

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (NEW) EXAMINATION – SUMMER 2019****Subject Code: 2133501****Date: 04/06/2019****Subject Name: Organic Chemistry****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

| | | MARKS |
|------------|---|-----------|
| Q.1 | (a) Write a note on: Hyperconjugation. | 03 |
| | (b) Write a short note on mesomeric effect. | 04 |
| | (c) Explain SN^1 & SN^2 reaction with mechanism. | 07 |
| Q.2 | (a) What do you understand by the term principal functional group? When the following groups are present in a molecule what will be its class name: 1. -OH, -COOH, -NO ₂ 2. -NO ₂ , -NH ₂ , -CONH ₂ | 03 |
| | (b) What is essential difference between a free radical reaction and an ionic reaction. | 04 |
| | (c) Explain mechanism of diazotization reaction. | 07 |
| | OR | |
| | (c) Explain the generation, stability and reactions of carbonium ion. | 07 |
| Q.3 | (a) Explain the importance of Hydrogenation reaction in organic synthesis. | 03 |
| | (b) How does aniline react with; 1. Acetyl Chloride 2. Bromine 3. Chloroform and alc. KOH 4. NaNO ₂ at 0 to 5°C | 04 |
| | (c) Explain Hoffman reaction with mechanism. | 07 |
| | OR | |
| Q.3 | (a) Give use & synthesis of DDT. | 03 |
| | (b) Explain the difference between E1 and E2 mechanism. | 04 |
| | (c) Explain cannizaro reaction with its mechanism. | 07 |
| Q.4 | (a) Explain Stereoisomerism in Tartaric acid. | 03 |
| | (b) Explain generation and stability of carbanion. | 04 |
| | (c) Explain Aldol and Cross aldol reaction with mechanism. | 07 |
| | OR | |
| Q.4 | (a) Explain Conformers of Ethane. | 03 |
| | (b) How will you convert Aniline → m-Nitro aniline? | 04 |
| | (c) Write note on (i) Diastereomers (ii) Different methods of resolution | 07 |
| Q.5 | (a) Write the mechanism of Benzidine rearrangement. | 03 |
| | (b) Explain why, 1. p-nitroaniline is less basic than aniline. 2. p-Toluidine is more basic than aniline. | 04 |
| | (c) What products are obtained by reduction of nitrobenzene under different conditions? | 07 |

OR

- Q.5**
- | | | |
|-----|---|-----------|
| (a) | Write a short note on ozonolysis. | 03 |
| (b) | Explain Pincol-Pinacolone reaction with mechanism. | 04 |
| (c) | Draw a detailed flowsheet for chemical reactions of Phenol. | 07 |

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