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



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

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| **Code :** | **16CH2002** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ORGANIC REACTION INTERMEDIATES AND STEREOCHEMISTRY** | **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. | Write short notes on structure and stability of carbocation and carbanions. | CO2 | 10 |
| b. | Classify the organic compounds with suitable examples. | CO1 | 10 |
| **(OR)** | | | | |
| 2. | a. | Is water molecule a Nucleophile or electrophile. Give reason. | CO1 | 4 |
| b. | What are the rules to be followed to name aldehyde and hydrocarbons as per IUPAC? Give your answer with suitable example. | CO1 | 10 |
| c. | Give the structure of following compounds.   1. 1,3-dimethylbenzene ii) 1,3,5-tribromophenol iii) 1,4-hexene | CO1 | 6 |
|  |  |  |  |  |
| 3. | a. | Give any four differences between inductive and resonance effect. | CO2 | 10 |
| b. | Highlight the salient features of steric effect and mesomeric effect. | CO4 | 10 |
| **(OR)** | | | | |
| 4. | a. | Write short notes on conjugation and resonance. | CO4 | 10 |
| b. | Define the term ‘tautomerism’. Explain the types of tautomerism. | CO2 | 10 |
|  |  |  |  |  |
| 5. | a. | Elaborate the formation of organic aldehyde and ketones with any three methods. | CO3 | 10 |
| b. | Briefly discuss the formation and major reactions of nediazonium salt. | CO3 | 10 |
| **(OR)** | | | | |
| 6. | a. | Outline the major chemical properties of nitrogen containing organic compounds. | CO3 | 10 |
| b. | Explain the mechanism of nucleophilic addition reaction with carbonyl compounds. | CO3 | 10 |
|  |  |  |  |  |
| 7. | a. | Predict the rules for E – Z nomenclature of Organic compounds with suitable examples. | CO4 | 12 |
| b. | Classify each of the following compounds as R or S configuration.  a)  b) | CO5 | 8 |
| **(OR)** | | | | |
| 8. | a. | Explain the Cahn Ingold Prelog rules for R and S configuration with suitable example. | CO5 | 12 |
| b. | Designate each double bond for following compound as E or Z.  a)  b) | CO5 | 8 |
|  | | **Compulsory**: |  |  |
| 9. | a. | In mono substituted cyclohexanes, why the substituent prefers to occupy the equatorial position? | CO6 | 10 |
| b. | Describe the conformational isomers of n-butane. | CO6 | 10 |