

DOON UNIVERSITY, DEHRADUN
Mid- Semester Examination, 2017
School of Social Sciences
Msc.Economics Integrated (Second Semester)
Course Code: SSEI-153 Statistical Methods II

Time Allowed: 2 Hours

Maximum Marks: 30

Note: Attempt as per instructions

All the best ☺

Section A (Attempt all questions)

(1*6= 6marks)

1. While obtaining the coefficients of binomial distribution, in each succeeding term the power of q is _____ and power of p is _____.
2. If γ^2 is negative, it indicates _____.
3. If the value of mean is 6, what are the values of β_1 _____ and β_2 _____?
4. Find the area in between $z = -0.3$ and $z = 0.7$
5. The normal curve is asymptotic in nature. What does it mean?
6. If Price for the current year is Rs.80 and for the base year is Rs.70, whereas the quantities are 6kg and 5 kg respectively, what would be the quantity index?

Section B Attempt any three questions.

(3*3=9 marks)

1. From the chain base index numbers, prepare fixed base index

Year	1993	1994	1995	1996	1997	1998
C.B.I	92	102	104	98	103	101

2. If it rains a dealer in umbrella can earn Rs.300 per day, if it does not rain he can lose RS. 80 per day. What is his expectation if the probability of a rainy day is 0.57?
3. Is there any fallacy in the given statement? If so why do you think so? If not justify.
"The mean and standard deviation is 20 and 7 respectively for a binomial distribution"
4. The mortality rate for a certain disease is 7 in 1000. What is the probability for just 2 deaths on account of this disease in a group of 400? (Given $e^{-2.3} = 0.04$, $e^{-2.8} = 0.06$, $e^{-2.9} = 0.08$)

Section C Long answer type questions.

(7.5*2=15 marks)

1. Calculate the price index no with the ideal method and Prove that it satisfies time reversal and factor reversal test:

Commodity	Price (1998)	Value	Price (2004)	Value
A	4.50	90	10.50	231.00
B	7.00	280	13.00	585.00
C	14.00	56	32.00	160.00
D	16.50	49.50	28.00	56.00
E	5.00	10.00	9.00	13.50

2. The screws produced by a certain machine were checked by examining samples of 128. The following table shows the distribution of 128 samples according to the number of defective items they contained:

No. of defectives in a sample of 128	0	1	2	3	4	5	6	7
No. of Samples	7	6	19	35	30	23	7	1

Fit a binomial distribution and find the expected frequencies if the chance of screw being defective is $\frac{1}{2}$. Find the mean and variance of the fitted distribution.

3. The following table gives frequencies of occurrence of a variate between certain limits:

Variate (X)	Frequency(f)
Less than 40	30
40 or more but less than 50	33
50 and more	37

If the distribution is exactly normal, find the mean and standard deviation.