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

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

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| **Code :** | **16CH1002** | **Duration :** | **3hrs** |
| **Sub. Name :** | **APPLIED CHEMISTRY FOR ENGINEERS** | **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. | Discuss the zeolite process for softening of water. | CO2 | 10 |
| b. | Describe Ion Exchange process of water softening. Explain the reactions involved? | CO2 | 10 |
| (OR) | | | | |
| 2. | a. | Write a short note on hydrogen bonding interaction in various states of water. | CO2 | 6 |
| b. | Give an account of reverse osmosis method with neat diagram. | CO2 | 10 |
| c. | A water sample contains 204 mgs of CaSO4 and 73 mgs of Mg(HCO3)2 per liter. What is the total hardness in terms of CaCO3 equivalent? | CO2 | 4 |
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| 3. | a. | Summarize various moulding constituents of plastics with examples | CO3 | 10 |
| b. | How will you prepare Polyvinyl Chloride? Give its properties. | CO3 | 5 |
| c. | “Polymers for biomedical applications” Explain it | CO3 | 5 |
| (OR) | | | | |
| 4. | a. | Give an account on Conducting polymers. | CO3 | 10 |
| b. | Identify and explain the Polymers for packaging Materials. | CO3 | 10 |
|  |  |  |  |  |
| 5. | a. | Compare saturated and unsaturated fat – Cholesterol with its health issues. | CO4 | 10 |
| b. | Write a note on monosodium glutamate. | CO4 | 5 |
| c. | “Peaceful uses of chemical weapons” – Discuss it. | CO4 | 5 |
| (OR) | | | | |
| 6. | a. | Mention the various identification methods and ill effects of food adulterants. | CO4 | 10 |
| b. | What are the effects of pH in hair care products? | CO4 | 5 |
| c. | Investigate “ Balanced diet”. | CO4 | 5 |
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| 7. | a. | Derive Nernst’s expression with its applications. | CO5 | 10 |
| b. | Describe the construction of lead acid batteries with the required cell reactions. | CO5 | 10 |
| (OR) | | | | |
| 8. | a. | Show the reactions involved in wet corrosion with neat diagram. | CO5 | 10 |
| b. | What are the factors influencing rate of corrosion? | CO5 | 10 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | List out the applications of Nanotechnology in different fields. | CO5 | 10 |
| b. | Categorize the nanomaterials with suitable examples. | CO5 | 10 |