Code No: 07A3BS06 | R07 | Set No. 2

II B.Tech I Semester Examinations,November 2010
APPLIED CHEMISTRY AND BIOCHEMISTRY
Bio-Medical Engineering

Time: 3 hours
Max Marks: 80

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

1. (a) What are the purine and pyrimidine bases present in nucleic acids? Give examples.
   (b) Discuss the biosynthesis of proteins.   [8+8]

2. (a) Describe Zeolite method of water softening in detail.
   (b) What are the advantages of hot lime-soda method over cold lime-soda method?
   (c) Write a short note on:
       i. Priming and foaming
       ii. Caustic embrittlement.   [6+4+6]

3. (a) What are enzymes? Explain their important properties and describe their chemical nature.
   (b) Derive Michaelis-Menten equation & explain the significance of K_m.   [8+8]

4. (a) Explain protein separation by sodium-dodecyl sulphate poly acrylamide electrophoresis.
   (b) Describe the physico-chemical properties of urine.   [10+6]

5. (a) Give an example of a galvanic cell? How does it differ from electrolytic cell?
   (b) Write down the cell $Zn/Zn++ // Cu++/Cu$ and mark:
       i. Positive and negative polls
       ii. Half cell reaction
       iii. Total cell reaction.
   (c) What is the significance of "//" in the above cell representation?   [6+6+4]

6. (a) Draw the cross section of a Eukaryotic cell.
   (b) Explain the apparatus where carbon fixation takes place in a cell.   [8+8]

7. (a) Write a short note on Synthetic rubber.
   (b) Compare natural rubber and vulcanized rubber?
   (c) Write a note on the engineering uses of Vulcanised rubber?   [4+8+4]

8. (a) Differentiate between adsorption & absorption.
   (b) Discuss the principle of partition chromatography.   [8+8]

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1

Code No: 07A3BS06   **R07**   **Set No. 4**

II B.Tech I Semester Examinations,November 2010
APPLIED CHEMISTRY AND BIOCHEMISTRY
Bio-Medical Engineering

Time: 3 hours   Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
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1. (a) Explain protein separation by sodium-dodecyl sulphate poly acrylamide electrophoresis.
   (b) Describe the physico-chemical properties of urine.   [10+6]

2. (a) What are the purine and pyrimidine bases present in nucleic acids? Give examples.
   (b) Discuss the biosynthesis of proteins.   [8+8]

3. (a) Describe Zeolite method of water softening in detail.
   (b) What are the advantages of hot lime-soda method over cold lime-soda method?
   (c) Write a short note on:
      i. Priming and foaming
      ii. Caustic embrittlement.   [6+4+6]

4. (a) Differentiate between adsorption & absorption.
   (b) Discuss the principle of partition chromatography.   [8+8]

5. (a) Give an example of a galvanic cell? How does it differ from electrolytic cell?
   (b) Write down the cell Zn/Zn++ // Cu++/Cu and mark:
      i. Positive and negative polls
      ii. Half cell reaction
      iii. Total cell reaction.
   (c) What is the significance of "//" in the above cell representation?   [6+6+4]

6. (a) What are enzymes? Explain their important properties and describe their chemical nature.
   (b) Derive Michaelis-Menten equation & explain the significance of K_m.   [8+8]

7. (a) Draw the cross section of a Eukaryotic cell.
   (b) Explain the apparatus where carbon fixation takes place in a cell.   [8+8]

8. (a) Write a short note on Synthetic rubber.
   (b) Compare natural rubber and vulcanized rubber?
   (c) Write a note on the engineering uses of Vulcanised rubber?   [4+8+4]

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2

Code No: 07A3BS06 | R07 | Set No. 1

II B.Tech I Semester Examinations,November 2010
APPLIED CHEMISTRY AND BIOCHEMISTRY
Bio-Medical Engineering

Time: 3 hours | Max Marks: 80

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

1. (a) Draw the cross section of a Eukaryotic cell.
   (b) Explain the apparatus where carbon fixation takes place in a cell. [8+8]

2. (a) Describe Zeolite method of water softening in detail.
   (b) What are the advantages of hot lime-soda method over cold lime-soda method?
   (c) Write a short note on:
      i. Priming and foaming
      ii. Caustic embrittlement. [6+4+6]

3. (a) Explain protein separation by sodium-dodecyl sulphate poly acrylamide electrophoresis.
   (b) Describe the physico-chemical properties of urine. [10+6]

4. (a) Write a short note on Synthetic rubber.
   (b) Compare natural rubber and vulcanized rubber?
   (c) Write a note on the engineering uses of Vulcanised rubber? [4+8+4]

5. (a) What are the purine and pyrimidine bases present in nucleic acids? Give examples.
   (b) Discuss the biosynthesis of proteins. [8+8]

6. (a) Differentiate between adsorption & absorption.
   (b) Discuss the principle of partition chromatography. [8+8]

7. (a) What are enzymes? Explain their important properties and describe their chemical nature.
   (b) Derive Michaelis-Menten equation & explain the significance of K_m. [8+8]

8. (a) Give an example of a galvanic cell? How does it differ from electrolytic cell?
   (b) Write down the cell $Zn/Zn++ // Cu++/Cu$ and mark:
      i. Positive and negative polls
      ii. Half cell reaction
      iii. Total cell reaction.
   (c) What is the significance of "//" in the above cell representation? [6+6+4]

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3

Code No: 07A3BS06 | **R07** | **Set No. 3**

II B.Tech I Semester Examinations,November 2010
APPLIED CHEMISTRY AND BIOCHEMISTRY
Bio-Medical Engineering

Time: 3 hours — Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
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1. (a) Explain protein separation by sodium-dodecyl sulphate poly acrylamide electrophoresis.

   (b) Describe the physico-chemical properties of urine. [10+6]

2. (a) Give an example of a galvanic cell? How does it differ from electrolytic cell?

   (b) Write down the cell $Zn/Zn++ // Cu++/Cu$ and mark:
      i. Positive and negative polls
      ii. Half cell reaction
      iii. Total cell reaction.

   (c) What is the significance of "//" in the above cell representation? [6+6+4]

3. (a) What are the purine and pyrimidine bases present in nucleic acids? Give examples.

   (b) Discuss the biosynthesis of proteins. [8+8]

4. (a) Write a short note on Synthetic rubber.

   (b) Compare natural rubber and vulcanized rubber?

   (c) Write a note on the engineering uses of Vulcanised rubber? [4+8+4]

5. (a) Differentiate between adsorption & absorption.

   (b) Discuss the principle of partition chromatography. [8+8]

6. (a) What are enzymes? Explain their important properties and describe their chemical nature.

   (b) Derive Michaelis-Menten equation & explain the significance of K_m. [8+8]

7. (a) Describe Zeolite method of water softening in detail.

   (b) What are the advantages of hot lime-soda method over cold lime-soda method?

   (c) Write a short note on:
      i. Priming and foaming
      ii. Caustic embrittlement. [6+4+6]

8. (a) Draw the cross section of a Eukaryotic cell.

   (b) Explain the apparatus where carbon fixation takes place in a cell. [8+8]

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