Code No: 50122/R19

FACULTY OF SCIENCE

B.Sc. **CBCS** I-Year (II-Semester) Regular Examinations, August-2023

Statistics-II

(Probability Distributions)

Time: 3 Hours Max Marks: 80

SECTION-A (4x5=20 Marks)

(Short Answer Type)

Answer any Four questions from the following

1. A fair coin is tossed 10 times. Find the probability of getting at least 4 heads.
2. Define Binomial Distribution. State its properties.
3. Define Poisson Distribution. Derive its mean.
4. Define Hyper Geometric Distribution.
5. State the advantages and application of normal distribution.
6. Derive the moment generating function of the Gamma distribution.
7. Define Geometric distribution. Give two real life examples.
8. Discuss the MGF of Poisson Distribution.

SECTION-B (4x15=60 Marks)

(Essay Answer Type)

Answer the following questions

9. (a) Derive characteristic function of Binomial distribution and hence derive its Skewness and Kurtosis.

(OR)

(b) Derive first four raw moments of the Poisson Distribution.

10. (a) Define Geometric distribution and derive its non central moments and explain its lack of geometric property.

(OR)

(b) Explain the state Hyper geometric distribution also explain Binomial appropriation to Hyper geometric distribution.

11. (a) Define Normal Distribution. Derive mgf, cgf and its mean and variance.

(OR)

(b) Derive the Normal distribution as a limiting case of Binomial Distribution.

12. (a) Define Rectangular distribution. Discuss its mean and variance, also discuss its applications.

(OR)

(b) Define Gamma distribution and derive its mean and variance.