

Total No. of Questions : 5]

SEAT No :

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[5117]-301

T.Y.B.Sc.

BIOTECHNOLOGY

**Bb-331: Microbial Biotechnology
(2013 Pattern) (Semester-III)**

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Draw neat labelled diagrams wherever necessary.*
- 3) *Figures to the right indicate full marks.*

Q1) Answer all the following in 2-4 lines.

[20]

- a) Define yield coefficient and state its significance in microbial growth.
- b) Give classification of microorganisms on the basis of pH requirement.
- c) What are Biosensors ? Mention any two types.
- d) Mention the use of GMOs in medicine with examples.
- e) What is TDT ? Mention its role in food preservation.
- f) What is biotransformation. Comment on Indigo biotransformation.
- g) BOD is the important criterion of effluent treatment. Justify it.
- h) Mention the use of microorganisms in metal extraction.
- i) Define enzyme immobilization and state its advantages in industrial usages.
- j) What are indicators of faecal pollution? State their significance with examples.

Q2) Attempt the following questions (any three).

[3×5=15]

- a) Discribe the role of compatible solutes in adaptation of Halophiles in extreme conditions.
- b) Explain in brief benefits of normal flora to humans.
- c) Describe trickling filter for treatment of wastewater.
- d) Compare and contrast contineous culture and batch fed culture.

P.T.O.

Q3) Write short notes on: (any three)

[3×5=15]

- a) Phosphatase test.
- b) Use of chemicals in food preservation.
- c) Biosafety norms in Biotechnology.
- d) Bioplastic - Biopol.

Q4) a) Give an account of drinking water purification methods with reference to sedimentation, coagulation and filtration. **[8]**

OR

With the help of flow diagram give routine Bacteriological analysis of water for potability. **[8]**

b) Describe food intoxication and infection caused by salmonella typhi. **[7]**

Q5) Attempt any one of the following.

[15]

- a) Discuss the tuberculosis with respect to
 - i) Causative agent
 - ii) Symptoms
 - iii) Pathogenesis
 - iv) Treatment
 - v) Prophalaxis
- b) Enlist different methods of pasteurization and discuss the process of grading of milk. Brucella ring test and Mastitis test - Give significance.

