

Code No: R05210802

**R05****Set No. 2**

II B.Tech I Semester Examinations, November 2010

**ORGANIC CHEMISTRY****Chemical Engineering****Time: 3 hours****Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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- Why do you use peroxides in the anti-Markonikoff addition of HBr to alkenes?
  - Explain the stability order of simple alkyl free-radicals by structural theory. [8+8]
- What happens when phenol is treated with  $\text{CCl}_4$  in the presence of KOH? Write the mechanism involved in it?
  - Explain, how benzanilide can be prepared from benzophenone using Beckmann rearrangement reaction? Discuss the mechanism of rearrangement. [8+8]
- How are dyes classified? Discuss briefly the classification based on their structure giving one example for each type?
  - Describe the important applications of dyes based on their classification. [10+6]
- Define inductive effect and discuss various characteristics of inductive effect.
  - How inductive effect plays a role on dipole moment, bond length of a molecule. [8+8]
- Write an account on natural fibers based on:
  - Cellulose
  - Silk and
  - Wool. [6+5+5]
- Which types of compounds exhibit geometrical isomerism? Give examples.
  - Draw the structures of maleic acid and fumaric acid and assign configuration on the basis of E-Z notation. [8+8]
- Write the structure of the product formed and explain the mechanism in the following reactions:-
  - When phthalic anhydride is treated with acetic anhydride in the presence of sodium acetate.
  - When 2 molecules of acetaldehyde reacted in the presence of aq. alcoholic KOH. [8+8]
- Explain the aromaticity of pyrrole, furan and thiophene.
  - How does pyridine react with the following?

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- i. HI at  $300^{\circ}\text{C}$
- ii. Sodamide in liq.ammonia.

[10+6]

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**R05****Set No. 4**

II B.Tech I Semester Examinations, November 2010

**ORGANIC CHEMISTRY****Chemical Engineering****Time: 3 hours****Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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- Explain the aromaticity of pyrrole, furan and thiophene.
  - How does pyridine react with the following?
    - HI at 300°C
    - Sodamide in liq. ammonia. [10+6]
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  - When phthalic anhydride is treated with acetic anhydride in the presence of sodium acetate.
  - When 2 molecules of acetaldehyde reacted in the presence of aq. alcoholic KOH. [8+8]
- Write an account on natural fibers based on:
  - Cellulose
  - Silk and
  - Wool. [6+5+5]
- How are dyes classified? Discuss briefly the classification based on their structure giving one example for each type?
  - Describe the important applications of dyes based on their classification. [10+6]
- Why do you use peroxides in the anti-Markonikoff addition of HBr to alkenes?

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- (b) Explain the stability order of simple alkyl free-radicals by structural theory.  
[8+8]

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**R05****Set No. 1**

II B.Tech I Semester Examinations, November 2010

**ORGANIC CHEMISTRY**

Chemical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions  
All Questions carry equal marks

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- What happens when phenol is treated with  $\text{CCl}_4$  in the presence of  $\text{KOH}$ ? Write the mechanism involved in it?
  - Explain, how benzanilide can be prepared from benzophenone using Beckmann rearrangement reaction? Discuss the mechanism of rearrangement. [8+8]
- Explain the aromaticity of pyrrole, furan and thiophene.
  - How does pyridine react with the following?
    - $\text{HI}$  at  $300^\circ\text{C}$
    - Sodamide in liq. ammonia. [10+6]
- How are dyes classified? Discuss briefly the classification based on their structure giving one example for each type?
  - Describe the important applications of dyes based on their classification. [10+6]
- Write an account on natural fibers based on:
  - Cellulose
  - Silk and
  - Wool. [6+5+5]
- Which types of compounds exhibit geometrical isomerism? Give examples.
  - Draw the structures of maleic acid and fumaric acid and assign configuration on the basis of E-Z notation. [8+8]
- Why do you use peroxides in the anti-Markonikoff addition of  $\text{HBr}$  to alkenes?
  - Explain the stability order of simple alkyl free-radicals by structural theory. [8+8]
- Write the structure of the product formed and explain the mechanism in the following reactions:-
  - When phthalic anhydride is treated with acetic anhydride in the presence of sodium acetate.
  - When 2 molecules of acetaldehyde reacted in the presence of aq. alcoholic  $\text{KOH}$ . [8+8]
- Define inductive effect and discuss various characteristics of inductive effect.

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- (b) How inductive effect plays a role on dipole moment, bond length of a molecule.  
[8+8]

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**R05****Set No. 3**

II B.Tech I Semester Examinations, November 2010

**ORGANIC CHEMISTRY****Chemical Engineering****Time: 3 hours****Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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- Which types of compounds exhibit geometrical isomerism? Give examples.
  - Draw the structures of maleic acid and fumaric acid and assign configuration on the basis of E-Z notation. [8+8]
- How are dyes classified? Discuss briefly the classification based on their structure giving one example for each type?
  - Describe the important applications of dyes based on their classification. [10+6]
- Define inductive effect and discuss various characteristics of inductive effect.
  - How inductive effect plays a role on dipole moment, bond length of a molecule. [8+8]
- Explain the aromaticity of pyrrole, furan and thiophene.
  - How does pyridine react with the following?
    - HI at 300°C
    - Sodamide in liq. ammonia. [10+6]
- Write an account on natural fibers based on:
  - Cellulose
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- Write the structure of the product formed and explain the mechanism in the following reactions:-
  - When phthalic anhydride is treated with acetic anhydride in the presence of sodium acetate.
  - When 2 molecules of acetaldehyde reacted in the presence of aq. alcoholic KOH. [8+8]
- What happens when phenol is treated with CCl<sub>4</sub> in the presence of KOH? Write the mechanism involved in it?
  - Explain, how benzanilide can be prepared from benzophenone using Beckmann rearrangement reaction? Discuss the mechanism of rearrangement. [8+8]
- Why do you use peroxides in the anti-Markonikoff addition of HBr to alkenes?

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- (b) Explain the stability order of simple alkyl free-radicals by structural theory.  
[8+8]

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