Seat No. _____

HI-003-2014014

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

April - 2023

BT-401 : 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) Ecosystem is smallest unit of _____.

(2) An association between two individuals or populations where both are benefitted and where neither can survive without the other is _____.

(3) Forest, grassland and deserts are examples of _____ ecosystem.

(4) _____ zone lies at the bottom of the sea.

(b) Answer the question : (any one) **2**

(1) Give examples of animals found in desert.

(2) Give examples of species found in saline ecosystem.

(c) Answer the question : (any one) **3**

(1) Describe tropical biome in detail.

(2) Write note on population model.

(d) Answer the question : **5**

(1) Write a note on populations interactions with their examples.

(2) Write note on biodiversity conservation.

2 (a) Answer the question : (1 mark each) **4**

(1) What are the three R's to save the environment ?

(2) Deforestation may reduce the chances of _____

(3) Give example of xenobiotic compound.

(4) Define bio magnification.

(b) Answer the question : (any one) **2**

(1) Define xenobiotics.

(2) Role of microbes to degrade pollutants.

(c) Answer the question : (any one) **3**

(1) Write note on air pollution and its implications.

(2) Write note on reactions of biodegradation of nitrobenzens.

(d) Answer the question : (any one) **5**

(1) Discuss in detail about Acid rain.

(2) Discuss in detail about biodegradation of DDT.

3 (a) Answer the question : (1 mark each) **4**

(1) Earthworm is used in _____

(2) Trickling filter is _____ treatment.

(3) Example of Biofertilizers.

(4) Disinfection of water is mainly done by _____.

(b) Answer the question : (any one) **2**

(1) Write properties of sewage.

(2) Write applications of composting.

(c) Answer the questions : (any one) **3**

(1) Explain in detail anaerobic digestion.

(2) Write note on Bioleaching.

(d) Answer the question : (any one) **5**

(1) Explain the types of waste treatment.

(2) Write note on types of Biofertilizers.

4 (a) Answer the question : (1 mark each) **4**

(1) Define skewness.

(2) Most frequently occurring value in the data is _____

(3) Calculate mean of 25, 23, 24,35, 34, 44

(4) Standard deviation is measure of degree of variation (true / false)

(b) Answer the question : (any one) **2**

(1) Write merits and demerits of Standard deviation.

(2) Write applications of Biostatistics.

(c) Answer the Questions : (any one) **3**

(1) Calculate AM from the following data.

Marks	10	20	30	40	50	60
No. of Students	8	12	20	10	7	3

(2) What is data ? Write in detail about types of data.

(d) Answer the question : (any one) **5**

(1) Write in detail about measure of central tendency and subtypes.

(2) Write note on frequency distribution.

5 (a) Answer the questions : (1 mark each) **4**

(1) What is parameter used to measure ANOVA ?

(2) _____ Hypothesis is accepted when calculated value is more than table value.

(3) Write formula for regression equation.

(4) X^2 test is non parametric test (True or False)

(b) Answer the question : (any one) **2**

(1) Define Goodness fit in X^2 test.

(2) Write applications of regression equations.

(c) Answer the question : (any one) **3**

(1) Write note on correlation coefficient.

(2) Write in detail about unpaired t test.

(d) Answer the question : (any one) **5**

(1) Explain one way ANOVA with example.

(2) Write in detail about X^2 test.