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QUESTION BOOKLET NUMBER

1009

3480147

Subject Code
MB3G2F

Date of Exam: **October 25, 2009**

Timings: **10:00 Hrs to 13:00 Hrs**

Program : MBA

Subject : Portfolio Management

To be filled by the Student

ENROLLMENT NO.	<i>[Handwritten]</i>	OMR NO.	<i>[Handwritten]</i>
TEST CENTER	<i>[Handwritten]</i>	SEAT NO.	<i>[Handwritten]</i>

TOTAL MARKS : 100

MAXIMUM TIME : 3 HOURS

Answering Materials to be distributed along with the question booklet are:

★ **OMR ANSWER SHEET**

● **ANSWER BOOKLET**



Instructions to Students

1. Students should write their Question Booklet Number, OMR Answer Sheet Number, Admit Card Number and Enrollment Number at all the relevant/required places specified in Question Booklet, OMR Answer Sheet * and Answer Booklet •. In the absence of such data on OMR Answer Sheet and Answer Booklet, the same will not be evaluated.
2. Students are required to answer Section A and duly **mark the answers in OMR Answer Sheet** and return the same at the end of the duration allotted for Section A of the Question Booklet i.e. 30 minutes after the commencement of the examination.
3. Students are required to answer Sections B and C in the answer book provided for the same.
4. Student can retain this Question Booklet after the examination.

The instructions on marking your answers in OMR answer sheet are given on the back cover page of this Question Booklet.

Formulae and Tables (FAT) Book to be issued for reference and collected back

71-10818

Section A : Basic Concepts (30 Marks)

- This section consists of questions with serial number 1 - 30.
- Answer all questions.
- Each question carries one mark.
- Maximum time for answering Section A is 30 Minutes.

1. Which of the following bonds has the longest duration?
 - (a) A bond with a coupon payment @ 7% per annum and 10 year term to maturity
 - (b) A bond with a coupon payment @ 8% per annum and 10 year term to maturity
 - (c) A bond with a coupon payment @ 7% per annum and 11 year term to maturity
 - (d) A bond with a coupon payment @ 6% per annum and 12 year term to maturity
 - (e) A bond with a coupon payment @ 5% per annum and 12 year term to maturity.

2. The intrinsic value of an out-of-the-money call option is
 - (a) Call premium
 - (b) Stock price minus exercise price
 - (c) Negative
 - (d) Strike price
 - (e) Zero.

3. Which of the following statements is/are true with respect to risk penalty?
 - I. The higher the risk penalty, the lower the utility of the return for the investor.
 - II. The risk penalty will be lower for smaller values of risk tolerance and higher values of variance of asset mix.
 - III. For risk loving investors, risk tolerance is high and risk penalty is low resulting in high utility.
 - (a) Only (I) above
 - (b) Only (III) above
 - (c) Both (I) and (II) above
 - (d) Both (I) and (III) above
 - (e) Both (II) and (III) above.

4. The following are four stocks of a portfolio:

Stock	Proportion	Beta
A	0.133	0.97
B	0.200	1.06
C	0.167	0.87
D	0.500	1.08

0.12901
0.212
0.14589
0.54

If the market return is 12.47% and the risk free rate is 6.5%, the expected return on the portfolio is approximately

- (a) 13.75%
- (b) 12.63%
- (c) 11.50%
- (d) 10.75%
- (e) 10.50%.

