B.Sc. DEGREE EXAMINATION, APRIL 2018.

I YEAR II SEMESTER

Core Major - Paper III - DISTRIBUTION THEORY-I

Time : 3 Hours Max. Marks : 60

SECTION A – (10 × 1 = 10 marks)

(Q. No. 1-12)Answer any *TEN* questions

1. Write the mean and variance of Uniform distribution.
2. What is Bernoulli trial?
3. What is the coefficient of kurtosis of Poisson distribution?
4. Write the variance of Binomial distribution.
5. Write the moment generating function of Negative Binomial distribution.
6. State the relationship between mean and variance of geometric distribution.
7. Define hypergeometric distribution.
8. What is the mean of multinomial distribution?
9. Write the points of inflexion of normal curve.
10. How do you represent standard normal distribution?
11. Write the mgf of normal distribution.
12. Define geometric distribution.

SECTION B – (5 × 4 = 20 marks)

(Q. No. 13-19)Answer any *FIVE* questions

1. Obtain the moments of Bernoulli distribution.
2. X is binomially distributed with parameter p, what is the distribution of Y=n-X?
3. Establish the additive property of Poisson distribution.
4. Derive the probability generating function of negative binomial distribution.
5. What do you mean by lack of memory in geometric distribution?
6. If $ x \~ u[a,b]$ find its mean and variance.
7. Obtain the median of normal distribution.

SECTION C – (3 × 10 = 30 marks)

(Q. No. 20-24)Answer any *THREE* questions

1. Obtain the recurrence relation for the moments of binomial distribution. Hence obtain a measure of skewness.
2. Derive Poisson distribution as a limiting case of binomial distribution.
3. State and prove the additive property of negative binomial distribution.
4. Obtain the mean and variance of hyper geometric distribution.
5. Derive the cumulant generating function of normal distribution. Hence obtain a measure of kurtosis.