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

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

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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. | Define a Heterocyclic compound. Discuss the nomenclature of Heterocyclic compounds? | CO1 | 10 |
| b. | Identify the following compounds and its assigning numbers  i) ii) iii) iv) v) | CO2 | 10 |
| (OR) | | | | |
| 2. |  | List out the electrophilic substitution reactions of Furans with examples. | CO1 | 20 |
|  |  |  |  |  |
| 3. |  | How is pyrrole synthesized from Furans? Predict the products when pyrrole is treated with the following reagents:   1. SO2Cl2 / ether /0ºC. 2. ArB(OH)2 / Cu(OAc)2 / pyridine. | CO2 | 20 |
| (OR) | | | | |
| 4. |  | Discuss the preparation of Furans from mucic acid and its structures. | CO2 | 20 |
|  |  |  |  |  |
| 5. | a. | Complete the following reactions with explaination. | CO2 | 10 |
| b. | Illustrate Thiophene preparation from Sulphur? | CO1 | 5 |
| c. | Comment on the orbital structure of Thiophene. | CO1 | 5 |
| (OR) | | | | |
| 6. |  | Enumerate the electrophilic substitution reactions of Thiophene with suitable examples. | CO2 | 20 |
|  |  |  |  |  |
| 7. | a. | Generalize Radis Zew 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 a short notes on the Gabriel Synthesis. | CO1 | 10 |
| b. | Describe the synthesis of thiazoles from thioamide? | CO2 | 7 |
| c. | Identify the following compounds.  i) ii)  iii) | CO1 | 3 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Evaluate the following with suitable examples.   1. SN1 2. SN2 3. Substitution Electrophilic Unimolecular reaction 4. Addition reaction. | CO2 | 20 |