



DAG-003-2014014 Seat No. _____

B. Sc. (Sem. IV) (W.E.F. 2019) Examination

April - 2022

**BT401 : Environmental biotechnology &
Biostatistics**

Faculty Code : 003

Subject Code : 2014014

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- 1 (A) Answer the Questions (1 Mark Each) 4
- (1) Define Ecosystems.
 - (2) _____ is a type of environment that is defined by the types of organisms that live there.
 - (3) Where is nitrogen found in the environment ?
 - (4) What is red data book ?
- 1 (B) Answer the Question - Any One out of Two 2
- (1) Describe population dispersion methods.
 - (2) Write Benefits of Biodiversity.
- 1 (C) Answer the Question - Any One out of Two 3
- (1) Describe Tundra biome in detail.
 - (2) Write note on types of biodiversity.
- 1 (D) Answer the Question - Any One out of Two 5
- (1) Describe Carbon cycle.
 - (2) Write a note on population interaction with their examples.

- 2 (A) Answer the question (1 mark each) 4
- (1) Chlorinate hydrocarbon pesticide such as DDT are usually magnified in food chain. True/False.
 - (2) What is pH of acid rain ?
 - (3) Name common air pollutants.
 - (4) What is full form of MPN ?
- 2 (B) Answer the Question - Any One out of Two 2
- (1) Define Biomagnification
 - (2) Define Xenobiotics.
- 2 (C) Answer the Question - Any One out of Two 3
- (1) Write note on bioremediation.
 - (2) Write note on reaction of biodegradation of nitrobenzene.
- 2 (D) Answer the Question - Any One out of Two 5
- (1) Discuss in detail about air pollution.
 - (2) Discuss in detail about biodegradation of DDT.
- 3 (A) Answer the Question (1 Mark Each) 4
- (1) _____ is used for bioplastic preparation.
 - (2) _____ is used in Vermi composting.
 - (3) Trickling filter is _____ treatment.
 - (4) COD stands for _____
- 3 (B) Answer the Question - Any One out of Two 2
- (1) Define Sewage.
 - (2) Write applications of composting.
- 3 (C) Answer the Question - Any One out of Two 3
- (1) Explain in detail about anaerobic digestion.
 - (2) Enlist properties of waste water.
- 3 (D) Answer the Question - Any One out of Two 5
- (1) Explain the primary, secondary and tertiary treatment of waste water.
 - (2) Enlist and explain types of Biofertilizers.

- 4 (A) Answer the Question (1 Mark Each) 4
- (1) _____ is known as difference between largest and smallest data value.
 - (2) _____ is known midpoint of the data.
 - (3) _____ and _____ are referred as measures of dispersion,
 - (4) Calculate mean of following values : 80, 60, 70, 80.
- 4 (B) Answer the Question - Any One out of Two 2
- (1) Write merits and demerits of Median.
 - (2) Write merits and demerits of Range.
- 4 (C) Answer the Questions - Any One out of Two 3
- (1) Calculate the value of mean for the following distribution.
- | | | | | | | |
|------------------------------|---|---|----|----|---|---|
| <i>No. of road accidents</i> | 0 | 1 | 2 | 3 | 4 | 5 |
| <i>No. of persons</i> | 4 | 7 | 12 | 18 | 5 | 4 |
- (2) Write in detail about mean.
- 4 (D) Answer the Question - Any One out of Two 5
- (1) What is measure of dispersion ? Write in detail how to calculate standard deviation, its merits and demertis.
 - (2) What is frequency distribution ? Write in detail about frequency distribution table.
- 5 (A) Answer the Question (1 Mark Each) 4
- (1) Write full form of ANOVA.
 - (2) _____ hypothesis is a type of statistical hypothesis that proposes that no statistical significance exists in a set of given observations.
 - (3) Who gave formula to calculate correlation ?
 - (4) A significance level of 0.05 indicate a 5% risk of concluding that a difference exists when there is no actual difference. (True or false).

- 5 (B) Answer the Question - Any One out of Two 2
- (1) Define Null and alternate hypothesis.
 - (2) Write two regression equations.
- 5 (C) Answer the Question - Any One out of Two 3
- (1) Write note on correlation coefficient.
 - (2) Write steps of inference statistics.
- 5 (D) Answer the Question - Any One out of Two 5
- (1) What is t test ? Write types of t test and applications of t test.
 - (2) Write in detail about ANOVA.
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