$$E_r = R_f + \beta (F.m - R_f)$$

$$= 6.5 + 1.0263 (12.47 - 6.5)$$

$$= 12.63$$

5. The portfolio of Mr. Gupta had a beginning value of Rs. 15 lakhs and after a year an ending value of Rs. 19.5 lakhs. If Mr. Gupta, received Rs. 1.5 lakhs at the end of 6 months as dividends, the Weighted Rate of Return (MWROR) of Mr. Gupta's portfolio is approximately
- 18.2%
 - 19.1%
 - 19.7%
 - 20.5%
 - 21.3%
6. In which of the following phases of life cycle model, the living expenses are not any more covered by earned salary but rather by accumulated assets?
- Accumulation phase
 - Consolidation phase
 - Spending phase
 - Gifting phase
 - Maturity phase.
7. Pure cash matching strategy of portfolio dedication can be easily implemented by using
- Zero coupon bonds
 - High rated coupon bonds
 - High coupon bonds
 - Government bonds with low coupon rate
 - Low coupon bonds.
8. Which of the following factors is **not** considered by Burmeister, Ibbotson, Roll and Ross (BIRR) macro economic factor model?
- Investor confidence
 - Interest rates
 - Exchange rate fluctuations
 - Real business activity
 - Market index.
9. Which of the following statements is/are **true** with respect to conflict(s) arising between Sharpe's and Treynor's measures of portfolio performance in ranking the portfolios?
- Sharpe's ratio considers systematic risk in measuring portfolio performance.
 - Sharpe's ratio should be used, when we expect substantial presence of unsystematic risk in the portfolio.
 - Treynor's ratio should be used, when the portfolio is fully diversified.
- Only (I) above
 - Both (I) and (II) above
 - Both (I) and (III) above
 - Both (II) and (III) above
 - All (I), (II) and (III) above.
10. The utility from a portfolio for Mr. Garg is 9.23%. If standard deviation of returns of the portfolio and his level of risk tolerance are 13.45% and 45% respectively, the expected return of the portfolio of Mr. Garg is approximately
- 13.25%
 - 13.57%
 - 13.80%
 - 14.00%
 - 14.23%.

11. Which of the following statements is/are **true** with respect to “unsystematic risk”?
- It is the uncertainty in the return that arises from events that are specific to the firm.
 - It is manifested as a tendency of assets to move in such a way that is independent of the market as a whole.
 - It is the uncertainty in the return that affects the entire market.
- (a) Only (I) above
 (b) Only (II) above
 (c) Only (III) above
 (d) Both (I) and (II) above
 (e) Both (II) and (III) above.
12. Which of the following assumptions is common between CAPM and Markowitz Model?
- All investments are perfectly divisible
 - Borrowing and lending at the risk-free rate are unrestricted
 - All investors have uniform, single period investment horizon
 - Capital markets are in equilibrium
 - Investors are risk-averse and are expected utility maximizers.
13. Based on the current dividend yields and expected growth rates, the expected rates of return on stocks of Ranbaxy and Syndicate bank are 15% and 17% respectively. The beta of stock of Ranbaxy is 0.9 and that of stock of Syndicate bank is 1.4. The T-bill is currently traded in the market at 6.8% and the historical average rate of return on the Sensex is 15%. If you currently hold a well-diversified portfolio, which of the two stocks will you add to your portfolio?
- Stock of Ranbaxy, since its expected return is equal to that of Sensex
 - Stock of Syndicate bank, since it has higher expected return of 17%
 - Stock of Syndicate bank, since it has a positive residual return of 1.28%
 - Stock of Ranbaxy, since it has a lower β of 0.9
 - Stock of Ranbaxy, since it has a positive residual return of 0.82%.
14. Mr. Sattya has constructed a portfolio, which consist of 26 securities. The unique covariance terms of Mr. Sattya’s portfolio is
- 325
 - 338
 - 351
 - 676
 - 702.
15. On October 01, 2008, Mr. Deepak bought 100 shares of Standard Ltd. at Rs.600 per share for a period of one year. He received a total dividend of Rs.400 during the year. If the price of the share, on October 01, 2009, is Rs.833 each, the holding period yield to Mr. Deepak is
- 12.00%
 - 19.05%
 - 25.75%
 - 39.50%
 - 53.15%.
- $$\frac{(833 - 600) + 400}{600}$$

