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

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**End Semester Examination – Nov/Dec – 2018**

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| **Code :** | **13CH201** | **Duration :** | **3hrs** |
| **Sub. Name :** | **APPLIED 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. | Illustrate the Ion Exchange process of water purification with a neat sketch? | CO1 | 15 |
| b. | A sample of water is drawn from the Noyyal River, which had the following analytical data, 14.8 mg/L of Mg(HCO3)2, 17 ppm of Mg(OH)2, 27.0 ppm of MgSO4, 13 mg/L of MgCl2. Calculate the temporary and permanent hardness of water. (Ca – 40, Mg – 24, S – 32, Cl – 35.5). | CO1 | 5 |
| (OR) | | | | |
| 2. | a. | Explain the methods involved in the processing of water for municipal water supply. | CO1 | 15 |
| b. | Differentiate Hard and Soft Water? | CO1 | 5 |
|  |  |  |  |  |
| 3. | a. | Discuss the preparation and properties of Polyvinyl chloride? | CO2 | 10 |
| b. | List any ten applications of polymers. | CO2 | 10 |
| (OR) | | | | |
| 4. | a. | Define Rubber? Reproduce the process involved in vulcanization of rubber and its uses? | CO2 | 10 |
| b. | Explain the role of ingredients used in moulding of plastics | CO2 | 10 |
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| 5. | a. | Demonstrate the analysis of flue gas by Orsat’s apparatus? | CO2 | 15 |
| b. | Define octane number. Give two examples for anti-knocking agents. | CO2 | 5 |
| (OR) | | | | |
| 6. | a. | Summarize the manufacturing process of gobar gas with a neat sketch? | CO2 | 15 |
| b. | Mention the importance of proximate analysis? | CO2 | 5 |
|  |  |  |  |  |
| 7. | a. | Derive Nernst equation. | CO3 | 10 |
| b. | Explain the factors influencing corrosion with respect to the nature of the metal? | CO3 | 10 |
| (OR) | | | | |
| 8. | a. | Construct a lead acid battery and write the reactions involved in discharging of the battery. | CO3 | 10 |
| b. | Highlight the significance of electrochemical series. | CO3 | 10 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Discuss the manufacturing steps involved in refractories? | CO2 | 10 |
| b. | Briefly discuss about characteristics and classification of lubricants? | CO2 | 10 |