



Register Number:

DATE:23-10-19

**ST. JOSEPH'S COLLEGE (AUTONOMOUS), BENGALURU-27**  
**M.Sc. FOOD SCIENCE AND TECHNOLOGY - I SEMESTER**  
**SEMESTER EXAMINATION: OCTOBER 2019**  
**FST 1319 – FOOD CHEMISTRY- B**

**Time- 2 1/2 hrs**

**Max Marks-70**

**This paper contains 1 printed page and 4 parts**

**I. Answer any Five of the following**

**5x3=15**

1. List the enzymes used in beer production.
2. What is the typical concentration of polyphenol oxidase, lipoxygenase and peroxidases in foods?
3. Write a note on Zwitter ion and isoelectric point in amino acid?
4. What is omega fatty acid? Give example.
5. What is dextrinization and caramelisation of sugars?
6. Discuss moisture sorption isotherm with diagram.
7. Give any six differences between lyophilic and lyophobic sols.

**II. Answer any Five of the following**

**5x5=25**

8. Describe the sources and applications of important enzymes in food industry.
9. Explain the quaternary structure of protein.
10. Describe biosynthesis of unsaturated fatty acids in plants.
11. Write notes on inter-esterification of fats and oils.
12. Define and discuss the characteristics of antioxidants.
13. What is modified starch? Give explanation.
14. Write notes on purification techniques of sols.

**III. Answer any Two of the following**

**2x10=20**

15. Discuss in detail the effects of processing on proteins.
16. Describe the application areas of polysaccharides in food industry.
17. Explain in detail the nutritional aspects, bioavailability and utilisation of minerals.

**IV. Answer the following**

**1x10=10**

18. Answer appropriately to the below mentioned questions pertaining to the case study.

Good vs. Bad Fats!

Fat is readily stored in our body tissues whereas carbohydrates and proteins must be metabolized to be converted into fat. Fat always receive a tag of "Bad nutrient" but, they are essential building blocks for our cells and serve multiple physiologically important roles.

1. You are about to make a delicious batch of chocolate chip cookies. You debate between using butter versus margarine. Given that butter has a lot of saturated fat and margarine has a higher percentage of unsaturated fat, which is the healthier choice and why? (5 marks)
2. Is saturated fat bad for health? Yes/No? and why? Give an explanation based on your knowledge on types of fatty acids. (5 marks)

OCT 2019