

CA FINAL
STRATEGIC FINANCIAL MANAGEMENT
MOCK TEST PAPER

PORTFOLIO MANAGEMENT AND MUTUAL FUND

Maximum Marks - 100

Time Allowed - 3 Hours

Question 1.

Following are risk and return estimates for two stocks

Stock	Expected returns (%)	Beta	Specific SD of expected return (%)
A	14	0.8	35
B	18	1.2	45

The market index has a Standard Deviation (SD) of 25% and risk free rate on Treasury Bills is 6%.

You are required to calculate :

- i. The standard deviation of expected returns on A and B.
- ii. Suppose a portfolio is to be constructed with the proportions of 25%, 40% and 35% in stock A, B and Treasury Bills respectively, what would be the expected return, standard deviation of expected return of the portfolio?

8 Marks

Question 2.

A mutual fund having 300 units has shown its NAV of ₹ 8.75 and ₹ 9.45 at the beginning and at the end of the year respectively. The Mutual fund has given two options to the investors:

- i. Get dividend of ₹ 0.75 per unit and capital gain of ₹ 0.60 per unit, or
- ii. These distributions are to be reinvested at an average NAV of ₹ 8.65 per unit.

What difference would it make in terms of returns available and which option is preferable by the investors?

8 Marks

Question 3.

Following are the details of a portfolio consisting of 3 shares:

Shares	Portfolio Weight	Beta	Expected Return (%)	Total Variance
X Ltd.	0.3	0.50	15	0.020
Y Ltd.	0.5	0.60	16	0.010
Z Ltd.	0.2	1.20	20	0.120

Standard Deviation of Market Portfolio Return = 12%

You are required to calculate the following:

- i. The Portfolio Beta.
- ii. Residual Variance of each of the three shares.
- iii. Portfolio Variance using Sharpe Index Model.

8 Marks

Question 4.

Cinderella Mutual Fund, an approved mutual fund, sponsored open -ended equity oriented scheme "Rudolf Opportunity Fund". There are three plans under the scheme viz. 'A' - Dividend Re-investment plan, 'B' - Bonus plan and 'C' - Growth plan.

At the time of initial public offer on 1-4-2009, Mr. Amit, Mr. Ashish and Mr. Arun, three investors invested ₹ 2,00,000 each at face value of ₹10 per unit and chosen plan 'B', 'C' and 'A' respectively.

The particulars of the fund over the period are as follows:

Date	Dividend %	Bonus Ratio	Net Asset Value per unit (₹)		
			Plan A	Plan B	Plan C
31.07.2013	10	-	30.70	31.20	35.40
31.03.2014	35	5:4	58.42	31.05	58.25
30.10.2017	20	-	42.18	26.45	56.45
15.03.2018	12.50	-	46.45	27.72	62.78
31.03.2018	-	1:3	45.20	20.05	67.12
25.03.2019	20	1:4	48.10	19.95	71.42
31.07.2019	-	-	53.75	22.98	82.07

On 31st July, 2019, all the three investors redeemed all the balance units.

1. Consider the following:

- a. Long-term capital gain is exempt from Income-tax.
- b. Short-term capital gain is subject to 10% Income-tax.
- c. Security Transaction Tax is 0.2% only on sale/ redemption of units.
- d. Ignore Education Cess.

2. You are required:

- i. To calculate the Effective Yield per annum (annual rate of return) of each of the investors.
- ii. To suggest the name of investor with the highest Effective Yield per annum with the difference to his nearest investor.

(Show your calculations up to two decimal points)

10 Marks

Question 5.

Mr. Kapoor owns a portfolio with the following characteristics:

	Security X	Security Y	Risk Free Security
Factor 1 sensitivity	0.75	1.50	0
Factor 2 sensitivity	0.60	1.10	0
Expected Return	15%	20%	10%

It is assumed that security returns are generated by a two factor model.

- i. If Mr. Kapoor has ₹1,00,000 to invest and sells short ₹ 50,000 of security Y and purchases ₹1,50,000 of security X, what is the sensitivity of Mr. Kapoor's portfolio to the two factors?
- ii. If Mr. Kapoor borrows ₹ 1,00,000 at the risk free rate and invests the amount he borrows along with the original amount of ₹ 1,00,000 in security X and Y in the same proportion as described in part (i), what is the sensitivity of the portfolio to the two factors?
- iii. What is the expected return premium of factor 2?

8 Marks

Question 6.

Mr. X holds the following portfolio:

Securities	Cost (₹)	Dividends (₹)	Market Price (₹)	Beta
Equity shares:				
A Ltd.	16,000	1,600	16,400	0.9
B Ltd.	20,000	1,600	21,000	0.8
C Ltd.	32,000	1,600	44,000	0.6
PSU Bonds	68,000	6,800	64,600	0.4

The risk-free rate of return is 12%.

