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



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

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| **Code :** | **17CH2002** | **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. | Explain the major reactions of carbocation. | CO1 | 10 |
| b. | Give the structure of following compounds.  (i) 2- methyl-3-bentenal, (ii) 1,4 – hexadione (iii) Benzoic acid (iv) Formaldehyde. | CO1 | 10 |
| **(OR)** | | | | |
| 2. | a. | Classify the organic compounds with suitable examples. | CO1 | 12 |
| b. | Suggest whether the following organic compounds are aromatic or aliphatic.  i) ii)  iii) iv) | CO1 | 8 |
|  |  |  |  |  |
| 3. | a. | Discuss the mesomeric or resonance effect and the hyper conjugation effect. | CO2 | 12 |
| b. | Give any four differences between keto - enol tautomerism. | CO4 | 8 |
| **(OR)** | | | | |
| 4. | a. | Elaborate the types of Stereoisomerism. | CO4 | 12 |
| b. | Explain the steric effect with a specific example. | CO2 | 8 |
|  |  |  |  |  |
| 5. | a. | Write short notes on formation of Arenediazonium salts. | CO3 | 10 |
| b. | Elaborate the formation of organic ketones with any three methods. | CO3 | 10 |
| **(OR)** | | | | |
| 6. | a. | Highlight the synthesis methods for nitrogen containing compounds. | CO3 | 10 |
| b. | Outline the major chemical reaction on aromatic aldehyde compound. | CO3 | 10 |
|  |  |  |  |  |
| 7. | a. | Explain the Cahn Ingold Prelog rules for R and S configuration with suitable example. | CO5 | 10 |
| b. | Do the following compounds have the R or the S configuration?  1. Do the following compounds have the R or 2. http://d2vlcm61l7u1fs.cloudfront.net/media%2F307%2F307f0246-151a-4543-bb45-81aac19857c1%2FphpshA1lj.png  3. http://d2vlcm61l7u1fs.cloudfront.net/media%2F41a%2F41ad27e8-009d-4dde-b28f-d6ae18561467%2FphpZS5gZv.png4. http://d2vlcm61l7u1fs.cloudfront.net/media%2F5e9%2F5e927157-7ff6-4e91-9fda-3bed051b40d8%2Fphp7EpnzL.png | CO5 | 10 |
| **(OR)** | | | | |
| 8. | a. | Define cis and trans isomerism. Explain the cis and trans isomerism with suitable example. | CO4 | 10 |
| b. | Write the configuration E or Z of the following organic compounds. | CO5 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Draw all the conformational structures of 1,2-dichloroethane along with their potential energy profile. | CO6 | 10 |
| b. | Draw the Newmann projection for different conformations of butane. | CO6 | 10 |