

**2015**

**M.Sc.**

**3rd Semester Examination**

**BIOTECHNOLOGY**

**PAPER—BIT-303**

*Full Marks : 40*

*Time : 2 Hours*

*The figures in the right-hand margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

**Answer all questions.**

**Group—A**

1. Answer any *five* questions from the following :

- (a) What is fed batch culture ?
- (b) Mention the benefits and disadvantage of continuous culture system.
- (c) What is carrier ? State the significance of carrier in biofertilizer.

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- (d) What do you mean by primary and secondary metabolites ?
- (e) Differentiate between air lift and stirred tank bioreactor.
- (f) Distinguish between COD and BOD.
- (g) Why Azotobacter is termed as associative symbiont ?
- (h) State the difference between prebiotic and probiotic with example.

**Group—B**

Answer any *two* questions : 2×5

- 2. Write a note on commercial production of streptomycin. 5
- 3. State the mechanism for genetic improvement of Microbial strains. What is heterolactic fermentation ? 4+1
- 4. Compare the advantages of ex-situ and in-situ bioremediation. 5
- 5. Write note on (any one) : 5
  - (i) Down Stream Processing ;
  - (ii) Utility of Vermicompost.

**Group—C**

Answer any *two* questions :

6. (a) Discuss and outline the procedure for production of citric acid.  
  
(b) Give an idea about the marketing of biotech product with special emphasis on biofertil
  7. What is bioleaching? How is this process desulfurization of Coal? How are metal compounds recovered from solution by micro methods ?
  8. What is IPR ? Discuss in details about the differ of protection. Mention the advantages and disac of SCP.
  9. What do you know by bioaugmentation ? State t of anaerobic sludge digester in waste water ti  
Write the importance of biosensors.
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