

QP Code : 23/PT/11/XII

POST-GRADUATE COURSE
Term End Examination — June, 2023/December, 2023
ECONOMICS
Paper-XII : FINANCIAL ECONOMICS

Time : 2 hours]

[Full Marks : 50

Weightage of Marks : 80%

Special credit will be given for precise and correct answer. Marks will be deducted for spelling mistakes, untidiness and illegible handwriting. The figures in the margin indicate full marks.

Use of scientific calculator is strictly prohibited.

1. Answer any *four* of the following questions : $2\frac{1}{2} \times 4 = 10$
- a) Write the formula for the present value of an Annuity.
 - b) A firm buys a machine which will last for 5 years. If its price is Rs. 80,000 and scrap value is Rs. 20,000, what is the 'average investment' of the firm ?
 - c) If the sum of Rs. 1,000 is lent for 3 years at 10% compound rate of interest, then what will be the 'Amount' at the end of 3 years ? What will be that 'Amount' if 10% simple interest rate is charged ?
 - d) What are the two major functions of a money market ?
 - e) What is a stock market and what are its major functions ?
 - f) Define Futures (Forward Contracts) and Options.
2. Answer any *four* of the following questions : $5 \times 4 = 20$
- a) Distinguish between nominal and real interest rates. In this context explain Fisher's equation.
 - b) What is a Pay Back Method ? Explain how the Pay Back Method is used as a criterion to take accept-reject decision regarding an investment project.

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[Turn over

- c) What do you mean by Systematic risk and Unsystematic risk in holding of securities ? What are their components ?
- d) Suppose, we are given below the rates of return of the two securities X and Y and also the probability of occurrence of these returns.

Rate of Return (%)

Security X	Security Y	Probability
16	40	0.3
11	10	0.5
6	-20	0.2

Use Markowicz's mean-variance criterion of decision making for a 'risk lover' investor and find out which security he will choose.

- e) Explain the Capital Asset Pricing Model (CAPM) for evaluation of financial assets.
- f) Briefly mention the major limitations of the Pay Back Method of capital budgeting.
3. Answer any *two* of the following questions : 10 × 2 = 20

- a) Given that the initial cost of a project is Rs. 50,000 and its lifetime is 5 years. The scrap value of the project is Rs. 10,000. The returns including depreciation and tax in the 5 years are Rs. 10,000, Rs. 10,000, Rs. 14,000, Rs. 16,000 and Rs. 20,000 respectively. The rate of tax is 50%.

Calculate the Average Rate of Return (ARR) of the project assuming straight line depreciation. If the management fixed a minimum acceptable ARR = 8%, then find out whether the project will be accepted or rejected.

- b) Define NPV method and IRR method of investment decision appraisal. Make a comparison of these two methods.

- c) Define the Profitability Index (PI) method or the Benefit Cost Ratio (BCR) method in evaluating an investment project.

Suppose the initial outlay of a project is Rs. 12,000.

It will yield Rs. 4,000 at the end of the first year, Rs. 3,000 at the end of the second year, Rs. 5,000 at the end of the third year and Rs. 6,000 at the end of the fourth year. The lifetime of the project is 4 years. If the discount rate is 10%, calculate the Profitability Index (PI) and determine whether the project should be accepted or rejected.

[PV factors for the four years are 0.909, 0.826, 0.751 and 0.683 respectively]

- d) Write short notes on any *two* of the following :
- i) Insurance as a risk management technique
 - ii) Comparison between Factoring and Forfaiting
 - iii) Financial derivatives and their use in hedging against risk
 - iv) Coefficient of variation as a measure of risk.