Calculate the following:

- i. The expected rate of return on his portfolio using Capital Asset Pricing Model (CAPM).
- ii. The average return on his portfolio. (Calculate up to two decimal points)

8 Marks

Question 7.

On 1st January, 2020, an open ended scheme of mutual fund had outstanding units of 300 lakhs with a NAV of ₹ 20.25. At the end of January 2020, it had issued 5 lakhs units at an opening NAV plus a load of 2%, adjusted for dividend equalisation. At the end of February 2020, it had repurchased 2.5 lakhs units at an opening NAV less 2% exit load adjusted for dividend equalisation. At the end of March 2020, it had distributed 70 per cent of its available income.

In respect of January - March quarter, the following additional information is available:

Value appreciation of the portfolio	₹ 460 lakhs
Income for January	₹ 24 lakhs
Income for February	₹ 36 lakhs
Income for March	₹ 47 lakhs

You are required to calculate:

- i. Income available for distribution
- ii. Issue price at the end of January
- iii. Repurchase price at the end of February
- iv. Closing Value of Net Assets at the end of March.

8 Marks

Question 8.

A Mutual Fund Company introduces two schemes - Dividend Plan and Bonus Plan. The face value of the Unit is ₹10 on 1-4-2014. Mr. R invested ₹ 5 lakh in Dividend Plan and ₹ 10 lakh in Bonus Plan. The NAV of Dividend Plan is ₹ 46 and NAV of Bonus Plan is ₹ 42. Both the plans matured on 31-03-2019. The particulars of Dividend and Bonus declared over the period are as follows:

Date	Dividend %	Bonus Ratio	NAV of Dividend Plan (₹)	NAV of Bonus Plan (₹)
31-12-2014	12%	-	47.0	42.0
30-09-2015	-	1 : 4	48.0	43.0
31-03-2016	15%	-	49.5	41.5
30-09-2017	-	1 : 6	50.0	44.0
31-03-2018	10%	-	48.0	43.5
31-03-2019	-	-	49.0	44.0

You are required to calculate the effective yield per annum in respect of the above two plans.

8 Marks

Question 9.

Mr. Alex, a practicing Chartered Accountant, can earn a return of 15 percent by investing in equity shares on his own. He is considering a recently announced equity based mutual fund scheme in which initial expenses are 6 percent and annual recurring expenses are 2 percent.

- i. How much should the mutual fund earn to provide Mr. Alex a return of 15 percent per annum?
- ii. Mr. Alex's current Annual Professional Income is ₹ 40 Lakhs. His portfolio value is ₹ 50 Lakhs and now he is spending 10% of his time to manage his portfolio. If he spends this time on profession, his professional income will go up in same proportion. He is thinking to invest his entire portfolio into a Multicap Fund, assuming the fund's NAV will grow at 13% per annum (including dividend).

You are requested to advise Mr. Alex, whether he can invest the portfolio into Multicap Funds ?
If so, what is the net financial benefit?

8 Marks

Question 10.

Following information is available on Return (%) of shares of two companies A and B :

Probabilities	Return of A	Return of B
0.05	6	8
0.20	12	18
0.50	20	28
0.20	24	34
0.05	30	44

- i. Compute expected return from the portfolio
- ii. If the investment in A and B is in the ratio of 70:30 what is the risk of the portfolio ?

8 Marks

Question 11.

SG Mutual Fund Company has the following assets under it on the close of business as on:

Company	No. of Shares	1st August 2017	2nd August 2017
		Market price per share (₹)	Market price per share (₹)
Q Ltd.	2,000	200.00	205.00
R Ltd.	30,000	312.40	360.00
S Ltd.	40,000	180.60	191.55
T Ltd.	60,000	505.10	503.90

Total No. of Units issued by the Mutual Fund is 6,00,000.

i. Calculate Net Assets Value (NAV) of the Fund.

ii. Following information is also given:

Assuming that Mr. Zubin, an investor, submits a cheque of ₹ 30,00,000 to the Mutual Fund and the Fund Manager of this entity purchases 8,000 shares of R Ltd; and the balance amount is held in Bank. In such a case, what would be the position of the Fund?

iii. Calculate new NAV of the Fund as on 2nd August 2017.

8 Marks

Question 12.

Consider the following information on two stocks, A and B :

Year	Return on A (%)	Return on B (%)
2016	10	12
2017	16	18

You are required to determine:

- i. The expected return on a portfolio containing A and B in the proportion of 40% and 60% respectively.
- ii. The Standard Deviation of return from each of the two stocks.
- iii. The covariance of returns from the two stocks.
- iv. Correlation coefficient between the returns of the two stocks.
- v. The risk of a portfolio containing A and B in the proportion of 40% and 60%.

10 Marks