PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2018
(Second Semester)

Branch - STATISTICS

DISTRIBUTION THEORY

Time: Three Hours   Maximum: 75 Marks

Answer **ALL** questions
ALL questions carry **EQUAL** marks   (5 x 15 = 75)

1 a   Describe the probability density function of non central x^2 - distribution.

OR

b   Obtain the sampling distribution of simple correlation co-efficients.

2   a Define binomial distribution. Derive its distribution function-. Also prove its additive property.

OR

b Describe truncated and censord distribution with an example. Also explain the distribution function of $y = x^2$.

3   a Obtain the distribution of multivariate normal distribution.

OR

• b Describe the distribution of linear functions and distribution of quadratic functions in normal variables.

4   a Obtain the density function of Hotelling T^2 distribution.

OR

b Describe the Mahalanobis D^2 - distribution. Also write a note on classification problem.

5   a Discuss about discriminant functions and factor analysis.

OR

b Explain principal components, canonical variables and canonical correlation.

Z-Z-Z   END