

B.Sc. Semester - 4 (CBCS) Examination
March/April-2024 [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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- Que.1(A) Answer the following. (Any one Out of Two) (07)
1. Models of population growth and Interactions.
 2. Short note on: Various factors affecting biodiversity.
- Que.1(B) Attempt any one. (Out of Two) (04)
1. Short note on: Forests and Aquatic Biomes.
 2. Discuss: Carbon cycle.
- Que.1(C) Attempt any three. (Out of Five) (03)
1. Define: Population.
 2. Write two names of microorganism involved in sulphur cycle.
 3. What is genetic biodiversity.
 4. Explain: Biodiversity.
 5. Gir National Park located at _____ state.
- Que.2(A) Answer the following. (Any one Out of Two) (07)
1. Explain process of Biomagnification.
 2. Discuss in detail: Biodegradation of Xenobiotics.
- Que.2(B) Attempt any one. (Out of Two) (04)
1. Biodegradation of Nitrobenzene.
 2. Describe in short: Acid mine drainage.
- Que.2(C) Attempt any three. (Out of Five) (03)
1. Define: Bioremediation.
 2. Full form of AMD.
 3. How many different types of primary pollutants together contribute to about 90 per cent of the global air pollution? (3 / 5 / 6)
 4. _____ is called the secondary air pollutant. (Nitrogen Dioxide / Ozone)
 5. Organic acid is found in acid rain. (True/False)
- Que.3(A) Answer the following. (Any one Out of Two) (07)
1. Primary, Secondary and Tertiary treatment processes.
 2. Explain in detail: Biofertilizers.

- Que.3(B) Attempt any one. (Out of Two) (04)
1. Write the brief about Chemical & Biological properties of drinking water.
 2. Short note on Bioplastics.
- Que.3(C) Attempt any three. (Out of Five) (03)
1. Define: Potable water.
 2. Give the full form of BOD
 3. Write two name of microorganism act as biocontrol.
 4. Explain: Bioleaching.
 5. What is Sludge?
- Que.4(A) Answer the following. (Any one Out of Two) (07)
1. Brief note on: Frequency distribution.
 2. Explain: Samples and population concept, Collection and Presentation of data.
- Que.4(B) Attempt any one. (Out of Two) (04)
1. Explain: Arithmetic, Harmonic and Geometric Mean,
 2. Short note on: Variance and Standard Deviation.
- Que.4(C) Attempt any three. (Out of Five) (03)
1. Explain: Biostatistics.
 2. What is Coefficient of Variance?
 3. Biostatistics is also known as _____. (Statistics in biology / Biometry)
 4. Find the mean in the given data set (11, 12, 14, 14,15, 16).
 5. Who is regarded as father of Biostatistics?
- Que.5(A) Answer the following. (Any one Out of Two) (07)
1. Discuss: ANOVA.
 2. Short note on: Linear, Bivariate regression analysis.
- Que.5(B) Attempt any one. (Out of Two) (04)
1. Skewness and kurtosis and their properties.
 2. Probability and Conditional probability.
- Que.5(C) Attempt any three. (Out of Five) (03)
1. Define: Correlation analysis.
 2. Full form of ANOVA.
 3. Flower colour is_____ type of variable. (Qualitative / Quantitative)
 4. What is probability of 3 when throwing dice once?
 5. Minimum two replications need for ANOVA preparation. (True/False)
