Code No: 07A4BS03 **R07** **Set No. 2**

II B.Tech II Semester Examinations,April/May 2012
ORGANIC CHEMISTRY
Chemical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What happens when m-nitrobenzaldehyde and acetic anhydride react in the presence of anhydrous sodium acetate?
   (b) Discuss the reaction between phenylacetaldehyde and acetophenone in the presence of aq.ethanolic KOH. [8+8]
2. (a) How is vinyl chloride manufactured?
   (b) Describe its conversion to PVC of commercially useful grade?
   (c) What are the chief uses of PVC? [4+6+6]
3. (a) N,N- Dimethylaniline is a weaker base than 2,6-dimethyl - N,N-dimethyl aniline. Explain why?
   (b) Which one of the following is a better leaving group and why?
      i. Chloride ion; Bromide ion; Iodide ion. [8+8]
4. (a) What is meant by sulphur- free benzene? How it is prepared and what is its importance?
   (b) Explain why pyridine is a weaker base than NH_3? [8+8]
5. (a) Describe the sequence rules for R-S notation of optically active organic compounds.
   (b) Draw the structures of optically active and meso forms of tartaric acid and label them according to RS notation. [8+8]
6. (a) If a compound is highly coloured at room temperature in its solid state, can it be used as a dye? Justify your answer giving examples.
   (b) Formulate the reaction between p-chlorobenzaldehyde and N,N-dimethylaniline in the presence of an acid catalyst giving explanation for the mechanism of the reaction. [6+10]
7. (a) Discuss the reaction between acetyl chloride and benzene in refluxing dichloromethane in the presence of $AlCl_3$.
   (b) What happens when p-bromophenol is refluxed with chloroform in ethanol solution containing sodium methoxide? Formulate the reaction and give mechanism for the product formation. [8+8]
8. (a) What are free radicals?
   (b) Write the differences between homolytic and heterolytic cleavages.

(c) Describe the thermal chlorination of propane. [4+6+6]

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Code No: 07A4BS03 **R07** **Set No. 4**

II B.Tech II Semester Examinations,April/May 2012
ORGANIC CHEMISTRY
Chemical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) N,N- Dimethylaniline is a weaker base than 2,6-dimethyl - N,N-dimethyl aniline. Explain why?
   (b) Which one of the following is a better leaving group and why?
      i. Chloride ion; Bromide ion; Iodide ion. [8+8]
2. (a) Discuss the reaction between acetyl chloride and benzene in refluxing dichloromethane in the presence of $AlCl_3$.
   (b) What happens when p-bromophenol is refluxed with chloroform in ethanol solution containing sodium methoxide? Formulate the reaction and give mechanism for the product formation. [8+8]
3. (a) What are free radicals?
   (b) Write the differences between homolytic and heterolytic cleavages.
   (c) Describe the thermal chlorination of propane. [4+6+6]
4. (a) What is meant by sulphur- free benzene? How it is prepared and what is its importance?
   (b) Explain why pyridine is a weaker base than NH_3? [8+8]
5. (a) If a compound is highly coloured at room temperature in its solid state, can it be used as a dye? Justify your answer giving examples.
   (b) Formulate the reaction between p-chlorobenzaldehyde and N,N-dimethylaniline in the presence of an acid catalyst giving explanation for the mechanism of the reaction. [6+10]
6. (a) What happens when m-nitrobenzaldehyde and acetic anhydride react in the presence of anhydrous sodium acetate?
   (b) Discuss the reaction between phenylacetaldehyde and acetophenone in the presence of aq.ethanolic KOH. [8+8]
7. (a) Describe the sequence rules for R-S notation of optically active organic compounds.
   (b) Draw the structures of optically active and meso forms of tartaric acid and label them according to RS notation. [8+8]
8. (a) How is vinyl chloride manufactured?
   (b) Describe its conversion to PVC of commercially useful grade?

