DOON UNIVERSITY   **DEHRADUN**

Final Semester Examination: DECEMBER, 2017

School of Social Sciences   M A First Semester
Course: STATISTICAL METHODS   Course Code – SSE 512

Time Allowed : Three Hours   Maximum Marks : 50

Note: Attempt all sections.

Section: A (Short Answer Type Questions).

Write short notes on any Ten Questions.

(Marks : 1X10

1. Regression Coefficients
2. Bayes Theorem
3. Hypotheses
4. Type I Error   5. Chi-Square Test   6. Type II Error   7. Stochastic Variables   8. Inferential Statistics   9. Test Statistics   10. F- Test   11 OLS   12. Guass- Markov Assumptions

SECTION : B (Short Answer Type Questions)

Attempt any Four Questions.

(Marks : 4X5=20)

1. What is meant by Random Sampling? What is its importance?
2. Write a note on RANK CORRELATION.
3. (a) What does the correlation coefficient measure? What is its range of values?
   (b) What is the relationship between correlation and regression analysis?
4. (a) What is a normal distribution? What is its usefulness?
   (b) What is the standard normal distribution? What is its usefulness?

5. What is meant by (a) A point estimate? (b) Unbiased estimator? (c) An interval estimate

6. Define what is meant by and give an example of
   (a) a random variable
   (b) a discrete random variable
   (c) a discrete probability distribution
   (d) What is the distinction between a probability distribution and a relative-frequency distribution?

SECTION: C (Long Answer Type Questions)

Attempt Question 1 [compulsory] any one from the remaining two Questions.

(Marks : 2X10=20)

1. Derive steps for first normal equation and second normal equation in a Regression Equation Estimation.
1. Discuss tests of hypothesis and steps in solving testing of hypothesis problem
2. (a) List all possible outcomes in rolling 2 dice simultaneously.(b) What is the probability of getting a total of 5 in rolling 2 dice simultaneously? (c) What is the probability of getting a total of 4 or less in rolling 2 dice simultaneously? (d) Prove that the sum of the probabilities of all possibilities in two independent events to certainty.