Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **14FP2002** | **Duration :** | **3hrs** |
| **Sub. Name :** | **FOOD CHEMISTRY** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | What is an emulsion? | CO2 | 2 |
| b. | Discuss in detail on the factors that affect the stability of emulsions. | CO1 | 12 |
| c. | Discuss briefly on the structure of ice. | CO1 | 6 |
| (OR) | | | | |
| 2. | a. | Give an example for (i) aldo pentose (ii) keto hexose (iii) non-reducing disaccharide. | CO1 | 3 |
| b. | What is inversion? | CO1 | 3 |
| c. | What is the principle of Lane and Eynon’s method of total sugar estimation? Outline the method of analysis of estimation of total sugars using the same. Also calculate the amount of reducing and non-reducing sugars in the given Jam sample (5 g). Data given – 10 mL of Fehling’s solution = 60 mg of glucose. Titre reading for reducing sugars = 18 mL and that for total sugars = 23 mL, if 25 mL of the sample is taken for hydrolysis and made up to 250 mL. | CO1 | 14 |
|  |  |  |  |  |
| 3. | a. | What is gelatinization? Discuss on the changes that take place during the process of gelatinization. | CO2 | 10 |
|  | b. | Briefly explain the process of gelation of Low Methoxyl Pectin. | CO2 | 5 |
|  | c. | Discuss briefly on the “egg-box” model of gelation. | CO2 | 5 |
| (OR) | | | | |
| 4. | a. | With a neat flow diagram, explain in detail on the process for the manufacture of HFCS. | CO3 | 15 |
|  | b. | What is DE? How is it calculated? | CO2 | 5 |
|  |  |  |  |  |
| 5. | a. | What is Iodine value? | CO1 | 3 |
|  | b. | What is the significance of it? | CO1 | 3 |
|  | c. | An analyst was given a sample of oil for determining the Iodine value. He took 3 g of the sample. The titre readings are as follows – Blank – 46 ml, Sample –40 mL. Calculate the Iodine value, giving in detail the procedure to be followed. | CO1 | 14 |
| (OR) | | | | |
| 6. | a. | With a neat flow diagram, discuss in detail on the method of manufacture of edible oils, highlighting the importance of each step. | CO3 | 20 |
|  |  |  |  |  |
| 7. | a. | Discuss briefly on the following –   1. Helical structure of proteins 2. Denaturation of proteins and factors affecting the same | CO2  CO2 | 6  9 |
|  | b. | Give an example for each of the following –   1. Sulphur containing amino acid, 2. amino acid with a side chain alcohol group 3. basic amino acid 4. imino acid 5. amino acid with a heterocyclic ring | CO1 | 5 |
| (OR) | | | | |
| 8. | a. | Discuss in detail on the functional properties of food proteins. | CO2 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Discuss briefly on the occurrence, properties and RDA of the following vitamins.   1. Antixerophthalmic factor 2. Anti scorbutic factor 3. Niacin 4. Riboflavin | CO1 | 4 x 5 = 20 |