B.Sc. DEGREE EXAMINATION,APRIL 2019
I Year II Semester
Distribution Theory-I

Time : 3 Hours **Max.marks :60**

Section A $(10 \times 1 = 10)$ Marks

Answer any **TEN** questions

1. Define discrete uniform distribution.
2. What is the moment coefficient of kurtosis of the binomial distribution?
3. Define Poisson distribution.
4. Write any two examples of Poisson distribution.
5. Write the density of Pascal distribution?
6. Distinguish between negative binomial distribution and binomial distribution.
7. What is the mean and variance of hyper geometric distribution.
8. Define multinomial distribution.
9. Define standard normal distribution.
10. Write the skewness and kurtosis of normal distribution.
11. Write any two properties of normal distribution.
12. What is the moment generating function of normal distribution.

Section B $(5 \times 4 = 20)$ Marks

Answer any **FIVE** questions

13. Derive Mode of Binomial Distribution.
14. Show the additive property of Poisson distribution.
15. Derive the characteristic function of geometric distribution.
16. Derive recurrence formula for the central moments of the negative binomial distribution.
17. Show that binomial distribution as limiting form of hyper geometric distribution.
18. Derive means, variances & covariances of multinomial distribution.
19. Derive mean deviation about the mean of the normal distribution.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Derive cumulant generating function of Binomial distribution and Find the first four moments.
21. Show that, Poisson distribution as the limiting form of binomial distribution.
22. Explain the memoryless property of geometric distribution and its converse.
23. Derive the mean and variance of hypergeometric distribution.
24. Derive median and mode of normal distribution.

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