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



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

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| **Code :** | **17CH3017** | **Duration :** | **3hrs** |
| **Sub. Name :** | **MAIN GROUP 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. | Explain the structure and application of cryptands and crown ethers. | CO1 | 15 |
| b. | Explain the synthesis and structure of beryllium chloride. | CO2 | 5 |
| (OR) | | | | |
| 2. | a. | Discuss the allotropes of Sulphur, Carbon and Phosphorus with suitable structures. | CO3 | 15 |
| b. | Provide the most suitable synthetic approaches for macrocyclic compounds. | CO2 | 5 |
| 3. | a. | Describe the synthesis and application of Grignard reagents. | CO4 | 10 |
|  | b. | Write note on the synthesis and structure of beryllium carbide, dimethylberyllium and beryllium azide. | CO4 | 10 |
| (OR) | | | | |
| 4. | a. | Explain polymorphism with relevant example. | CO1 | 10 |
|  | b. | Suggest a correct structure for [Be(OH)3]33-, BeH2, Be4O(O2CR)6 and 12-Crown-4. | CO1 | 10 |
|  |  |  |  |  |
| 5. | a. | Discuss the synthesis, structure and applications of Borazine. | CO4 | 10 |
|  | b. | Provide details of the synthesis and applications of Boronic acids. | CO4 | 10 |
| (OR) | | | | |
| 6. | a. | Explain the synthesis, structure and applications of Boric acid. | CO4 | 10 |
|  | b. | How silicates are classified based on their structures. – Explain. | CO3 | 10 |
|  |  |  |  |  |
| 7. | a. | Explain the synthesis and structure of any five F-Xe-O and Xe-F compounds. | CO1 | 10 |
|  | b. | Explain the synthesis and application of organometallic compounds of Si and Sn. | CO4 | 10 |
| (OR) | | | | |
| 8. | a. | Explain the Wades rule and its application. | CO5 | 10 |
|  | b. | Summarize the synthesis and reactivities of interhalogens compounds. | CO3 | 10 |
|  | | **Compulsory**: |  |  |
|  | |  |  |  |
| 9. | a. | Explain the synthesis and structure of P–S and P–O cages. | CO4 | 10 |
|  | b. | Describe the synthesis and structure of Polyphosphazene and Polythiazyl polymers. | CO4 | 10 |

ALL THE BEST