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



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

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|  |  |  |  |
| **Code :** | **18CH3004** | **Duration :** | **3hrs** |
| **Sub. Name :** | **POLYMER CHEMISTRY** | **Max. Marks :** | **100** |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Explain tacticity with two different examples. | CO1 | 10 |
| b. | Write a note on natural polymers with examples. | CO1 | 10 |
| **(OR)** | | | | |
| 2. | a. | Decribe cyclisation and degradation reactions of polymers with examples. | CO1 | 10 |
| b. | What are the forces that exists between the polymer chain? Explain it. | CO1 | 10 |
|  |  |  |  |  |
| 3. | a. | Discuss in detail on *Zieglar Natta* polymerisation with examples. | CO2 | 10 |
| b. | Compare and contrast on additon polymerization and step growth polymerization. | CO2 | 10 |
| **(OR)** | | | | |
| 4. | a. | What are inhibitors? Explain it with suitable examples. | CO2 | 10 |
| b. | Write a note on copolymerisation and carothers equation. | CO2 | 10 |
|  |  |  |  |  |
| 5. | a. | How will you classify the polymers based on their thermal behaviours? Discuss it. | CO3 | 10 |
| b. | Explain the relationship between Tg and Tm with a suitable pictorial diagram. | CO3 | 10 |
| **(OR)** | | | | |
| 6. |  | A polymer sample contains:   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Polymer of DP | 200 | 300 | 400 | 500 | 600 | | % | 20 | 30 | 40 | 50 | 60 |   Calculate its average degree of polymerization. | CO3 | 10 |
|  |  |  |  |  |
| 7. | a. | Give the preparation, properties and uses of polystyrene and Nylon 6,6. | CO4 | 10 |
| b. | Explain compounding of plastics with examples. | CO4 | 10 |
| **(OR)** | | | | |
| 8. | a. | How the polymers can be prepared by bulk polymerization and solution polymerization methods? | CO5 | 10 |
| b. | Give an account on compression moulding and blow moulding techniques. | CO5 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Describe in detail on intrinsically conducting polymers, extrinsically conducting polymers with examples. | CO6 | 10 |
| b. | Polymers are unavoidable one in medical and aerospace industry. Justify it. | CO6 | 10 |