Reg. No ..... Name **18P128**

MSc DEGREE END SEMESTER EXAMINATION - NOVEMBER 2018

SEMESTER 1 : ENVIRONMENTAL SCIENCE

COURSE : **16P1EVST02 : RESEARCH METHODOLOGY - I**

(For Regular - 2018 Admission & Supplementary - 2017 & 2016 Admissions)

Time : Three Hours Max. Marks: 75

Section A
Answer any 10 (2 marks each)

1. Define probability sampling.
2. How can we tabulate a statistical data?
3. Define any three types of averages.
4. State the merits and demerits of mean.
5. Define mean deviation.
6. Explain the term skewness.
7. What are the features of correlation?
8. Define simple linear regression.
9. Define Binomial distribution.
10. What are the properties of Binomial distribution?
11. Define Null hypothesis.
12. Define Z-test.

(2 x 10 = 20)

Section B
Answer any 5 (5 marks each)

13. Point out the advantages of sampling over census.
14. The average weight of 25 boys was 75.4kg. It was later found that the weight of one boy was misread as 56kg instead of the correct value 92kg. Calculate the correct average?
15. Define standard deviation and compute coefficient of variation for the observations 7,9,10,8,6,5.
16. Define Karl Pearson's coeffcient correlation. What is it intended to measure?
17. Briefly explain principle of least squares ? Also explain the fitting of straight line and obtain the normal equaions.
18. Define normal distribution and state the properties.
19. Define testing of hypothesis and i.Significance level ii.Null hypothesis iii.Alternative hypothesis iv.Critical value
20. Explain the construction and structure of a life table.

(5 x 5 = 25)

Section C

Answer any 2 (15 marks each)

21. What is meant by histogram and ogive? Explain their construction with the help of sketches?

22. Calculate mean, median and mode from the following data

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Frequency	5	14	29	21	25	21	10	7	15	3

23. Find the standard deviation for the following distribution

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

24. Explain Spearman's rank correlation coefficient? Bring out its usefulness. How does this coefficient differ from Karl Pearson's coefficeint correlation

(15 x 2 = 30)