DOON UNIVERSITY, DEHRADUN
Semester Final Examination, Semester II ,2013
School of Social Sciences

M.Sc. (Integrated) Economics,
Course: SSE 148 / SSE 153: Statistics II

Time Allowed:3 hours   *Maximum Marks: 50*

Note: Attempt Questions from Sections A, B, C.
Section A: Write short notes(any five)   [2X5=10marks]

1. Type II error
2. Critical value
3. Null Hypothesis
4. Point estimate
5. Quota sampling
6. Random variable

Section B: Answer <u>all the</u> questions: [5X4=20 marks]

1. Explain the desirable properties of an estimator
2. (a)Is there any fallacy in the statement that the "mean of Binomial distribution is 20 and its standard deviation is 4.
   (b)The probability that a University student will be getting a masters degree is 0.4. Determine the probability that out of 5 students of MA course (a) none, (b) one and (c)at least one will be a masters.
3. The following results are obtained from a sample of 10 boxes of chocolates. Mean weight of contents =490 gms, Standard deviation =9gms. Can you make any conclusion that the sample was collected from a population having mean greater than 500 gms.[Given for d.o.f 9 $t_{.05}$= 1.833 , $t_{.025}$ =2.262 , $t_{.01}$= 2.821 , $t_{.005}$= 3.250]

4. The table given below shows the data obtained from 2000 samples from Kota area during the period of occurrence of small pox.

	Attacked	Not Attacked	Total
Inoculated	31	469	500
Not Inoculated	185	1315	1500

Use a suitable test to understand whether there is any significant relation between inoculation and attack of small pox.Use the test for 5% level of significance[Given $F_{.05}$=18.50 , $\chi^2_{.05}$ = 3.841 for dof 1].

Section C. Answer <u>any two</u> of following questions   [10X2=20 marks]

1. Derive the Mean and Variance of the Poisson distribution

2. What is a Normal Distribution? Discuss the properties of a Normal Distribution.

3.Derive the Poisson distribution from Binomial distribution.