants	b	Restriction on risky investments
3	Budget Deficit	c	Increased Subsidies
4	Impact of financial crisis	d	Unemployment
5	Seller of Bond	e	Borrower
6	Spot contract	f	Immediate Delivery
7	Lower interest rate sensitivity	g	Shorter term bond
8	Liquidity risk	h	Corporate bond market
9	Purchasing power risk	i	Inflation
10	Futures contract	j	Expiry date

Q2 (a) What do you mean by fixed income securities? State its features. (8)

(b) What are the factors investors should keep in mind while trading or investing in corporate bonds? (7)

OR

Q2. (c) What are corporate bonds? Explain issue and classification of corporate bonds. (8)

(d) Find out the value of a bond with 8 years maturity and face value of Rs. 1000. Coupon rate is 13% and required rate of return is 14%. Coupon is paid annually. (7)

Solution:

$$\begin{aligned} \text{Bond Value} &= I (\text{PVIFA } 14\%, 8 \text{ Yr}) + \text{MV} (\text{PVIF } 14\%, 8 \text{ Yr}) \\ &= 130(4.639) + 1000(0.3506) = 603.07 + 350.6 = \text{Rs. } 953.67 \end{aligned}$$

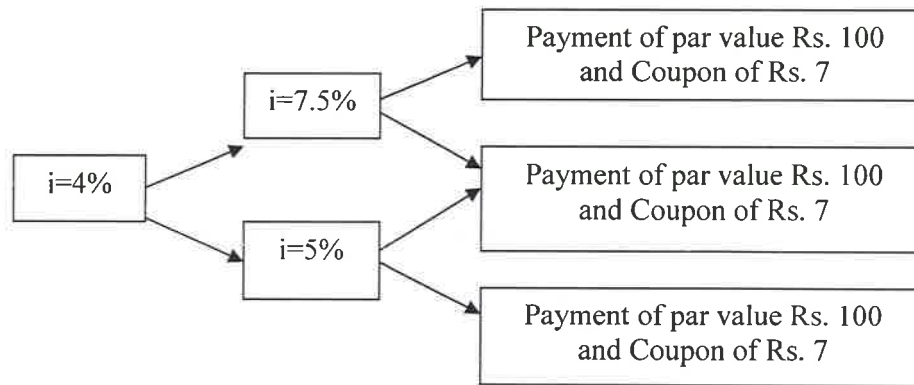
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- Q3. (a) Explain the concept of bonds with embedded options. (7)  
 (b) What is Convexity? What are the factors affecting convexity? (8)

OR

- Q3. (c) A 7% annual coupon bond has 2 years to maturity. The interest rate tree is shown in the figure below. Calculate the value of the bond today under following different scenarios if face value is Rs. 100: (8)  
 (i) Bond has call option and call price is Rs. 100  
 (ii) Bond has put option and put price is Rs. 100



SOLUTION:

$$\text{Upper node} = \frac{1}{2} (FV + \text{Coupon}/1+i + FV + \text{Coupon}/1+i)$$

$$= \frac{1}{2} ((100+7/1.075) + (100+7/1.075)) = 99.53$$

$$\text{Lower node} = \frac{1}{2} ((100+7/1.05) + (100+7/1.05)) = 101.90$$

Bond value today if bond is:

$$(i) \text{ Call Option} = \frac{1}{2}((99.53+7/1.04) + (100+7/1.04)) = \frac{1}{2} (102.43+102.88) = 102.65$$

$$(ii) \text{ Put Option} = \frac{1}{2}((100+7/1.04) + (101.90+7/1.04)) = \frac{1}{2} (102.88+104.71) = 103.79$$

- (d) Calculate the duration of a Bond with 8% coupon rate having maturity period of 5 years. The face value of the Bond is 1000. Bond is currently yielding 6%. (7)

Year	Annual Cash Flow	PV Factor	Present Value	PV x Time
1	80	0.9434	75.472	75.472
2	80	0.89	71.2	142.4
3	80	0.8396	67.168	201.504
4	80	0.7921	63.368	253.472
5	1080	0.7473	807.084	4035.42
Sum of PV x Time				4708.268
Duration = (Sum of PV x Time)/Current Bond Price assuming Rs.1000				4.708268

- Q4. (a) What are Economic Indicators? Explain its Types. (7)  
 (b) Explain the impact of Sub Prime Crisis on India. (8)

OR

- Q4. (c) What is GDP? How does it affect bond markets and currency? (8)  
 (d) Discuss the International Impact of Sub Prime Mortgage Meltdown. (7)

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Q5. (a) Explain Indexing Strategy of Passive Portfolio Management. (7)

(b) Discuss the Active Bond Portfolio Management Strategies employed by managers. (8)

OR

Q5. (c) Write Short Note (Any 5): (15)

- (1) Effective Duration
- (2) Prepayment Risk
- (3) Factors affecting bond valuation
- (4) Index of Industrial Production (IIP)
- (5) Tracking error and bond portfolio strategies