FIMMDA Debt Module

Paper Set – “A”

Maximum Marks: 100 **Time Allowed: 3 hours**

Roll No. _______________

Name. ________________

INSTRUCTIONS:

1. *This Question Paper consists of 2 parts covering 3 sections.*
2. ***Part 1** consists of objective type multiple choice questions for **70 marks.** This part is sub-divided into 3 sections. **Section 1** consists of 25 questions for 1 mark each. **Section 2** consists of 9 questions for 5 marks each. All the questions in Part I have four options, of which only one is the correct answer. You are required to write the correct answer with proper reasoning and working, if required.*
3. ***Part II** consists of **descriptive** type **questions**. This part consists on section. **Section 3** consists of 2 questions for 15 marks each. You are required to write the answer with proper stepwise explanation and working*
4. *All the questions are compulsory.*
5. *You are not allowed to leave your seat during the 1st hour of the examination for what-so-ever reasons.*
6. ***Sharing of resources is strictly prohibited.***
7. ***Surrender any unauthorized material in your possession which you may have inadvertently brought into the examination room (including your mobile phones) before you start attempting your question paper.***

...All the very best!!!

PART I (OBJECTIVE)
SECTION 1

25 × 1 = 25 Marks

State whether the statements are true or false. Each question carries one mark.

1. Duration for a Zero Coupon Bond is less than its term to maturity.
2. There is a direct relationship between a bond's coupon and duration.
3. When a bond's YTM equals its coupon rate, the bond's price is less than par value.
4. Longer-term bonds are almost always volatile in terms of price than short-term bonds for a given change in interest rates.
5. It is impossible for the yield curve to have a negative slope.

Choose the most appropriate answer from the alternatives given. Each question carries one mark.

6. The Money Market is the source for ……….. financial assets, while the capital market is the source for …………..
   a) investment; liquid
   b) short term; long term
   c) liquid; financial institution
   d) long term, short term

7. A (n) …………… is a bond that may be exchanged for a common stock for the same organization
   a) exchangeable bond
   b) debenture
   c) convertible bond
   d) warrant

8. Suppose interest rates are held fixed indefinitely. The risk in holding the 10 year bond is necessarily ……………..than the risk in holding 1 year bond.
   a) higher
   b) lower
   c) the same as
   d) could be either higher or lower

9. If a bond sells at high premium, then which of the following relationship holds true? (P_0 represents the price of a bond and YTM is the bond's Yield to Maturity)
   a) P_0 < par and YTM > the coupon rate.
   b) P_0 > par and YTM > the coupon rate.
   c) P_0 > par and YTM < the coupon rate.
   d) P_0 < par and YTM < the coupon rate

10. When the market's required rate of return for a particular bond is much less than its coupon rate, the bond is selling at
    a) a premium
    b) a discount
    c) cannot be determined without more information
    d) face value

11. If an investor may have to sell a bond prior to maturity and interest rates have risen since the bonds was purchased, the investor is exposed to
    a) the coupon effect
    b) interest rate risk
    c) a perpetuity
    d) an indefinite maturity

12. Interest rates and bond prices
    a) move in the same direction
    b) move in the opposite directions
    c) sometimes move in the same direction, sometimes in opposite directions
    d) have no relationship with each other (i.e., they are independent)

13. The expected rate of return on a bond if brought at its current market price and held to maturity
    a) yield to maturity
    b) current yield
    c) coupon yield
    d) capital gains yield

14. What is the day count convention in the treasury bills market
    a) 30/360
    b) Actual/ Actual
    c) Actual/360
    d) Actual/360

15. Coupon of a Floating Rate Bond is
    a) modified whenever there is a change in the benchmark rate
    b) modified at pre-set intervals with reference to a benchmark rate
    c) modified for changes in benchmark rate beyond agreed levels
    d) modified within a range, for changes in the benchmark rate

16. A bond with a face value of $ 10,000 (and no coupon payments) is always worth
    a) $ 10,000
    b) Less than $ 10,000 before the maturity date
    c) More than 4 10,000 if the interest rate is high enough
    d) $ 10,000 on the date of purchase

17. A newly issued bond with a face value of $ 12,000 and no coupon payment is priced at $ 9,000. The bond will mature in one year. What is the yield on this bond?
    a) 33.3 percent
    b) 25 percent
    c) $ 3,000
    d) $ 1,909.09

18. The book value or carrying value of a bond issued at a discount will ……… as the Discount is amortized.
    a) increase
    b) decrease

19. If a 9 percent bond is selling at 104 plus accrued interest, the bond's effective interest rate will be ……………than 9 percent
    a) less
    b) more

20. Which of the following states the relationship between a bond's price and its yield?
    a) As the price falls, the yield falls
    b) As the price rises, the yield rises
    c) As the price rises, the yield falls
    d) As the yield rises, so does the price

21. Which of the following $ 1,000 face value securities has the lowest yield to security?
    a) a 5 percent coupon bond selling for $ 1,000
    b) a 10 percent coupon bond selling for $ 1,000
    c) a 15 percent coupon bond selling for $ 1,000
    d) a 15 percent coupon bond selling for $ 9,00

