

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 3 EXAMINATION – SUMMER -2019

Subject Code: BP301TP

Date: 28-05-2019

Subject Name: Pharmaceutical Organic Chemistry II

Time: 02:30 PM TO 05:30 PM

Total Marks: 80

Instructions:

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

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|-------------|---|---|-----------|
| Q.1 | (a) | Explain molecular orbital structure and resonance energy of benzene. | 06 |
| | (b) | Explain effect of substituent on acidity of benzoic acid. | 05 |
| | (c) | Notes on Sachse Mohr's theory. | 05 |
| Q.2 | (a) | Why benzene undergoes electrophilic substitution reaction? Explain halogenation reaction of benzene with mechanism. | 06 |
| | (b) | Write down important reaction involve in benzoic acid in detail. | 05 |
| | (c) | Discuss about reaction of cyclopropane and cyclobutane. | 05 |
| Q.3 | (a) | Notes on Haworth synthesis for naphthalene and Anthracene. | 06 |
| | (b) | Discuss about Coulson and Moffitts modification of cycloalkanes. | 05 |
| | (c) | Write down structure and medicinal use of Anthracene, diphenylmethane triphenylmethane derivatives. | 05 |
| Q.4 | (a) | Write a notes on acidity and effect of substituents of phenol. | 06 |
| | (b) | Discuss the molecular orbital structure of naphthalene? | 05 |
| | (c) | What happen when | 05 |
| | | (a) Naphthalene is treated with concentrated sulphuric acid at 165°C.
(b) Anthracene is treated with sodium dichromate and sulphuric acid. | |
| Q.5 | (a) | Write down significance and principle involve in determination of | 06 |
| | | (a) RM value (b) Acetyl value | |
| | | (c) Ester value (d) Iodine value | |
| | (b) | Notes on synthetic use of aryl diazonium salts. | 05 |
| | (c) | Explain | 05 |
| | (a) Why phenol is more acidic than ethyl alcohol? | | |
| | (b) Why o-nitrophenol is steam volatile whereas p-nitrophenol is not? | | |
| Q. 6 | (a) | How will you synthesise the following compounds from benzene | 06 |
| | | (a) Benzene hexachloride (b) Ethylbenzene | |
| | | (c) Isopropylbenzene (d) Cyclohexane | |
| | (b) | Write down structure and use of following compounds | 05 |
| | | (a) DDT (b) Saccharin (c) Cresol | |
| (c) | Notes on inductive group and its directing effect in monosubstituted benzene. | 05 | |
| Q.7 | (a) | Explain hydrogenation of oil with diagram. Discuss significance and principal of acid value and saponification value. | 06 |
| | (b) | Notes on a Fridel crafts alkylation and acylation of benzene | 05 |
| | (c) | Discuss Bayer's strain theory with suitable examples. | 05 |
