Code No: R09220803 | R09 | SET-1

B.Tech II Year - II Semester Examinations, April-May, 2012
ORGANIC CHEMISTRY
(Chemical Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any five questions
All questions carry equal marks
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1.a) What is the mechanism of Friedel – Crafts alkylation?
b) Explain how phenol can be converted into Salicylaldehyde under Riemer – Tiemann Reaction condition. Give the mechanism also. [15]

2. With an account of the following
a) Hyper Conjugation
b) Inductive effect
c) Electromeric effect. [15]

3.a) What is Kharasch and Mayo peroxide effect on the addition of HBr to alkenes?
b) Explain the role of N-Bromo succinamide during allylic bromination.
c) Write the products obtained when propane was subjected to thermal halogenation. Offer explanation also. [15]

4.a) What is the absolute configuration of 'R' and 'S' Lactic acid? Explain.
b) Using suitable examples, explain disastereomers and enantiomers.
c) Write an account of E-Z system of Nomenclature. [15]

5. Explain how the following conversions are made and identify the concerned name reaction involved in it. Give mechanism also.

a) $2CH_3COCH_3 \xrightarrow{O\overset{\ominus}{H}} CH_3CHOHCH_2COCH_3$

b) $C_6H_5CHO+(CH_3CO)_2O \xrightarrow{NaoAc} C_6H_5\text{-}CH{=}CH\text{-}CO_2H$

c) $C_6H_5CHO \xrightarrow[alcohol]{KCN} \ldots\ldots\ldots C_6H_5CHOHCO\ C_6H_5.$ [15]

6.a) How are Dyes classified according to their applications?
b) Write the preparation and use of Malachite Green and fluorescene. [15]

7. How are the following synthesized? Suggest mechanism.
a) 2,5-Dimethyl Pyrrole
b) 2-Aminopyridine
c) 1-Phenyl isoquinoline. [15]

8.a) Describe different types of polymerizations.
b) What are thermosetting and thermoplastics?
c) How Thiokol can be prepared? Mention its uses. [15]

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Code No: R09220803 | R09 | SET-2

B.Tech II Year - II Semester Examinations, April-May, 2012
ORGANIC CHEMISTRY
(Chemical Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any five questions
All questions carry equal marks
- - -

1.a) What happens when benzene is treated with acetyl chloride in the presence of anhydrous aluminum chloride? Give mechanism also.
b) Using suitable example, explain Riemer-Tiemann reaction.
c) Explain how benzophenone can be converted into benzanilide under Beckmann rearrangement conditions. [15]

2. Write a brief note on
a) Inductive effect
b) hyperconjugation. [15]

3.a) With suitable examples explain the types of polymerization.
b) Write the synthesis and use of Teflon.
c) How is Bakelite prepared? Mention its use. [15]

4. Write a short note on
a) Classification of Dyes as per their applications
b) Congored
c) Malachite green. [15]

5. Write the synthesis of the following heterocyclic compounds.
a) 2, 5-Dimethyl Furan
b) 2-Amino pyridine
c) Quinoline. [15]

6. Write a brief note on
a) Enantiomers and disastereomers
b) Cahn-Ingold-prelog sequence rules
c) E-Z Nomenclature. [15]

7.a) Explain the role of peroxide during the addition of HBr to alkenes.
b) Write on the halogenation of alkanes in the presence of light.
c) What is the product obtained when cyclohexane is treated with N-bromo succinamide? Give mechanism. [15]

8. Write a Concise account on the following
a) Benzoin condensation
b) Perkin reaction. [15]

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Code No: R09220803 | R09 | SET-3

B.Tech II Year - II Semester Examinations, April-May, 2012
ORGANIC CHEMISTRY
(Chemical Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any five questions
All questions carry equal marks
- - -

1.a) HBr adds to alkene in an Anti-Markovnikov way in the presence of peroxide. Why?
b) How are alkyl halides prepared from alkanes?
c) Explain the role of N-bromo succinamide in allylic halogenation. [15]

2. Explain the following
a) Electromeric effect
b) Inductive effect. [15]

3.a) How are Dyes classified?
b) Write the preparation and use of Bismark brown.
c) How is fluorescene prepared? Mention its uses. [15]

4. Write a brief note on
a) Conformation analysis of Cyclohexanes
b) Cahn-Ingold-Prelog Sequence rules
c) E-Z System of Nomenclature. [15]

5.a) Write the mechanism of Friedel-crafts reaction.
b) What happens when phenol is treated with chloroform and aqueous sodium hydroxide? Suggest mechanism also.
c) Describe Beckmann rearrangement. [15]

6.a) By giving suitable examples describe the types of polymerization.
b) Write the preparation and use of Nylon.
c) Discuss on Vulcanization. [15]

7. Write a short note on the following
a) Perkin reaction
b) Aldol condensation
c) Benzoin condensation. [15]

8. Formulate the synthesis of the following heterocyclic compounds.
a) 2-Amino pyridine
b) 2, 5-Dimethyl pyrrole.
c) 1-methyl isoquinoline. [15]

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Code No: R09220803 | R09 | SET-4

B.Tech II Year - II Semester Examinations, April-May, 2012
ORGANIC CHEMISTRY
(Chemical Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any five questions
All questions carry equal marks
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1.a) Presence of peroxide make the addition of HBr to alkenes in an Anti Markovnikov way. Explain.
b) Write an account of allylic halogenation using N-bromo succinamide.
c) Discuss thermal halgenation of alkanes. [15]

2. Write a brief note on
a) Hyper conjugation
b) Electromeric effect. [15]

3. How are the following heterocyclic compounds synthesized?
a) 2, 5-Dimethyl pyrrole
b) 2-Amino pyridine
c) Quinoline. [15]

4. Write a short note on
a) Benzoin condensation
b) Perkin reaction. [15]

5.a) Explain Friedel-Craft reaction using suitable examples.
b) What is Reimer-Tiemann Reaction?
c) Write an account of Beckmann Rearrangement. [15]

6. Write a concise account on
a) Enantiomers and Diastereomers
b) E-Z nomenclature
c) Cahn-Prelog-Ingold Sequence rules. [15]

7.a) Classify the Dyes as per their applications.
b) How is Rosaniline synthesized? Mention its use.
c) Explain how Bismark brown synthesized. Write its uses. [15]

8.a) Write on the types of polymerization.
b) Discuss thermosetting and thermoplastics.
c) What is Vulcanization? How it can be made? [15]

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