(c) What are the chief uses of PVC? [4+6+6]

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Code No: 07A4BS03 **R07** **Set No. 1**

II B.Tech II Semester Examinations,April/May 2012
ORGANIC CHEMISTRY
Chemical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What are free radicals?
   (b) Write the differences between homolytic and heterolytic cleavages.
   (c) Describe the thermal chlorination of propane. [4+6+6]
2. (a) What is meant by sulphur- free benzene? How it is prepared and what is its importance?
   (b) Explain why pyridine is a weaker base than NH_3? [8+8]
3. (a) How is vinyl chloride manufactured?
   (b) Describe its conversion to PVC of commercially useful grade?
   (c) What are the chief uses of PVC? [4+6+6]
4. (a) Describe the sequence rules for R-S notation of optically active organic compounds.
   (b) Draw the structures of optically active and meso forms of tartaric acid and label them according to RS notation. [8+8]
5. (a) Discuss the reaction between acetyl chloride and benzene in refluxing dichloromethane in the presence of $AlCl_3$.
   (b) What happens when p-bromophenol is refluxed with chloroform in ethanol solution containing sodium methoxide? Formulate the reaction and give mechanism for the product formation. [8+8]
6. (a) If a compound is highly coloured at room temperature in its solid state, can it be used as a dye? Justify your answer giving examples.
   (b) Formulate the reaction between p-chlorobenzaldehyde and N,N-dimethylaniline in the presence of an acid catalyst giving explanation for the mechanism of the reaction. [6+10]
7. (a) N,N- Dimethylaniline is a weaker base than 2,6-dimethyl - N,N-dimethyl aniline. Explain why?
   (b) Which one of the following is a better leaving group and why?
      i. Chloride ion; Bromide ion; Iodide ion. [8+8]
8. (a) What happens when m-nitrobenzaldehyde and acetic anhydride react in the presence of anhydrous sodium acetate?

(b) Discuss the reaction between phenylacetaldehyde and acetophenone in the presence of aq.ethanolic KOH. [8+8]

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Code No: 07A4BS03 **R07** **Set No. 3**

II B.Tech II Semester Examinations,April/May 2012
ORGANIC CHEMISTRY
Chemical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What are free radicals?
   (b) Write the differences between homolytic and heterolytic cleavages.
   (c) Describe the thermal chlorination of propane. [4+6+6]

2. (a) Discuss the reaction between acetyl chloride and benzene in refluxing dichloromethane in the presence of $AlCl_3$.
   (b) What happens when p-bromophenol is refluxed with chloroform in ethanol solution containing sodium methoxide? Formulate the reaction and give mechanism for the product formation. [8+8]

3. (a) Describe the sequence rules for R-S notation of optically active organic compounds.
   (b) Draw the structures of optically active and meso forms of tartaric acid and label them according to RS notation. [8+8]

4. (a) How is vinyl chloride manufactured?
   (b) Describe its conversion to PVC of commercially useful grade?
   (c) What are the chief uses of PVC? [4+6+6]

5. (a) If a compound is highly coloured at room temperature in its solid state, can it be used as a dye? Justify your answer giving examples.
   (b) Formulate the reaction between p-chlorobenzaldehyde and N,N-dimethylaniline in the presence of an acid catalyst giving explanation for the mechanism of the reaction. [6+10]

6. (a) N,N- Dimethylaniline is a weaker base than 2,6-dimethyl - N,N-dimethyl aniline. Explain why?
   (b) Which one of the following is a better leaving group and why?
      i. Chloride ion; Bromide ion; Iodide ion. [8+8]

7. (a) What happens when m-nitrobenzaldehyde and acetic anhydride react in the presence of anhydrous sodium acetate?
   (b) Discuss the reaction between phenylacetaldehyde and acetophenone in the presence of aq.ethanolic KOH. [8+8]

8. (a) What is meant by sulphur- free benzene? How it is prepared and what is its importance?

(b) Explain why pyridine is a weaker base than NH_3? [8+8]

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