



**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**

**M.Sc. DEGREE EXAMINATION – FOOD CHEMISTRY AND FOOD PROCESSING**

**THIRD SEMESTER – NOVEMBER 2016**

**BT 3876 - FOOD BIO-TECHNOLOGY**

Date: 14-11-2016  
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

**Part A**

**Answer the following, each within 50 words**

**10 x 2 =20 Marks**

1. Substances such as Saccharin present in artificial sweeteners may induce alterations in the functions of gut microbiota. Justify this statement.
2. Mention the role of nisin as antimicrobial agents.
3. Differentiate edible mushrooms and toad stools
4. List out the organisms involved in the production of MSG (Monosodium glutamate) by fermentation.
5. What are antistaling agents?
6. Who is the father of animal cell culture?
7. How does gene therapy have a role in biotechnology?
8. Mention any two auxins used in plant tissue culture.
9. Expand a) EPA b) IAA
10. What are transgenic animals?

**Part B**

**Answer any eight of the following, each within 500 words. Draw diagrams / flowchart wherever necessary.**

**8 x 5= 40 Marks**

11. Explain the methodology of mushrooms cultivation.
12. Critically analyze the drawbacks of single cell protein technology
13. Write a note on broad and narrow spectrum antibacterial.
14. Describe the role of antibiotics in growth promotion.
15. What are biogums? Explain the production of xanthan gums and as a food chemist highlight the market need for producing such gums.
16. Describe the role of amylase enzymes in baking industry.
17. What are the characteristics of continuous cell lines?
18. Describe the central dogma of molecular biology.
19. Expand AGE and explain the process briefly
20. Briefly explain the importance of Spirulina in food biotechnology.
21. Discuss the role of FDA in food biotechnology.
22. What are transgenic plants? Mentions the advantages of genetically modified crop plants.

### Part C

Answer any four of the following, each within 1000 words. Draw diagrams / flowcharts wherever necessary

4 x 10 =40 Marks

23. Discuss the fermented vegetable product under the following headings

i) Historical perspective of fermented vegetables (2 marks)

ii) Potential use of *Leuconostoc mesenteroides* and related LAB in the initiation of fermentation process. (4 marks)

iii) Cucumber fermentation – An overview (4 marks)

24. i) Write a note on recombinant rennet in cheese production (5 marks)

ii) Role of lactase in dairy industry (5 marks)

25. Explain the composition and structure of DNA with the help of a diagram.

26. What are the applications of transgenic plants and animals?

27. Write an account on golden rice production and its applications.

28. Explain the role of preservatives as antimicrobial agents.

29. Give an account on the significance of rRNA sequencing.

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