

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.PHARM – SEMESTER – 3- EXAMINATION – WINTER - 2018**

**Subject Code: BP301TP****Date: 30/11/2018****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) How alcohols differ from phenol? Explain structure of benzene based on chemical properties. **06**
- (b) Explain this term “Aqueous solution of phenol is more acidic than alcohol ” **05**
- (c) Notes on **05**
- a) Aromatic amine is less basic than aliphatic amine and ammonia
- b) Cyclopropane is more prone to undergo ring opening reaction than cyclobutane.
- Q.2** (a) Explain hydrogenation of oil with diagram. Discuss significance and principal of acid value and saponification value. **06**
- (b) What is the proof for the presence of two fused rings in naphthalene? Explain about Haworth synthesis. **05**
- (c) Notes on inductive group and its directing effect in monosubstituted benzene. **05**
- Q.3** (a) Write down sulphonation, Friedel-Crafts acylation, reduction and oxidation reaction of naphthalene. **06**
- (b) Explain effect of substituents on acidity of phenol. **05**
- (c) Notes on structure and stability of benzene. **05**
- Q.4** (a) What are synthetic uses of aryl diazonium salts? **06**
- (b) Discuss Baeyer strain theory using concept of angle strain. Limitation of Baeyer strain theory. **05**
- (c) Notes on a) Why is chair conformation of cyclohexane more stable than boat **05**  
 Form  
 b) Theory of strainless rings.
- Q.5** (a) Explain Haworth synthesis for anthracene. Explain chemical reaction involve in anthracene. **06**
- (b) Write down structure and uses of DDT, BHC and Chloramine. **05**
- (c) Explain briefly about electrophilic substitution reaction of benzene. **05**
- Q. 6** (a) How will you convert phenol in to (a) Benzene (b) Phenyl acetate (c) Anisole **06**  
 (d) Phenetole (e) Salicylaldehyde (f) P- Hydroxyazobenzene
- (b) Explain effect of substituents on acidity of Aromatic acids. **05**
- (c) Write down structure and uses of phenol, cresol and resorcinol. **05**
- Q.7** (a) What is aromaticity? Write down characteristic in aromatic benzene. Write down method of preparation of benzene. **06**
- (b) How can you prepare phenol by Dow and Cumene process? **05**
- (c) Write down reaction involve in Cyclopropane and cyclobutane. **05**