

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM – SEMESTER – 3 EXAMINATION – WINTER-2025

Subject Code: BP301TP**Date: 08-12-2025****Subject Name: Pharmaceutical Organic Chemistry II****Time: 10:30 AM TO 01:30 PM****Total Marks: 80****Instructions:**

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

- Q.1** (a) Correct if necessary and justify following comments. **06**
 i) Even though benzene has three double bond it do not undergo addition reaction.
 ii) Phenol and aniline do not give Friedel crafts alkylation.
 iii) Nitration of nitrobenzene gives ortho and para nitrobenzene.
 (b) Explain Huckel's rule for aromaticity with suitable example. **05**
 (c) Describe reaction mechanism of nitration for benzene in detail. **05**
- Q.2** (a) Explain Friedel craft alkylation and its limitation. **06**
 (b) Write about all possible orientation of toluene towards electrophilic substitution reaction. **05**
 (c) Give structure and uses of i) DDT ii) Saccharin iii) Chloramine **05**
- Q.3** (a) Correct if necessary and justify following comments. **06**
 i) Para nitro phenol is less acidic than phenol.
 ii) Basicity of aniline is less than methyl amine.
 iii) Electron withdrawing group on benzoic acid at para position increase its acidity.
 (b) How aryl diazonium salts is prepared? Give its synthetic uses. **05**
 (c) Give structure and uses of i) Resorcinol ii) Naphthol iii) Cresols **05**
- Q.4** (a) Discuss the effect of substituent on acidity of benzoic acid with examples. **06**
 (b) Write a short note on Hofmann degradation reaction. **05**
 (c) Enlist various methods for synthesis of phenol. Explain Dow's process in detail. **05**
- Q.5** (a) Define and give significance of i) Acid value ii) Iodine value iii) RM value **06**
 (b) Explain various reactions of fatty acids. **05**
 (c) Explain i) Saponification value ii) Rancidity of oil ii) Acetyl number **05**
- Q. 6** (a) Explain Haworth synthesis of naphthalene and its uses. **06**
 (b) Write the reactions of anthracene. **05**
 (c) Give structure and medicinal uses of i) Anthracene ii) Triphenyl methane **05**
- Q.7** (a) What is Bayer's strain theory? Give its limitation. **06**
 (b) Explain about Coulson and Moffitt's modification. **05**
 (c) Why cyclopropane give ring opening reaction? Explain stability of cyclohexane. **05**