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

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

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| **Code :** | **18CH1006** | **Duration :** | **3hrs** |
| **Sub. Name :** | **APPLIED CHEMISTRY** | **Max. marks :** | **100** |

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| **Q. No.** | **Questions** | **Course**  **Outcome** | **Marks** |
|  | **PART-A(10X1=10 MARKS)** | | |
| 1. | The type of bonding present in O2 is \_\_\_\_\_\_\_\_\_\_\_\_ | CO1 | 1 |
| 2. | Define Covalent Bond. | CO1 | 1 |
| 3. | The commercially available phenolic resin is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | CO2 | 1 |
| 4. | Give any two example for conducting polymer. | CO2 | 1 |
| 5. | Name any one top down approach to fabricate nanomaterials. | CO3 | 1 |
| 6. | The nanomaterial C60 is also known as \_\_\_\_\_\_\_\_\_\_\_\_ | CO3 | 1 |
| 7. | Define Chiral carbon. | CO4 | 1 |
| 8. | The rule followed to assign priority to the groups and atoms is \_\_\_\_\_\_\_\_\_\_\_\_ | CO4 | 1 |
| 9. | In the term SN1, 1 refers to \_\_\_\_\_\_\_\_\_\_\_\_\_. | CO5 | 1 |
| 10. | Homolytic cleavage of covalent bond results in \_\_\_\_\_\_\_\_\_\_\_\_. | CO5 | 1 |

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| **PART B (6 X 3= 18 MARKS)** | |  |  |
| 11. | Differentiate between Bonding molecular orbital and Antibonding molecular orbital. | CO1 | 3 |
| 12. | Write a short note on vulcanization process. | CO2 | 3 |
| 13. | What are fullerenes? Give examples. | CO3 | 3 |
| 14. | All the stereoisomers are not optically active. Explain. | CO4 | 3 |
| 15. | Discuss on the stability order of carbocation and carbanions. | CO5 | 3 |
| 16. | Define Mutual exclusion Principle. | CO6 | 3 |

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| **PART C(6 X 12= 72 MARKS)**  **(Answer any five Questions from Q.no 17 to 23. Q.No 24 is a Compulsory Question)** | | | | | |
| 17. | a. | | Explain the Molecular orbital diagram of N2 molecule? Calculate the Bond order for N2. | CO1 | 8 |
| b. | | Write a short note on the hybridization of carbon in methane. | CO1 | 4 |
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| 18. | a. | | Describe, with a neat sketch, the process of injection moulding. | CO2 | 8 |
| b. | | Distinguish between thermosetting plastics and thermoplastics. | CO2 | 4 |
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| 19. |  | | Elaborate the synthesis of nanomaterials by CVD method. | CO3 | 12 |
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| 20. | a. | | Write notes on the sequence rules in E and Z nomenclature. | CO4 | 5 |
| b. | | Explain the conformational isomerism of n-butane? | CO4 | 7 |
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| 21. | a. | | Differentiate between nucleophilic addition and electrophilic addition reactions. | CO5 | 5 |
| b. | | Give a detailed account on Inductive effect with suitable example. | CO5 | 7 |
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| 22. | a. | | Mention the advantages of vulcanized rubber over raw rubber. | CO2 | 4 |
| b. | | Discuss the preparation and application of PVC. | CO2 | 8 |
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| 23. | a. | | Quote the types of Hydrogen bonding with example. | CO1 | 5 |
| b. | | Assign R and S notation for the stereoisomers of Lactic acid and tartaric acid. | CO4 | 7 |
| **Compulsory:** | | | | |  |
| 24. |  | Elaborate the different types of chromatography and their applications. | | CO6 | 12 |