LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – **PLANT BIOLOGY AND PLANT BIOTECHNOLOGY**

SIXTH SEMESTER – **APRIL 2016**

PB 6613 – MICROBIAL TECHNOLOGY

Date: 18-04-2016   Dept. No.   Max. : 100 Marks
Time: 09:00-12:00

PART – A

ANSWER THE FOLLOWING, EACH WITHIN 50 WORDS ONLY.   **(10 x 2=20 marks)**

1. Define the term Biomass. Add a note on its applications.
2. State the functions of Impellers and Spargers.
3. Name any 4 industrially important microorganisms and their products.
4. Outline the basic functions of a fermentor.
5. What is a Mycoprotein? Give an example.
6. List out the importance of Spirulina.
7. Define Vaccine.
8. What is the role of Vitamin B_{12} in human health?
9. What is a Biofertilizer?
10. State the applications of amylase enzyme.

PART – B

ANSWER THE FOLLOWING, EACH WITHIN 500 WORDS; DRAW DIAGRAMS WHEREVER NECESSARY.   **(5 x 7=35 marks)**

11. a) Give a general account on microbial metabolites.

(OR)

   b) Explain the methods used in the isolation of industrially important microorganisms.

12. a) Explain the parts of a fermentor.

(OR)

   b) Give an account on Medium formulation.

13. a) Describe the process involved in the production of cheese.

(OR)

   b) Write a short note SCP as food and feed.

14. a) Mention the steps involved in the production of Penicillin.

(OR)

   b) Explain how insulin is produced through genetic engineering.

15. a) Give an account on Biofuels.

(OR)

   b) Describe the process of citric acid production.

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PART – C

**ANSWER ANY THREE OF THE FOLLOWING, EACH WITHIN 1200 WORDS;
DRAW DIAGRAMS AND FLOW CHARTS WHEREVER NECESSARY.   (3 x 15=45 marks)**

16) Elaborate on the techniques involved in the preservation of industrially important microbes.

17) Enumerate the methods of microbial product recovery after fermentation.

18) Explain the process of Beer and wine production.

19) Illustrate and explain the production of Hepatitis B Vaccine.

20) Discuss on Bioplastics.

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