

DD–2762

**B. A./B. Sc./B. Sc. B. Ed. (Part III)
EXAMINATION, 2020**

MATHEMATICS

Paper Third (C)

(Application of Mathematics in Finance and Insurance)

Time : Three Hours

Maximum Marks : 50

Note : Attempt any *two* parts from each question. All questions carry equal marks.

Unit—I

1. (a) Discuss the goals of financial management.
- (b) Explain the time value of money.
- (c) What do you mean by annuities and their types ?

Unit—II

2. (a) Explain Sharpe's single index model.
- (b) Discuss the numerical methods to calculate internal rate of return.
- (c) Discuss various types of risks.

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Unit—III

3. (a) How can we calculate duration and convexity of bonds ?
- (b) What do you mean by swaps and options ?
- (c) Explain the call and put parity theorem.

Unit—IV

4. (a) What do you mean by proximate cause in insurance ?
- (b) Explain exposure features of loss.
- (c) How can we construct mortality tables ?

Unit—V

5. (a) What do you mean by determination of claims for general insurance ?
- (b) Write the properties of compound aggregate claim model.
- (c) Discuss the claims of reinsurance.