

DEPARTMENT OF CHEMISTRY
"T3, EXAMINATION MAY-2018"

Semester: IV
Subject: Organic Chemistry □
Branch: B.Sc. Chemistry
Course Type: Core
Time: 3 Hours
Max.Marks: 80

Date of Exam: 21/05/2018
Subject Code: CHH-218-T
Session: II
Course Nature: Hard
Program: B.Sc (Hons.) Chemistry
Signature: HOD/Associate HOD: *Megh*

PART- A

Note: All questions are compulsory, each question carries two marks.

Question 1

- Differentiate between ring activating and deactivating groups with examples?
- Define the term reaction?
- What do you understand by polynuclear hydrocarbons ?
- Describe the chemical properties of Naphthalene?
- Define the term reactive methylene group?
- Describe the term 'Keto-Enol Tautomerism'?
- Describe the structure of Phenanthrene?
- Describe haloform reaction?
- Describe Nucleophilic Addition Reaction of carbonyl compounds?
- Define the term Wittig reagent and its process of preparation?

PART- B

Note: Attempt any two questions (long answer type question), each question carries 15 marks

Question 2: Describe structure of Anthracene, physical and chemical properties and application?

Question 3: Describe the synthesis process of Phenanthrene and its chemical properties?

Question 4: Describe the physical and chemical properties of Naphthalene with application?

PART- C

Note: Attempt any two questions (long answer type question), each question carries 15 marks

Question 5: Describe the detailed reactions with mechanism of following:

a) Aldol condensation b) Claisen Schmidt c) Benzil-Benzilic acid rearrangement (5 marks each)

Question 6: a) What happens when LiAlH_4 reacts with ketonic compound in dry ether and decomposes with aqueous sulphuric acid? (6 marks)

b) Explain the reaction with mechanism for alkane formation from benzaldehyde? (5 marks)

c) Explain the Wittig reaction with mechanism? (4 marks)

Question 7: a) What happens when aromatic aldehyde react with potassium cyanide in presence of ethyl alcohol and water explain with mechanism. (6marks)

b) Explain the Knoevenagel Condensation reaction with its mechanism? (4 marks)

c) Give one method for preparation of diethylmalonate and ethyl acetoacetate? (5 marks)
