**Set-A**

Unique Paper Code: 61017926
Name of paper-Investment Analysis and Portfolio Management
Name of the Course: Bachelor of Management Studies (BMS)
Semester :V
Duration 3 hours
Exam: OBE mode December 2020
Maximum Marks: 75

**Instructions for candidates**

**Attempt any four questions and answer all parts of each question together.**
**All questions carry equal marks**
**Any assumptions made by you when attempting a question must be clearly stated.**

Q1. A 5 year 10 % coupon bond with a face value of Rs. 1000 will be redeemed at 10% premium on maturity. At present the the bond is available for Rs 900. It is callable after 3 years at Rs 1150. Estimate the price,yield to maturity, yield to call, and current yield of the bond and explain their utility for the different investors having different investment horizons?. What are the systematic and unsystematic risk factors that an investor should take into account while investing in this bond especially in developing countries?

Q2. A company paid dividend of Rs 8 per share in the immediately preceding period. Dividend is expected to grow at 5% for one year, then at 15% rate for the next two years, after which it is expected to grow at a 8% rate for ever. What is the fair price of the share if the required return is 14%?.

What type of mutual funds will you recommend while formulating the portfolio of investors looking for income and and investors looking for growth ? How will you rate the performance of three mutual funds on the basis of Treynor Ratio and Sharpe Ratio with the given information: Return of MF-X=12% with Standard Deviation of 8% and Beta of 0.8; Return of MF-Y=14% with Standard Deviation of 10% and beta value of 1.2; Return of MF-Z =16% with Standard Deviation of 12% and beta of 1.6. The Return of NIFTY-50 (market index) is 20% with Standard Deviation of 14%. The Return on T-Bills is 6%.

Q3. Explain the three forms of Market Efficiency. Also, enumerate the tests that can be done to test weak and semi strong efficiency of stock markets.

The return and beta of two stocks that lie on the security market line are as follows. ABC has return of 17% and beta 1.2 and XYZ has return 19% and beta 1.4. What is the required return on PQR with beta of 0.8?

Q4. Explain and differentiate between the Markowitz Model and Single Index models. Calculate the expected return and risk (standard deviation) of VI (Vodafone Idea) Ltd. and the Sensex from following information. Also calculate covariance, correlation and beta.

| Probability | Return on Sensex | Return on VI Ltd. |
|---|---|---|
| 0.1 | 10 | 8 |
| 0.4 | 9 | 10 |
| 0.4 | 15 | 19 |
| 0.1 | 20 | 25 |

Q5. Your client wants a fixed sum of Rs 50 lakhs at the end of 4 years. Market yields at present are 9%. You advise use the concept of immunization with duration and shortlisted the following two bonds for this purpose.

1. A zero coupon bond of Rs 10,000 face value that has a term to maturity of seven years
2. A three year bond offering 9 percent coupon per annum with Rs 1000 face value

The client wants to know the following before making the investment : What are the assumptions of immunization using duration? You are recommending a portfolio of bonds, what are the risks of investing only in the 3 year bond and only in the seven year bond? How much total money does he need to invest today? What is the price of the zero coupon bond and the three year bond today?

What is the duration of each of the bonds? How many bonds of each does he need to buy to be immunized ? (assume they can be bought in fractions also) The client has heard about modified duration and that it can be used to estimate price changes. Please calculate the modified duration of the zero coupon bond and the percentage change in the price of the zero coupon bond, if the yield declines by 0.25 percentage points (25 basis points)

Also clarify whether duration of the zero coupon bond and the three year bond will increase or decrease if yield declines by 25 basis points

Q6. An investor who normally invests in fixed income instruments wants you to analyse whether it is worth investing in debentures of XYZ Ltd . The company should have interest coverage ratio of at least 4, debt coverage ratio of at least 2, and Long term debt to equity ratio of below 1.

The investor also heard there was a concept called Company Analysis and expects you to do so from the profit and loss statement and balance sheet of XYZ Ltd provided. However you need to explain if this information is sufficient or not and what else is required .

**Balance Sheet of XYZ Ltd. as at March 31, 2011**

| | Rs Lakhs |
|---|---|
| | **2011** |
| **EQUITY AND LIABILITIES** | |
| Share capital (Par value Rs.10) | 100 |
| Reserves and surplus | 400 |
| **Shareholders' Funds** | 500 |
| Long-term borrowings* | 200 |
| Deferred tax liabilities (net) | 50 |
| Long-term provisions | 50 |
| **Non-current Liabilities** | **300** |
| Short-term borrowings | 40 |
| Trade payables | 120 |
| Other current liabilities | 30 |
| Short-term provisions | 10 |
| **Current Liabilities** | **200** |
| | **1,000** |
| **ASSETS** | |
| Fixed assets | 500 |
| Non-current investments | 50 |
| Long-term loans and advances | 50 |
| **Non-current Assets** | **600** |
| Current investments | 20 |
| Inventories | 160 |
| Trade receivables | 140 |
| Cash and cash equivalents | 60 |
| Short-term loans and advances | 20 |
| **Current Assets** | **400** |
| | **1000** |

*Repayment of Rs. 50 lakh of debentures needs to be provided for every year

**Statement of Profit and Loss for XYZ Ltd for Year Ending March 31, 2011**

| | Rs. lakhs |
|---|---|
| Revenues from Operations | 1290 |
| Other Income | 10 |
| Total Revenues | 1300 |
| Expenses | |
| Material expenses | 600 |
| Employee benefit expenses | 200 |
| Finance costs | 30 |
| Depreciation and amortisation expenses | 50 |
| Other expenses | 240 |
| Total expenses | 1120 |
| Profit Before Tax | 180 |
| Tax Expense | 50 |
| Profit (Loss) for the period | 130 |