

SUBJECT: QUANTITATIVE TECHNIQUES

Day: Monday
Date: 03/12/2018

W-2018-1150

Time: 02.30 pm to 05.30 pm
Max Marks: 60

N.B.:

- 1) Question No. 1 is **COMPULSORY**. Attempt any **FOUR** of the remaining six questions.
- 2) Figures to the right indicate **FULL** marks.
- 3) Use of **NON-SCIENTIFIC CALCULATOR** is **PERMITTED**.

Q.1 Attempt **ANY FOUR** of the following: - **(20)**

- a) State the merits and demerits of Mean.
- b) State the different measures of dispersion and explain any one of them.
- c) Explain Point and Interval estimates.
- d) State the advantages of simulation.
- e) Explain Type I and Type II errors in hypothesis testing.

Q. 2 Calculate the Mean and Median from the following data:

Weight (in Kg)	93-97	98-102	103-107	108-112	113-117	118-122	123-127	128-132	(10)
No. of Persons	03	05	12	17	14	06	03	01	

Q. 3 In a class of 50 students 20 are considered to be above average and 30 students are considered to be average. The probability that an above average student fails in a viva voce exam is 0.005 and that an average student fails is 0.01. If the student is known to have failed the viva voce exam, what is the probability that the student is above average? **(10)**

Q. 4 Calculate Karl Pearson's Coefficient of Correlation between the variables X and Y from the following data: **(10)**

X	6	2	10	4	8
Y	9	11	5	8	7

Q. 5 The rainfall distribution is as follows:

Rain (in cm)	0	1	2	3	4	5	(10)
No. of Days	50	25	15	5	3	2	

Simulate the rainfall for 10 days using the following Random Numbers: 67, 63, 39, 55, 29, 78, 70, 06, 78, 76

Q. 6 A sample of 100 items gave a mean of 7.4 Kg and standard deviation of 1.2 Kg. Find 95% and 99% confidence limits of the population mean. **(10)**

Q.7 Calculate the 5-year moving averages of the following data set:

Year	2000	2001	2002	2003	2004	2005	2006	2007	(10)
Value	130	127	124	135	140	132	129	127	
Year	2008	2009	2010	2011	2012	2013	2014		
Value	145	158	153	146	145	164			