

B.Sc. Semester - 4 (CBCS) Examination
April/May -2022 [OLD COURSE]
BIO-TECHNOLOGY (CORE)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Question-1

Q. 1 Answer the questions:**a. Answer one out of two-****(07 Marks)**

- i. Discuss carbon cycle in detail.
- ii. Explain different methods for Biodiversity conservation.

b. Answer one out of two-**(04 Marks)**

- i. Write notes on Desert ecosystem.
- ii. Illustrate any one population growth curve in detail.

c. Answer any three out of five-**(03 Marks)**

- i. Define Biomes.
- ii. Write one source of sulphur in environment.
- iii. Define commensalism.
- iv. What is *ex-situ* conservation.
- v. Define population.

Question-2

Q. 2. Answer the questions:**a. Answer one out of two-****(07 Marks)**

- i. Discuss biodegradation of Xenobiotics.
- ii. Give the detail account of Bioremediation.

b. Answer one out of two-**(04 Marks)**

- i. Write notes on acid rain.
- ii. Give brief account on degradation of DDT.

c. Answer any three out of five-**(03 Marks)**

- i. Give any one example of carbohydrate breakdown pathway in bacteria.
- ii. Mention one example of xenobiotic compound.
- iii. Define Biomagnification.
- iv. Which compound produced after incomplete combustion of carbon.
- v. Give the one name of compound cause acid rain.

Question-3

Q. 3 Answer the questions:**a. Answer one out of two-****(07 Marks)**

- i. Give the detail of any seven physicochemical properties of water.
- ii. Give the detail account of secondary treatment process.

b. Answer one out of two-**(04 Marks)**

- i. Write short notes on Bioleaching.
- ii. Explain about Biofertilizer with example.

c. Answer any three out of five-**(03 Marks)**

- i. What is turbidity.
- ii. Define COD.
- iii. Define primary treatment.
- iv. What is purpose of anaerobic digestion.
- v. What is function of nitrogenase.

Question-4

Q. 4 Answer the questions:

a. Answer one out of two-

(07 Marks)

i. Discuss sampling technique.

ii. Define measure of central tendency. Discuss merit and demerit of mode.

b. Answer one out of two-

(04 Marks)

i. Describe scope of Biostatistics.

ii. Write short notes on Coefficient of variance and its application.

c. Answer any three out of five-

(03 Marks)

i. If the arithmetic mean of 20 values is 10, then sum of these 20 values is.....

ii. Distribution which shows the cumulative figure of all the observations placed below upper limit of classes in distribution is considered as.....

iii. The midpoint of the values after they have been ordered from the smallest to the largest or the largest to the smallest is called Median-True/False

iv. Define geometric mean.

v. While computing the arithmetic mean of a frequency distribution, the each value of a class is considered equal to higher limit-True/False.

Question-5

Q. 5 Answer the questions:

a. Answer one out of two-

(07 Marks)

i. Give the detail account of chi-square test and its application?

ii. Explain analysis of variance with its application in Biology.

b. Answer one out of two-

(04 Marks)

i. Write difference between Binomial and Poisson distribution.

ii. Briefly write on student's t-test

c. Answer any three out of five-

(03 Marks)

i. Define correlation.

ii. What is skewness .

iii. In a single toss of a coin what is the probability of coming tail?

iv. Write full form of ANOVA.

v. Define conditional probability.
