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

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

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| **Code :** | **14CH2008** | **Duration :** | **3hrs** |
| **Sub. Name :** | **BASIC REACTION MECHANISM** | **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 elimination mechanism and elimination addition mechanism with suitable example. | CO2 | 15 |
| b. | Describe any two methods to obtain benzyne intermediate. | CO1 | 5 |
| (OR) | | | | |
| 2. | a. | Give an account of SNAr mechanism with suitable examples. | CO1 | 15 |
| b. | 2,4-dinitro fluorobenzene reacts with methyl amine while fluoro benzene does not. Analyze and reason out. | CO3 | 5 |
|  |  |  |  |  |
| 3. | a. | What are the factors that favour SN1 mechanism of alkyl halide?  Discuss on the sterechemical outcome of the product. | CO1 | 15 |
| b. | Predict all the possible products under elimination condition. Which one will be the major? | CO3 | 5 |
| (OR) | | | | |
| 4. | a. | Write a short note on SN2 reaction mechanism. How does the solvent, nucleophile, base affect the reaction? | CO2 | 15 |
| b. | Identify the product and the type of mechanism in the following nucleophilic substitution reaction. | CO3 | 5 |
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| 5. | a. | Explain with suitable examples the participation of hetero atoms and aryl group in anchimeric assistance. | CO2 | 15 |
| b. | Predict the product with proper stereochemistry. | CO3 | 5 |
| (OR) | | | | |
| 6. | a. | Give the Hammett Equation. What are the significance of the substituent constant and reaction constant? | CO1 | 15 |
| b. | Propose mechanism for the following conversion. | CO3 | 5 |
|  |  |  |  |  |
| 7. | a. | Write a short note on the synthetic application of Friedel Craft’s Alkylation and acylation reactions. | CO1 | 15 |
| b. | -OMe is ortho and para directing group. Prove using the resonance structure. | CO2 | 5 |
| (OR) | | | | |
| 8. | a. | Explain the arenium ion mechanism in the aromatic electrophilic nitration and halogenations. | CO2 | 15 |
| b. | -NO2 is meta directing group. Prove using the resonance structure. | CO2 | 5 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Differentiate between E1 and E2 elimination of alkyl halide with suitable mechanism and example. What are the reaction condition favour E1 elimination? | CO3 | 15 |
| b. | Explain Saytzev rule with suitable example. | CO3 | 5 |