

DOON UNIVERSITY, DEHRADUN

Mid-Semester Examination, 2016

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 All Questions from Sections A & Section B & any two questions from Section C All the best☺

Section A (Attempt all questions)

(5 marks)

1. The value of $\beta_1 =$ _____ $\beta_2 =$ _____ in case of probability density function.
2. The exponents of p & q for any single term when added together always sum to _____
3. $Y_c = 88.43 + 5.04X$: Convert the annual trend to monthly trend equation.
4. The secular trend ignores _____ whereas _____ variations consider the same.
5. From the following calculate F.B.I

Year	C.B.I	F.B.I
2001	60	
2002	110	
2003	120	

Section B Attempt all questions.

(3+3+4=10 marks)

1. 1000 bulbs with a mean life of 120 days are installed in a new factory, their length if life is normally distributed with standard deviation 20 days, how many bulbs will expire in less than 90 days? How many of them will have a mean life less than 80 days but more than 25 days?
2. Find out the index number of the following taking 2010 as base. Also highlight the previous base year.

Year	Index No.	Year	Index No.
2008	100	2012	201
2009	108	2013	225
2010	120	2014	240
2011	150		

3. A) Differentiate between irregular variations & seasonal variations with examples.
 B) You are given the following trend equation: $Y = 20 + 0.8 X$. (Origin 2013) Find out the new trend line for origin 2007 & 2015.
- OR**

Five fair coins were tossed 100 times. From the following calculate expected frequencies:

No. Of heads Up	0	1	2	3	4	5
Observed	2	10	24	35	18	8

Frequency						
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Section C Attempt any two questions.

(7.5*2=15 marks)

1. A) In Delhi with 100 municipal wards, each having approximately the same population, the distribution of typhoid cases are as follows-

No. Of cases	0	1	2	3	4
No. Of Wards	63	28	6	2	1

Fit the suitable distribution and calculate the expected frequencies.

OR

- B) The results of a particular examination are given below

Results	Percentage of candidates
Passed with distinction	20
Passed	45
Failed	35

It is known that a candidate gets plucked if he obtains less than 40 marks while he must obtain at least 75 marks in order to pass with distinction. If the distribution is perfectly normal, find out the mean & standard deviation marks.

2. Using the data construct an ideal index and show that it satisfies both factor reversal test and Time reversal test. Also, Verify for all the methods.

Commodity	Price Base Year	Price Current Year	No. Of Units Base Year	No. Of Units Current Year
A	2	5	40	75
B	4	8	16	40
C	1	2	10	24
D	5	10	25	60