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

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

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| **Code :** | **14FP3003** | **Duration :** | **3hrs** |
| **Sub. Name :** | **TECHNOLOGY OF FOOD FLAVOURANTS AND COLOURANTS** | **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 are the basic tastes? Discuss in detail on the structure, activity, relationship between chemicals and their taste perception. | CO2 | 10 |
| b. | Illustrate the basics of colour and their physical phenomena and measurement. | CO2 | 10 |
| (OR) | | | | |
| 2. |  | Evaluate the toxicology, safety and regulatory aspects of food colourants. | CO3 | 20 |
|  |  |  |  |  |
| 3. |  | Distinguish volatile oil and oleoresin and evaluate the methods of production of essential oils and oleoresin from spices. | CO3 | 20 |
| (OR) | | | | |
| 4. | a. | Summarize the methods for production of dried flavourants with special emphasis on inclusion complex and phase separation types. | CO2 | 10 |
|  | b. | What are the main advantages of super critical fluid extraction? What are the solvents that are used and what are the effects of the solvents? | CO3 | 10 |
|  |  |  |  |  |
| 5. | a. | Elaborate on the types of carriers used to synthesis micro and macroemulsion. | CO2 | 10 |
|  | b. | Describe the methods for the production of annatto extracts with its application as colorant. | CO3 | 10 |
| (OR) | | | | |
| 6. |  | Discuss in detail on the stability of chlorophyll pigments and the effect of various methods of food processing on their stability. | CO2 | 20 |
|  |  |  |  |  |
| 7. |  | Describe the sources, chemistry and occurrence of anthocyanin in food systems and explain the phenylpropanoid pathway in anthocyanin biosynthesis. | CO2 | 20 |
| (OR) | | | | |
| 8. | a. | Discuss the chemistry and application of cochineal and related pigments. | CO1 | 10 |
|  | b. | Elaborate on the structure, sources and production of beet colours and the factors affecting betalain stability. | CO2 | 10 |
|  | |  |  |  |
|  | | **Compulsory:** |  |  |
| 9. |  | What is gas chromatography? summarize its principle, working condition and application in the analysis of aroma compounds. | CO2 | 20 |

ALL THE BEST