



Register Number:

DATE: 24-10-2019

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BENGALURU – 27
B.Sc. ENVIRONMENTAL SCIENCE – III SEMESTER
SEMESTER EXAMINATION: OCTOBER 2019

ES – 318: ENV. MICROBIOLOGY, ENV. BIOTECHNOLOGY AND BIostatISTICS

TIME: 2½ HOURS

MAX MARKS: 70

This question paper comprises of 3 parts and two printed pages

Instruction: Draw diagrams wherever necessary

PART – A

Answer any ten of the following

10X2 = 20

1. What are environmental determinants?
2. What is droplet infection?
3. What are air borne infections? List any two of them.
4. What is biofouling?
5. What are rhizosphere microflora?
6. What is side effect testing?
7. List any four genetically engineered agricultural crops.
8. List the limitations of statistics.
9. Differentiate between a population and a sample.
10. Differentiate between univariate and bivariate data.
11. Calculate the median for the set (20, 30, 40, 40, 50)
12. What is mode? Mention its types.

PART – B

Write explanatory notes on any four of the following

4X5 = 20

13. Sick building syndrome
14. Composting
15. Biosensors
16. Types of scatter diagrams
17. Represent the following data in a histogram

C-I	0-10	10-20	20-40	40-45
f	04	08	02	04

18. Calculate the standard deviation of the set (02, 03, 05, 06, 07)

PART – C

Answer all the questions

3X10 = 30

19. Give a detailed account of temperature as an environmental determinant.

OR

Give an account of waterborne diseases.

20. Present an account of biodegradation of DDT.

OR

Present an account of bioremediation of an aquifer.

21. Calculate the Karl Pearson's co-efficient for the following data.

x	02	03	04	05	06	07	08
y	08	07	06	05	04	03	02

OR

Reduction of BOD, using two industrial products **BOR₁₂** and **O₂IN** was attempted for a dairy effluent, over a period of seven days. The BOD remaining, day wise, after treatment, in percentage, is tabulated below. Using the 't' test, decide which product is more efficient in reducing the BOD of dairy effluent.

The tabulated 't value' at 12 degrees of freedom and $p = 0.050$ is 2.145.

BOR₁₂	05	07	06	04	03	03	06
O₂IN	02	02	03	03	04	04	04

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