

Reg. No

Name

M. Sc DEGREE END SEMESTER EXAMINATION - OCTOBER 2019**SEMESTER 1 : ENVIRONMENTAL SCIENCE****COURSE : 16P1EVST02 : RESEARCH METHODOLOGY - I***(For Regular - 2019 Admission and Supplementary - 2016/2017/2018 Admissions)*

Time : Three Hours

Max. Marks: 75

Section A**Answer any 10 (2 marks each)**

1. List the different graphical representations of data? Give details of any two.
2. Define 'Non-probability sampling'.
3. What are the merits and demerits of 'Mode'?
4. How do we calculate 'Median' for discrete data.
5. What is 'Skewness' and what are its advantages?
6. List out the different measures of dispersion.
7. Explain Pearson's coefficient of correlation.
8. Define 'Simple linear regression'.
9. What are the properties of Binomial distribution?
10. Define Poisson distribution.
11. Define 'Level of confidence'.
12. Briefly explain 'Statistical hypothesis'.

(2 x 10 = 20)

Section B**Answer any 5 (5 marks each)**

13. Explain with examples the 'Exclusive' and 'Inclusive' method of determining limits of class intervals
14. What are the advantages and disadvantages of 'Mean'? Find the mean of 10,12,9,11,5,7,15 .
15. Define standard deviation and compute the coefficient of variation for the following observations 7,9,10,8,6,5.
16. Calculate the Pearson's coefficient of correlation from the following data taking 100 and 50 as the assumed averages of x and y respectively.

X:	104	111	104	118	117	105	108	106	100	104	105
Y:	57	55	47	45	50	64	63	66	62	69	61
17. State the following:
 - a) Addition theorem of probability with example.
 - b) Product theorem.
18. Distinguish between:
 - a) Null and Alternative hypothesis
 - b) Simple and Composite hypothesis
19. Define 'Life table'.
20. Define 'Vital statistics' and list out its uses.

(5 x 5 = 25)

Section C
Answer any 2 (15 marks each)

21. What do you mean by histogram and ogive? Explain their construction with the help of sketches?

22. Find the standard deviation for the following distribution

X	4.5	14.5	24.5	34.5	44.5	54.5	64.5
f	1	5	12	22	17	9	4

23. a. Compute the coefficient of Rank correlation between X and Y from the data given below

X	8	10	7	15	3	20	21	5	10	14	8	16	22	19	6
Y	3	12	8	13	20	9	14	11	4	16	15	10	18	23	25

b. Deduce the Karl Pearson's coefficient of correlation between X and Y

X	23	27	28	28	29	30	31	33	35	36
Y		12	8	13	20	9	14	11	4	16

24. Explain the fitting of straight line of the form $Y=ax+b$ and obtain the normal equations? Fit a straight line for the following data

x :	2	4	6	8	10
Y:	12	16	18	22	24

(15 x 2 = 30)