16. Which of the following statements is/are **true** with respect to different investment policies?
- I. The portfolio constructed under Absence of Policy is formed over a longer period of time as the investor picks up different stocks that suit his comfort level.
 - II. Income Policy has stemmed up from the belief that only income can be spent and the capital gains need to be reinvested for further returns.
 - III. Multi-Asset Total Return Policy is one of the most flexible investment policies that give a lower rate of return.
 - IV. Growth Policy gives high return with less risk and is more favored by the conservative investors.
- (a) Only (I) above
 - (b) Both (I) and (II) above
 - (c) Both (I) and (III) above
 - (d) Both (II) and (IV) above
 - (e) Both (III) and (IV) above.
17. The current value of the Nifty is 4400 and the annualized dividend yield on the Nifty is 4%. The risk free rate of interest is 6.5% per annum. Future contract is trading at a multiple of 50. Assuming 30% of stocks included in the Nifty will pay dividends during the three month period, the fair price of the three month futures contract is
- (a) Rs.4,120.3
 - (b) Rs.4,370.8
 - (c) Rs.4,418.7
 - (d) Rs.4,576.0
 - (e) Rs.4,686.5.
18. The following is the information pertaining to a portfolio:

Return on the portfolio	13.72%	+
S.D of the portfolio returns	19.63%	+
Return on the market index	11.26%	+
S.D. of the market index returns	14.35%	+
Return on Treasury Bills	7%	+

The return from net selectivity of the portfolio is approximately

- (a) -0.42%
- (b) +0.42%
- (c) -0.89%
- (d) +0.89%
- (e) +1.21%.

$$13.72 = \left[\frac{11.26 - 7}{14.35} \right] \frac{19.63}{14.35}$$

19. Which of the following statements is **not true** with respect to yield spread analysis?
- (a) Yield volatility and transaction liquidity affect yield spread
 - (b) Yield spread is affected by yield volatility and the behavior of embedded options
 - (c) The effect of yield volatility on the business cycle influences yield spread
 - (d) The spread seems to increase during periods of recession and decreases during periods of expansion
 - (e) Yield spread analysis assumes that there exists abnormal relationship between the yields for bonds in alternative sectors.
20. Which of the following short term forecasting techniques is based on the movements of selected economic factors, which indicate the direction of change in economic activity?
- (a) Econometric approach
 - (b) Flow of funds approach
 - (c) Time series analysis approach
 - (d) Leading indicator approach
 - (e) Liquidity approach.

21. Which of the following approaches/methods of asset allocation ignores the financials and focuses on the psychology of individual?
- (a) 100 minus your age method.
 - (b) Risk tolerance method
 - (c) 100 common stocks for long run
 - (d) Cash flow needs method
 - (e) Financial objective method.
22. Which of the following statements is **true** with respect to Value at Risk (VaR)?
- (a) VaR assumes that the risk exposures are affected by only one risk factor
 - (b) Variance/Covariance method of computing VaR involves the use of historical market data and calculating the market value of the portfolio for each day over a specified period of time
 - (c) Monte Carlo Simulation method of computing VaR is also termed as correlation method
 - (d) Historic Simulation method of computing VaR is based on Modern Portfolio Theory
 - (e) Variance/Covariance method of computing VaR is used to generate a large number of scenarios which is consistent with expected volatility and correlations.
23. Which of the following is **not true** in the context of style analysis in asset allocation?
- (a) It involves the use of quadratic programming
 - (b) It determines a fund's exposure to the changes in returns of the asset classes
 - (c) The objective of this analysis is to find the best asset class exposure that sums up to 100 percent
 - (d) The goal of this analysis is to select a style that minimizes the variance of the difference between the return of the fund and the active portfolio with the same style
 - (e) The goal is to infer about the funds exposure as much as possible to variations in returns of the asset classes.
24. A form of bond swap where an investor exchanges one bond for another to obtain a higher yield over the long-term, with little attention paid to the short-term outlook for the bond's perspective is called
- (a) Substitution Swap
 - (b) Risk Neutral Swap
 - (c) Rate Anticipation Swap
 - (d) Risk Altering Swap
 - (e) Pure Yield Pickup Swap.
25. Consider the following information pertaining to stocks of three companies:

Stock	Realized Return (%)	Beta
Satyam	22.00	1.40
Grasim	17.50	1.10
Maruti	8.00	0.23

A portfolio consists of above three stocks in equal proportions. If the market index generates a return of 18% and the risk free rate is 6%, the excess return generated by the portfolio is

- (a) -1.75%
- (b) -1.62%
- (c) -1.09%
- (d) +1.75%
- (e) +1.09%.

