JBO-014-003307 Seat No. _____

M. P. M. (Sem. III) (CBCS) (External) Examination

January - 2020

BP304T : Pharmaceutical Chemistry - IV

(Organic Chemistry - I)

Faculty Code : 014
Subject Code : 003307

Time : **3** Hours] [Total Marks : **80**

Instructions : (1) Answer and tie up both the sections separately.
(2) Figure to the right indicates marks.
(3) Answer the three (03) questions from each section.
(4) Question one (01) and question five (05) are compulsory.
(5) Draw neat and clean diagrams as required.

SECTION - I

1 Answer the following : (Any **seven**) **14**

(a) Explain relative stability of 1°, 2° and 3° carbanion.

(b) Correct if necessary and justify : Nitrogen triflouride has diplole moment less than ammonia.

(c) Correct if necessary and justify: Alkynes are more acidic than alkane.

(d) Explain why benzyl carbocation is more stable than ethyl carbocation.

(e) Correct if necessary and justify: Pi bond is weaker than sigma bond.

(f) Comment : 1, 3-butadiene is more stable than 1, 2-butadiene.

(g) What is Huckles rule? Give any one example with structure which follow it.

(h) Define polynuclear hydrocarbons with example.

(i) Hyperconjugation is also called no-bond resonance. Justify or correct if necessary.

(j) Define Homolytic and Heterolytic bond fission with suitable example.

2 Answer the followings :

(a) What is hybridization ? Explain sp^2 and sp^3 hybrilization with suitable examples. **7**

(b) Discuss the types of diene with examples. **6**

3 Answer the following :

(a) Write a detail note on molecular orbital theory. **7**

(b) Explain hyperconjugation and resonance. **6**

4 Answer the following :

(a) How phenol differs from alcohol? Write Riemer Tiemann reaction of phenol. Write any two reaction of alcohol. **7**

(b) Enlist reactive intermediate of carbon. Explain carbocation in detail. **6**

SECTION - II

5 Answer the following : (any **two**) **14**

(a) Give any three preparation and reactions of alkynes.

(b) Explain detailed mechanism of SN1 reaction.

(c) Write a detail note on Williamson's ether synthesis.

6 Answer the following :

(a) Explain why Napthalene is aromatic? Give the reactions of anthracene. **7**

(b) Discuss Friedel crafts alkylation and acylation reaction of benzene. **6**

7 Answer the following :

(a) Discuss in detail about intermolecular and intramolecular forces. **7**

(b) Write general method of preparation of alcohols. **6**

8 Answer the following :

(a) Write a detail note on : **7**

(i) Aldol condensation with reaction mechanism

(ii) Chlorination of methane

(b) Write a Haworth synthesis for naphthalene and Anthracene. **6**