22. The annualized return on a 5 percent coupon bond that is initially bought for $ 1,000 and is sold for $ 900 a year later is
    a) -10 percent
    b) -5 percent
    c) Zero
    d) 5 percent

23. For which of the following is the current yield the most accurate representation of the two yield on the bond.
    a) Treasury Bills
    b) A 5 year Bond
    c) A 10 year Bond
    d) A 30 year Bond

24. Which of the following bond quality rating applies to default-free bonds
    a) AAA
    b) Aaa
    c) Both b and a are default-free
    d) None of the above are default free

25. If an investors required return is 12 percent, the value of a ten year maturity zero Coupon bond with a maturity value of $ 1,000 is closest to:
    a) $ 312
    b) $ 688
    c) $ 1,000
    d) $ 1,312

SECTION 2

9 × 5 = 45 Marks

Answer any nine questions. Also show working/reason. Each question carries 5 marks.

26. Microsoft issues a two year bond with a face value of $ 5,000.In addition to the principal paid at maturity, the bond has two annual coupon payments of $ 500 each, to be received at the end of the first year and second year respectively. If the interest rate is 10 percent per year, what is the value of the newly issued bond?
    a) $ 5,000
    b) $ 6,000
    c) $ 5,886.68
    d) $ 4901.48

27. According to the Bond Equivalent Yield (BEY) Method, the yield on a $ 1,000, 13 Week US Treasury Bill purchased for $960 would be closest to ....
    a) 16.0 percent
    b) 16.7 percent
    c) 17.0 percent
    d) 17.8 percent

28. A 10 percent semiannual bond with a YTM of 12 percent and 10 years to maturity has a price equal to
    a) $ 1,051.65
    b) $ 885.30
    c) $ 888.89
    d) $ 955.41

29. The YTM for a zero coupon bond selling at $ 235 with 10 years to maturity, if it is compounded annually, is
    a) 14.25
    b) 16.05
    c) 17.15
    d) 15.58

30. What is the value of a newly issued 10 year bond with face value $ 10,000 and no coupon payments? Assume that interest rate is 7%
    a) $ 0
    b) $ 5,083.49
    c) $ 10,000
    d) $ 95,632.41

31. You are thinking of purchasing a 5 year bond, with a face value of $ 8,000 on the from secondary bond market. The bond was issued three years ago, so it will mature two years today. If the interest rate is 10 percent. What is the value of the bond?
    a) $ 6,611.57
    b) $ 8,000
    c) $ 4,967.37
    d) $ 6,010.52

32. Your aunt gives you a PepsiCo bond with face value of $ 5,000. It will mature in two years. Currently the interest rate is 10 percent per year. How will the value of bond change if the interest rate falls to 5 percent tomorrow morning?
    a) It will rise by $ 413.22
    b) It will rise by $ 402.90
    c) It will rise by $ 432.90
    d) It will fall by $ 432.90

33. You have two bonds, both with a face value of $ 7,000. One of them matures one year from today, while the other matures one year after that. If the interest rate is 8 percent per year. What is the difference in value between the two bonds?
    a) $ 480.11
    b) $ 578.52
    c) $ 317.46
    d) $ 925.92

34. A bond promises to pay a coupon of $ 10 for each of the next three years. At which time its holder will receive its face value of $ 100 together with the final coupon. Its YTM as of today is 5 percent
    a) The price of the bond today equals the net present value of the coupons plus the final $ 100, discounted at 5 percent per annum.
    b) The price of the bond today equals the net present value of the coupons alone (i.e., excluding the final $ 100) discounted at 5 percent per annum.
    c) An investor who buys the bond today is guaranteed a return of 10 percent per annum if the bond is held to maturity.
    d) An investor who buys the bond today is guaranteed the return of 5 percent per annum if the bond is held to maturity.

35. A bond with face value $ 100 will mature one year from the present. At which time the holder will receive the face value plus a single coupon of $ 30.
    a) If today's market price of the bond equals $ 120, the bond's coupon rate is 25 Percent
    b) The Bonds Spot Yield equals 30 percent regardless today's market price.
    c) If today's Market Price for the bond equals $ 125, the bonds yield to maturity (its spot yield in this case is 4 percent)
    d) If today's Market price for the bond is less than $ 130, there must be an arbitrage opportunity.

PART – II (SUBJECTIVE)
SECTION 3

2 × 15 =30 Marks

Answer any two questions. Each question carries 15 marks.

36. Enumerate and explain Malkiel's Bond Price Theorems.
37. Explain the concept of the Term structure of Interest Rates and explain the alternative shapes of a yield curve.
38. What does the term duration mean to a bond investor and how does the duration on a Bond differ from its YTM? What is the modified duration and how is it used?
39. "It is always better to have a portfolio with more convexity than one with less convexity". Do you agree or disagree? Give reasons for the same.

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