2.42

$$6 + 2.42(18 - 6)$$

26. The beta of the stock of Roy Ltd. is 1.4 and variance of its returns is $336 (\%)^2$. The variance on market returns is $87.5 (\%)^2$. The proportion of variance of its returns not explained by the market returns is approximately
- 88%
 - 75%
 - 51%
 - 49%
 - 25%.
27. The expected return on the market portfolio is 20% and the standard deviation of its returns is 26%. If the risk free rate of return is 6.5%, the slope of capital market line would be approximately
- 0.31
 - 0.43
 - 0.52
 - 0.67
 - 0.86.
28. Which of the following statements is/are **not true** with respect to packaged trades?
- It is an approach of trading index fund.
 - It is actually a process of bundling of a number of orders for execution at different times in the market.
 - The goal of a fund manager is to get his money invested as quickly as possible with least cost.
- Only (I) above
 - Only (II) above
 - Only (III) above
 - Both (I) and (III) above
 - Both (II) and (III) above.
29. Mr. Shiva, a portfolio manager, is planning to construct an internationally diversified portfolio. In this regard, which of the following information does he require for making an international diversification successful?
- Returns available in different countries.
 - The risk attached to each foreign market.
 - The coefficient of correlation across international markets.
- Only (I) above
 - Only (II) above
 - Both (I) and (II) above
 - Both (I) and (III) above
 - All (I), (II) and (III) above.
30. Which of the following statements is/are **not true** with respect to different types of pension plans?
- Defined contribution plan does not consider any benefit in relation to the final earnings.
 - Under defined benefit plans, the investment risk is usually borne by the individual members.
 - Under defined contribution plans, economic analysis is more useful than legal analysis.
 - Under defined benefit plans, benefits are normally based on some pre specified formula.
- Only (II) above
 - Only (IV) above
 - Both (I) and (II) above
 - Both (II) and (III) above
 - Both (III) and (IV) above.

END OF SECTION A

Section B : Problems/Caselet (50 Marks)

- This section consists of questions with serial number 1 – 5.
- Answer all questions.
- Marks are indicated against each question.
- Detailed workings/explanations should form part of your answer.
- Do not spend more than 110 - 120 minutes on Section B.

1. Consider the following information relating to the returns from two stocks and the market index in different economic scenarios:

Scenario	Probability of scenario	Return (%)		
		Stock A	Stock B	Market
Boom	0.15	20.5	25.5	12
Slow growth	0.25	9.0	7.5	10.5
Stagnation	0.35	-5.0	4.5	-12.5
Recession	0.25	5.0	8.0	2.0

From the above information, you are **required** to calculate the unsystematic risk of the two stocks. (12 marks)

2. Ms. Ruchi has Rs.26,00,000. She wants to invest her money in three bonds A, B and C each with par value of Rs.1,000 and YTM of 11%. The coupons of bond A, B and C payable annually are 6%, 10% and 11% respectively. All the bonds mature in 5 years from now at their par value. The amount she is willing to invest in each bond is given below:

Bonds

Bond	Amount (Rs.)
A	10,50,000
B	7,50,000
C	8,00,000

$$\frac{(1+0.11)^5 - 1}{0.11(1+0.11)^5}$$

$$\frac{(1.11)^5 - 1}{0.11(1.11)^5}$$

You are **required** to calculate:

- a. Duration of each bond. (9 marks)
- b. Duration of a bond portfolio formed by combining all three bonds. (2 marks)

3. Mr. Amit, an investor is trying to analyze the performance of four fund managers. You are an analyst whom he approaches for advice. The relevant data about the funds is given as under:

Fund	Return (%)	Unsystematic risk (%) ²	Coefficient of Determination between fund and market returns
SBI Equity Fund	15.05	18.90	0.9025
HSBC Equity Fund	19.47	16.20	0.9409
Fidelity Equity Fund	14.80	14.40	0.8464
Taurus Equity Fund	12.85	15.30	0.8649

0.68505 = 13%

1.68505 = 15%

3.695

The returns and the variance on the returns from the market portfolio are 19.80% and 361(%)² respectively. The risk free rate of return is 7.50%. For the above funds, you are **required to:**

- a. Compute Sharpe Ratio. (6 marks)
- b. Compute Treynor Ratio. (6 marks)

Caselet

Read the caselet carefully and answer the following questions:

4. As per the caselet, explain the factors contributing to the growth of Private Equity in India. (8 marks)
5. Explain the advantages and the disadvantages associated with Private Equity investment. (7 marks)

With the FIIs making money from the Indian stock markets, the private equity player entities are not lagging behind. But, what are these private equities and how do they operate in India?

