



ADITYA DEGREE COLLEGES

ANDHRA PRADESH

II SEMESTER - PREFINAL EXAMINATIONS

I B.Sc - STATISTICS

Max. Marks : 75

Time : 2 Hours

Date: 09-03-2019

SECTION - A

Answer any FIVE of the following

4X5=20M

1. State and prove cauchy - schwartz inequality ?
2. Define cumulant generating function
3. State and prove additive property of binomial distribution
4. Define geometric distribution and obtain its mean and variance ?
5. Prove that mean deviation about mean of uniform distribution?
6. Prove that Harmonic mean of Beta distribution of first kind ?
7. Explain area property of normal distribution
8. State and prove additive property of cauchy distribution?

SECTION - B

Answer ALL the Questions

5x10= 50M

9. a) State and prove Chebychev's inequality
(OR)
b) Define moment generating function ? State and prove its properties .
10. a) Define m.g.f of Binomial distribution and find mean and variance through m.g.f ?
(OR)
b) State and prove that recurrence relation moments of poisson distribution ?
11. a) Define negative Binomial distribution and find the mean and variance
(OR)
b) Prove that Binomial distribution as a limiting case of hypergeometric distribution
12. a) Define exponential distribution ? State and prove lack of memory property of exponential distribution ?
(OR)
b) Define Gamma distribution of first kind ? Find its mean and variance?
13. a) Write the chief characteristics of Normal distribution
(OR)
b) Derive the characteristics function of cauchy distribution.