DOON UNIVERSITY, DEHRADUN
Semester Final Examination, 2012
School of Social Sciences
MSc Economics, Semester I
Course: SSE 144 :Statistics

Time Allowed:3 hours   Maximum Marks: 50

Note: Attempt Questions from Sections A, B, C.

Section A: Answer any five of the following questions   [5X2=10]

1. Differentiate between an additive model and a multiplicative decomposed model of time series.
2. What do you understand by 'splicing'.Give a suitable example.
3. What is conditional probability? Explain
4. Two cards are drawn from a pack of cards in succession with replacement. Find the probability that both are aces.
5. What is permutation and combination?
6. What is the basic difference beween Laspayer's Index and Paasche's Index?Illustrate with an example.

Section B:Answer any four questions in this section   [4X5=20]

1.What do you understand by a chain base method? Mention the main uses of the chain base method.

2. The scores of two applicants for a job in the last ten examinations are as follows

| A | 28 | 32 | 47 | 63 | 71 | 39 | 10 | 60 | 96 | 14 |
| B | 31 | 19 | 48 | 53 | 67 | 90 | 10 | 62 | 40 | 80 |

Find which of the two applicant is more consistent in scoring.

3.The information relating to marks obtained by 250 students in Statistics and Economics in the end fall semester at Yale University were as follows

Statistics: Mean=48, Standard deviation=4, Economics: Mean=55, Standard deviation=5, coefficient of correlation was 0.8.Find out the two regression equations that you can find from the given data considering that no information regarding the cause and effect of the relationship between the subjects are given.Estimate the most probable marks of Statistics if the marks in economics is 60.

4. Calculate the trend using 7 yearly moving average method from the given values of industrial production of Mc.Kinley and Co for the last 16 years.Use graph to show the trend and interpret your results as a statistician for the next board meeting of the company.

Year	1996	1997	1998	1999	2000	2001	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Produc tion (mn. Tones)	110	104	98	105	109	120	115	110	114	122	130	127	122	118	130	140

5.Prepare an interview schedule to carry out a study on effect of climate change in Dehradun on the business community.[limit your number of questions to 10-15 questions]

Section C:Answer <u>the</u> questions   [2X10=20]

1. Explain the following terms with examples
      Equally likely, Exhaustive Events, Mutually exclusive events, Elementary events,
      Subjective approach of probability.
2. Prove the following properties of regression coefficient
      a. A.M of regression coefficient is greater than correlation coefficient
      b. If one of the regression coefficient is greater than unity then the other is less than unity