**ST JOSEPH’S UNIVERSITY, BENGALURU -27**

Registration Number:

Date & Session:

**M.Sc. FOOD SCIENCE & TECHNOLOGY – III SEMESTER**

**SEMESTER EXAMINATION: OCTOBER 2023**

**(Examination conducted in November /December 2023)**

**FST 3322: Food Additives, Contaminants & Toxicology**

**(For current batch students only)**

**Time: 2 Hours Max Marks: 50**

**This paper contains 2 printed page and FOUR parts**

**I. Answer any FOUR of the following 3x4=12**

1. Define and give examples of Class I and Class II preservatives.

2. What are Anticaking agents? Give three examples.

3. Classify chelating agents with examples.

4. List the harmful effects of artificial food additives and its associated diseases.

5. Write the applications of bulking and antifoaming agents

6. Abbreviate POP. List its toxic effects in humans.

**II. Answer any TWO of the following 5x2=10**

7. Write notes on seafood derived natural toxins.

8. Highlight the uses of humectants, acidulants and hydrocolloids in baking industry with

 examples.

9. Write notes on heterocyclic amines and its products formed during food processing.

**III. Answer any TWO of the following 10x2= 20**

10. Describe the various types of emulsifiers along with its mode of action.

11. Write detailed notes on Pesticide residues present in the food and its toxicity.

12. Narrate in detail the implications of animal drug residues in food and water.

**IV. Answer the following 8x1=8**

13. This chemical compound is formed by chemical reaction between sugar and asparagine. It is produced during high temperature cooking such as frying, roasting and baking. The chemical compound is toxic and found to be carcinogenic in nature. Identify the chemical compound, write the molecular structure and elaborate its reaction mechanism.