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



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

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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. | Suggest whether the following organic compounds are aromatic or aliphatic.  i) ii)  iii) iv) | CO1 | 8 |
| b. | What are the rules to be followed to name hydrocarbons as per IUPAC? Give your answer with suitable example. | CO1 | 12 |
| **(OR)** | | | | |
| 2. | a. | Is the water molecule is Nucleophile or electrophile. Give the reason. | CO1 | 4 |
| b. | Classify the organic compounds with suitable examples. | CO1 | 10 |
| c. | Discuss the stability of carbocation with suitable example. | CO1 | 6 |
|  |  |  |  |  |
| 3. | a. | Complete the following reaction (under heating).   1. CH4 + 2O2 🡺 ? 2. CH3CH2CH3 + O2 + Bacteria 🡺 ? | CO1 | 6 |
| b. | Give the structure of following compounds  i) 3- methyl-3-butenal, ii) 1,4 – hexadiene iii) benzoic acid,  iv) formaldehyde. | CO1 | 8 |
|  | c. | Discuss with the example of Lewis acid and Lewis base. | CO1 | 6 |
| **(OR)** | | | | |
| 4. | a. | Justify that SN1 and SN2 reactions are uni molecular and bi molecular respectively. | CO1 | 12 |
| b. | Explain the methods of formation of free radicals. | CO1 | 8 |
|  |  |  |  |  |
| 5. | a. | Discuss the mesomeric or resonance effect and the hyperconjucation effect. | CO2 | 10 |
| b. | Explain the elimination reaction mechanism with suitable examples. | CO2 | 10 |
| **(OR)** | | | | |
| 6. | a. | Write short notes on ‘arynes’. | CO2 | 8 |
| b. | Explain the inductive and steric effect with a specific example. | CO2 | 12 |
|  |  |  |  |  |
| 7. | a. | Discuss the molecular rearrangement of electron deficient groups with detail mechanism. | CO2 | 14 |
| b. | Write short notes on stereo isomerism. | CO3 | 6 |
| **(OR)** | | | | |
| 8. | a. | Discuss the salient features of Fries rearrangement. | CO3 | 10 |
| b. | Write the configuration E or Z of the following organic compounds. | CO3 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Draw all the conformational structures of 1,2-dichloroethane along with their potential energy profile. | CO3 | 10 |
| b. | In mono substituted cyclohexanes, why the substituent prefer to occupy the equatorial position? | CO3 | 10 |