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



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

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| **Code :** | **14CH2006** | **Duration :** | **3hrs** |
| **Sub. Name :** | **BASIC ORGANIC 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. | | Write the name of the following compound: | CO1 | 3 |
| b. | | Write the structure of oct-2-en-3-ol. | CO1 | 3 |
| c. | | What is meant by field effect? | CO1 | 4 |
| d. | | Write all the resonance structures of phenol. | CO1 | 4 |
| e. | | Define rearrangement and elimination reactions. Give an example for each. | CO1 | 6 |
|  | | (OR) | | | |
| 2. | a. | | Arrange the following carbocations in the increasing order of their stability. | CO2 | 4 |
| b. | | Give an account of free radicals and their stability. | CO2 | 6 |
| c. | | Write the structure of octan-4-ol, 3-aminodecane, pentanal, m-chlorobenzaldehyde, and benzophenone. | CO2 | 10 |
| 3. | a. | | Write any three rules of writing resonance structures. Give a brief account of inductive effect citing out suitable examples. | CO3 | 10 |
|  | b. | | With suitable examples, write the types of organic reactions and explain them with example for each type. | CO3 | 10 |
|  | | (OR) | | | |
| 4. | a. | | Write the rules of assigning E, Z configuration. | CO4 | 5 |
| b. | | Describe chiral with an example. | CO4 | 5 |
| c. | | Give an account of the stability of carbocations. | CO4 | 10 |
|  |  | |  |  |  |
| 5. | a. | | Write the differences between configuration and conformation. | CO4 | 5 |
| b. | | Illustrate all the conformational isomers of 1,3–dibromoethane | CO4 | 5 |
| c. | | Write the mirror images of the following molecules: | CO4 | 4 |
| d. | | Assign E, Z nomenclature to the following molecules: | CO4 | 6 |
|  | | (OR) | | | |
| 6. | a. | | Draw the energy profile diagram of all the conformations of 1,4-dichlorocyclohexane. Explain which conformer is the most stable and why. | CO5 | 10 |
| b. | | Assign R, S configuration to the following molecules: | CO5 | 6 |
| c. | | Point out the chiral centres in the following compound:    How many stereoisomers are possible for the compound? | CO5 | 4 |
|  | |  | | | |
| 7. | a. | | Explain the following with examples:   1. Racemic mixture 2. Resolution of isomers 3. Regioselective reactions. | CO2 | 3+3+4 |
| b. | | Describe field effect with an illustration. | CO2 | 10 |
|  | | (OR) | | | |
| 8. | a. | | Draw all the conformational structures of n–pentane along with their potential energy profile. Point out the least stable isomer. | CO4 | 10 |
| b. | | Draw all the conformations of 1,2,dihydroxyethane and their potential energy diagram. | CO4 | 10 |
|  |  | | **Compulsory:** |  |  |
| 9. | a. | | Explain the following with examples: stereoselectivity, stereospecificity, and regiospecificity. | CO5 | 10 |
| b. | | Explain any three diasteroselective reactions with suitable illustrations. | CO5 | 10 |

ALL THE BEST