

**B.Sc. (NEP) Sem.-4 Examination****DSC-M-244****Statistics****April-2025****Time : 1-00 Hour]****[Max. Marks : 25**

**Q.1(a)** Derive mean and variance of Binomial distribution. **(5)**

**(b)** Explain relationship between raw moments and central moments of Poisson distribution. **(5)**

OR

**(a)** Derive mean and variance of Hypergeometric distribution.

**(b)** Derive Poisson distribution from Binomial distribution.

**Q.2(a)** Derive mean and variance of Exponential distribution. **(5)**

**(b)** State and prove any one of the properties of Uniform distribution. **(5)**

OR

**(a)** Derive mean and variance of Beta type -I distribution.

**(b)** State and prove any one of the properties of Beta type -II distribution.

**Q.3 Answer the following questions. (attempt any five) **(5)****

**1** Write Moment generating function of Binomial distribution.

**2** Define Bernoulli trials.

**3** Write cumulants of Poisson distribution.

**4** Write Characteristic function of Uniform distribution.

**5** Give mean and variance of Uniform distribution.

**6** Write Moment generating function of Exponential distribution.

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