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



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

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| **Code :** | **16CH2005** | Duration : | **3hrs** |
| **Sub. Name :** | **REACTION MECHANISM AND HETEROCYLIC 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. | Discuss the nomenclature of Heterocyclic compounds. | CO1 | 10 |
|  | b. | How will you assign the numbers for Heterocyclic compounds? Give some examples. | CO2 | 10 |
| (OR) | | | | |
| 2. | a. | List out the electrophilic substitution reactions of Furans with examples. | CO1 | 20 |
|  |  |  |  |  |
| 3. | a. | Predict the products when pyrrole is treated with the following reagents and how is pyrrole synthesized from Furans?   1. SO2Cl2 / ether / 0ºC. b) ArB(OH)2 / Cu(OAc)2 / pyridine. | CO2 | 20 |
| (OR) | | | | |
| 4. | a. | Discuss the preparation of Furans from mucic acid and and its structures. | CO2 | 20 |
|  |  |  |  |  |
| 5. | a. | Complete the following reactions with explanation. | CO2 | 10 |
|  | b. | Illustrate Thiophene preparation from Sulphur. | CO1 | 05 |
|  | c. | Comment on the orbital structure of Thiophene. | CO1 | 05 |
| (OR) | | | | |
| 6. | a. | Enumerate the electrophilic substitution reactions of Thiophene with suitable examples. | CO2 | 20 |
|  |  |  |  |  |
| 7. | a. | Generalize RadisZew Ski synthesis with suitable examples. | CO1 | 10 |
|  | b. | Prepare a brief report on the following.   1. Imidazoles - Quaternization reaction. 2. Imidazoles reaction with acids. | CO2 | 10 |
| (OR) | | | | |
| 8. | a. | Write short notes on the Gabriel Synthesis. | CO1 | 10 |
|  | b. | Describe the synthesis of thiazoles from thioamide. | CO2 | 07 |
|  | c. | Identify the following compounds.  i) ii)  iii) | CO1 | 03 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Evaluate the following with suitable examples.   1. SN1   ii) SN2  iii) Substitution Electrophilic Unimolecular reaction  iv) Addition reaction. | CO2 | 20 |