JAIPURIA INSTITUTE OF MANAGEMENT, NOIDA

PGDM / PGDM (M) / PGDM (SM)

FOURTH TRIMESTER (Batch 2021-23)

END TERM EXAMINATIONS, January 2022

Set-2

TERM IV . GROUP 2

Course Name	INVESTMENT MANAGEMENT	Course Code	FIN 10222
Max. Time	2 hours	Max. Marks	40 MM

1. Answer all the questions. All step by step workings have to be shown clearly. Without working , marks will not be awarded.
2. It is a close book examination. However, One page formula sheet is being attached along with necessary PV tables. Notations have the usual meaning.
3. You are allowed to use your own scientific / financial calculator only. Exchange of calculators is strictly prohibited.
4. Use of mobile phone is strictly prohibited.
5. All the necessary precautions have been taken to make a flawless question paper and necessary information has been provided to answer the questions, as such, do not disturb the invigilators present in the hall.

CLO3, BTIV

1. A) Find the duration of a 6% coupon bond (face value 100) making annual coupon payment if it has 3 years until maturity and has a YTM of 8%. Determine the duration of a zero coupon bond, other things remaining same. Which bond has a higher duration risk ? Justify with working.

   B) A 9 year bond has a yield of 10% and duration of 7.194 years. If the market yield changes by 50 basis point determine the % change of bond price. Examine with working.

   Marks 8 + 2

2. **CLO4, BTIV**

   A) Explain with reasons which *one* of the following portfolios can not lie on the efficient frontier as described by Markowitz

Portfolio	Expected Return (%)	Standard Deviation-SD (%)
W	15	36
X	12	15
Y	5	7
Z	9	21

B) Mrs. AB Shah has originally Rs.90 lac (market value or MV) invested in shares of different large cap and mid cap companies. Her father expired in 2022. As a part of family settlement with her brothers – she got X co shares left behind by her father to the tune of Rs.10 lac (MV). Her financial planner provided her with the following forecast based on past performance:

Risk & Return Characteristics

Particulars	Return	SD of monthly returns
Original portfolio	0.67%	2.37%
X co shares	1.25%	2.95%

The correlation coefficient X co shares and original portfolio is 0.40.

i. The inheritance results in reworking of portfolio risk and return. The financial planner has to decide whether to keep X co shares. Assuming that X co shares are kept, examine the following –

a) Expected return of the new portfolio that includes the X co shares.
b) Covariance between X co shares return and original portfolio return.
c) SD of her new portfolio that includes the X co ltd shares.

ii. If Mrs. Shah sells the X co shares, she can invest the proceeds in risk free GOI bond, yielding 0.50% monthly yield. Assuming AB shah sells the X co shares and replaces it with GOI bond, examine the following –

a) Expected return of the portfolio that includes the GOI bond.
b) Covariance between GOI bond return and original portfolio return
c) SD of new portfolio that includes GOI bond.

Which alternative is preferable – (i) or (ii). Analyse.

3+15

CLO 3, BTIV

3. Below is the list of prices of zero coupon bonds of various maturities :

Year	Price of Zero coupon Rs 1000 par value bond
1	943.50
2	873.52
3	816.37

1) Examine as to what is the YTM of each of the above bonds.
2) An 8.5% coupon of Rs.1000 par bond pays annual coupon and will mature in 3 years. Examine what will be the price of that bond.
3) If at the end of first year the yield flattens out at 8%, what would be the holding period return on the coupon bond. Show working and conclude based on your working.

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