We can understand the term private equity, as entities which invest in the companies that are not listed in the stock exchange and have the growth potential to outperform. Generally, this investment is made by the way of leveraged buyout, venture capital, mezzanine financing and angel investment. Now days, it is observed that the investment by the way of private equity is grabbing popularity. This is because of the obvious reason that the probability of getting the target return is higher in the case of private equity.

India has a strong regulatory framework and governing bodies. The Indian stock markets are one amongst the most regulated stock markets. SEBI has liberalized the norms for the private equity investments in India, which has further opened the opportunities for the private equity investors. SEBI has removed the one year lock-in period for the subscription in IPOs. SEBI has increased the limit of funds that can be invested in the listed companies.

All this attracts the inflow of foreign funds to grow with the growth potential of India. And private equity is one of the convincing factors for the investment. In the financial year 2000, India had the private equity investment of around \$500 mn, which shot up to \$1.8 bn in the financial year 2004, whereas in the financial year 2005 the same had crossed the \$2 bn mark.

Generally, private equity funds are organized as limited partnerships, which are controlled by private equity firms, who act as the general partners. The fund obtains commitments from certain qualified investors such as pension funds, financial institutions and wealthy individuals to invest a specified amount. These investors become passive limited partners in the fund partnership and at an appropriate time, the general partner identifies an investment opportunity portion of its commitment. All investment decisions are made by the general partner, who also manages the fund's investments. Over the life of a fund, which often extends up to ten years, the fund will typically make between 15 and 25 separate investments with usually no single investment exceeding 10% of the total commitments.

Private equities provide a promising investment opportunity in terms of attractive returns and they are an effective tool for portfolio diversification. PEF is, buying equity (or deeply subordinated debt securities) in the privately held companies and the real estate assets, while working with the management and operating partners to enhance the value of the purchased assets over time. Ultimately, private equity investors seek to harvest investments

in order to generate substantial returns. ICICI Bank had offered India's largest Private Equity Fund (PEF), with a corpus of US\$250 mn, India Advantage Fund (IAF) I&II, which is managed by ICICI Venture to its international clients. The Funds are currently investing in the expansion capital and buy out transactions.

For the private equity investment, the company must have the strength and solid growth potential. This apparently shows that the private equity is not the source of finance for each and every company, since the investors are investing with the motive of making gains. And they will obviously invest in the companies, which have higher probability of meeting the targets. The strength of the company can be observed more, by its participation in various foreign funds. And the last but not the least are, the valuations attached with the deal.

PEFs and VCFs are investing in India for their own profits because, India has the potential to grow and they have the higher probability of generating these profits. But we should not forget that these entities are providing their share and playing a vital role in the development of the Indian economy, which is hungry for investments. The rise of institutional investors in India, and the growth of these entities, will lead to a sound corporate base in India. And ultimately, India will emerge as a developed economy.

END OF CASELET

END OF SECTION B

Section C : Applied Theory (20 Marks)

- **This section consists of questions with serial number 6 - 7.**
- **Answer all questions.**
- **Marks are indicated against each question.**
- **Do not spend more than 25 -30 minutes on Section C.**

6. World over, the institutional investors have exerted an important influence on capital markets. Typically, the market turns buoyant under the influence of institutional buying; likewise under the pressure of institutional selling, the market becomes depressed. Explain the key drivers of investment policies of institutional investors. (10 marks)
7. In recent years, equity style management has attracted great attention from the investment community. The popularity of style investing is evident from the number of style funds coming up. Describe the concept of style investing and also discuss different types of equity styles. (10 marks)

END OF SECTION C

END OF QUESTION PAPER