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



**End Semester Examination – Nov/Dec – 2017**

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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. | Write short notes on the following  i. Ostwald’s ripening ii. Coalescence iii. Sedimentation | CO1,CO3 | 4+4+4 |
| c. | What is a sorption isotherm? Discuss briefly on the Zone 2 of the same. | CO1,3 | 6 |
| (OR) | | | | |
| 2. | a. | Give an example for i. aldo pentose ii. keto hexose iii. non-reducing disaccharide | CO1 | 3 |
| b. | Write a short note on Maillard browning | CO2,CO3 | 4 |
| 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 Jaggery sample (5 g). Data given – 10 mL of Fehling’s solution = 60 mg of glucose. Titre reading for reducing sugars = 22 mL and that for total sugars = 17 mL, if 25 mL of the sample is taken for hydrolysis and made up to 250 mL. | CO1,CO2 | 13 |
|  |  |  |  |  |
| 3. | a. | What is retrogradation? Discuss on the changes that take place during the process of retrogradation. | CO2,CO3 | 7 |
|  | b. | Briefly explain the process of gelation of Low Methoxyl Pectin. | CO1,CO3 | 6 |
|  | c. | Discuss briefly on Xanthan gum | CO1,CO3 | 6 |
| (OR) | | | | |
| 4. | a. | With a neat flow diagram, explain in detail on the process for the manufacture of Maltodextrins, highlighting the importance of each step. | CO2,CO3 | 15 |
|  | b. | What is DE? How is it calculated? | CO1,CO2 | 5 |
|  |  |  |  |  |
| 5. |  | With a neat flow diagram, discuss in detail on the method of hydrogenation of edible oils, highlighting the importance of each step. | CO1,CO2,CO3 | 20 |
| (OR) | | | | |
| 6. | a. | What is Iodine value? | CO1 | 3 |
|  | b. | What is the significance of it? | CO1,CO2 | 3 |
|  | c. | An analyst was given a sample of oil for determining the Iodine value. He took 0.25 g of the sample. The titre readings are as follows – Blank – 46 ml, Sample – 30 mL. Calculate the Iodine value, giving in detail the procedure to be followed. | CO1 | 14 |
| 7. | a. | Discuss briefly on the following –  i. Beta pleated structure of proteins.  ii. Denaturation of proteins and factors affecting the same. | CO1,CO2  CO1,CO2 | 6  9 |
|  |  |  |  |  |
|  | b. | Give an example each for the following  i. Sulphur containing amino acid,  ii. amino acid with a side chain alcohol group  iii. basic amino acid d. imino acid  iv. amino acid with a heterocyclic ring | CO1 | 5 |
| (OR) | | | | |
| 8. | a. | Discuss in briefly on the following –  i. Flavour binding properties of proteins  ii. Dough formation vis a vis protein nature | CO1,CO2, CO3 | 4  4 |
|  | b. | Give reasons for the following –  i. Addition of Xylanases for whole wheat bread  ii. Lactases in milk  iii. Proteases to meat products | CO1,CO2, CO3 | 4+4+4 |
|  | |  |  |  |
|  | | **Compulsory:** |  |  |
| 9. |  | Discuss briefly on the occurrence, properties and RDA of the following vitamins.  i. Vitamin K ii. Anti scorbutic factor iii. Niacin iv. B12 | CO1,CO3 | 5+5+5+5 |

ALL THE BEST