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



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

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| **Code :** | **14CH3001** | **Duration :** | **3hrs** |
| **Sub. Name :** | **POLYMER 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. | Differentiate between addition polymerization and condensation polymerization with examples. | CO1 | 10 |
| b. | If the following polymer molecular weight is 354000g/mol. How will you calculate DP?  i) [-NH-(CH2)5- CO-]n ii)[-NH-(CH2)6- NH-]n | CO3 | 10 |
| **(OR)** | | | | |
| 2. | a. | Compare and contrast thermosetting plastics and thermoplastics. | CO1 | 10 |
| b. | Define the following terms with suitable examples  i) Homo Polymer ii) Hetero Polymer  iii) Tacticity iv) Functionality | CO1 | 10 |
| 3. | a. | Explain cationic mechanism and *Ziegler-Natta* catalyst with examples. | CO2 | 10 |
| b. | How will you mould thermosetting polymers and thermoplastics on the following techniques.  i) Compression moulding ii) Injection Moulding. | CO2 | 10 |
| **(OR)** | | | | |
| 4. | a. | How hard rubber can be prepared from natural rubber by using sulphur? Explain it with suitable examples. | CO2 | 10 |
| b. | Discuss casting of films and calendaring process on rubber. | CO2 | 10 |
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| 5. | a. | Enumerate glass transition temperature and melting temperature. | CO1 | 10 |
| b. | How will you prepare dimethyl silicon dichloride and trimethyl silicon chloride? Give any two uses of each. | CO1 | 10 |
| **(OR)** | | | | |
| 6. | a. | What are the different types of silicones? Explain silicone rubbers. | CO2 | 10 |
| b. | What are the important moulding consitutents of plastics? Explain it. | CO2 | 10 |
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| 7. | a. | What do you understand from ablation? Explain its mechanism. | CO3 | 10 |
| b. | How will you prepare the following polymers?  i) Poyvinyl Chloride ii) Epoxy resin. | CO3 | 10 |
| **(OR)** | | | | |
| 8. | a. | Give the preparation, properites and applications of Nylons 6:6 and Nylon 6:10. | CO3 | 10 |
| b. | Sketch the uses of Polymers in medicine and surgery. | CO3 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Describe in detail on different types of conducting polymers with examples. | CO3 | 10 |
| b. | How will you prepare the following rubbers?  i) GR – S ii) GR-A iii) GR-I  iv) Chlorosuphonated polyethylene rubber. | CO3 | 10 |