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BSc4BiTC0401 **Seat No: _____**
B.Sc. Semester - 4 (CBCS) Examination
March/April- 2018
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 Answer the following :

- (A) Answer the following questions in Short. (04)
- (1) What is red data book?
- (2) Interaction in which one is benefitted and other is neither benefitted nor harm is called....
- (3) Total species diversity in a landscape or in large region is called.....
- (4) Define carrying capacity.
- (B) Answer any one out of two. (02)
- (1) What is ecotone? (2) What is trophic level?
- (C) Answer any one out of two. (03)
- (1) Give the reason for loss of Biodiversity.
- (2) Briefly write on freshwater ecosystem.
- (D) Answer any one out of two. (05)
- (1) Discuss the nitrogen cycle in detail.
- (2) Give the detail account of Biodiversity conservation.

Que-2 Answer the following :

- (A) Answer the following questions in Short. (04)
- (1) Write one name of oil spill bacteria.
- (2) Microbes widely used for removal of industrial waste.....
- (3) Acid rain contain.....acid.
- (4) Write name of one microorganism that are capable to degrade DDT.
- (B) Answer any one out of two. (02)
- (1) Differentiate anabolism and catabolism with one example of each.
- (2) What is xenobiotics.?
- (C) Answer any one out of two. (03)
- (1) Briefly explain acid rain and its cause.
- (2) Give an account of Biomagnification.
- (D) Answer any one out of two. (05)
- (1) Explain the pathway for biodegradation of hydrocarbon.
- (2) Write the various reason of air pollution. Give the example of few air pollutants.

Que-3 Answer the following :

- (A) Answer the following questions in Short. (04)
- (1) The process of extracting metal from rock by using microbes.
- (2) Write name of any antifungal drug.....
- (3) Polyhydroxyalkanoates used to manufacture of.....
- (4) Enzyme help in nitrogen fixation by plant is.....
- (B) Answer any one out of two. (02)
- (1) Write difference between primary and secondary treatment of waste water.
- (2) What do you mean by anaerobic digestion.
- (C) Answer any one out of two. (03)
- (1) Write short notes on bioleaching.

- (2) Define biofertilizer with few example.
- (D) Answer any one out of two. (05)
- (1) Write physical, chemical and biological properties of waste water.
- (2) Write the mechanism of Nitrogen fixation.

Que-4 Answer the following :

- (A) Answer the following questions in Short. (04)
- (1) What will be median value of the data 25, 10, 16, 25, 12, 22, 20, 23, 13, 10?
- (2) The process of drawing a sample from a population is known as _____ .
- (3) Define standard deviation.
- (4) Number of observations are 30 and value of arithmetic mean is 15 then sum of all values is.....
- (B) Answer any one out of two. (02)
- (1) What is coefficient of variance?
- (2) What do you mean by sample and population concept?
- (C) Answer any one out of two. (03)
- (1) Write application of Biostatistics.
- (2) Write difference between arithmetic, harmonic and geometric mean.
- (D) Answer any one out of two. (05)
- (1) Explain various way of presentation of data?
- (2) The monthly salaries of 5 people are 3000, 4000, 4200, 4500, 5000 Calculate the standard deviation.

Que-5 Answer the following :

- (A) Answer the following questions in Short. (04)
- (1) What symbol is used to represent chi-square?
- (2) Give the example of parametric test.
- (3) What is the range of correlation coefficient?
- (4) In a single toss of a coin what is the probability of coming head.
- (B) Answer any one out of two. (02)
- (1) Define Null and alternative hypothesis.
- (2) Explain the concept of degree of freedom.
- (C) Answer any one out of two. (03)
- (1) Give the diagrammatic explanation of Skewness.
- (2) Define regression, its types and application in Biology .
- (D) Answer any one out of two. (05)
- (1) Explain chi-square test and its application.
- (2) What do you mean by ANOVA? Discuss its types and calculation strategy.
