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

II B.Tech I Semester Examinations,MAY 2011
APPLIED CHEMISTRY AND BIOCHEMISTRY
Bio-Medical Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Describe the preparation and engineering uses of PVC?
   (b) Write a note on Vulcanization?
   (c) Give the monomers of the following:
      i. PVC
      ii. Teflon
      iii. Bakelite. [8+4+4]
2. (a) What do you understand by partition coefficient? Describe the rate theory of chromatography.
   (b) Write short notes on application of chromatography in separations. [8+8]
3. (a) What is the common chemical meaning of an acid & a base?
   (b) Describe the importance of acid-base balance in human body.
   (c) Explain the mechanism of acid-base balance in human body fluids. [4+4+8]
4. (a) Explain the process of Enzyme linked immuno sorbent Assay (ELISA).
   (b) Explain the applications of Enzyme linked immuno sorbent Assay (ELISA). [8+8]
5. (a) Give an example of galvanic cell? How does it differ from electrolytic cell?
   (b) A conductivity cell has two parallel electrodes of 1.25cm^2 and 1.05 cm apart. When filled with a solution of an electrolyte having a conon. of $\frac{N}{20}$ at 25^{0}C. The resistance was found to be 200 ohms. Calculate the equivalent conductance of the electrolyte.
   (c) What is the significance of SALT BRIDGE in a galvanic cell? [4+8+4]
6. (a) Describe complexometric method of estimation of hardness?
   (b) Express the following in calcium carbonate equivalent:
      i. Calcium bicarbonate=10.5 ppm
      ii. Magnesium bicarbonate=12,5 ppm
      iii. Calcium sulphate=15ppm
      iv. Calcium chloride= 16.4ppm.
   (c) Why lime treatment is followed by soda treatment in lime soda method? [8+4+4]

7. Write a note on the transportation of the following in and out of the cell?
   (a) Carbon Dioxide
   (b) Sodium
   (c) Enzymes
   (d) Glucose. [16]

8. (a) Describe the limitations of a Spectrophotometer for the study of enzyme kinetics.
   (b) What is a coenzyme? Describe different types of coenzymes. [10+6]

⋆ ⋆ ⋆ ⋆ ⋆

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

II B.Tech I Semester Examinations,MAY 2011
APPLIED CHEMISTRY AND BIOCHEMISTRY
Bio-Medical Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Give an example of galvanic cell? How does it differ from electrolytic cell?
   (b) A conductivity cell has two parallel electrodes of 1.25cm^2 and 1.05 cm apart. When filled with a solution of an electrolyte having a conon. of $\frac{N}{20}$ at 25^{0}C. The resistance was found to be 200 ohms. Calculate the equivalent conductance of the electrolyte.
   (c) What is the significance of SALT BRIDGE in a galvanic cell? [4+8+4]
2. (a) Explain the process of Enzyme linked immuno sorbent Assay (ELISA).
   (b) Explain the applications of Enzyme linked immuno sorbent Assay (ELISA). [8+8]
3. (a) Describe the preparation and engineering uses of PVC?
   (b) Write a note on Vulcanization?
   (c) Give the monomers of the following:
      i. PVC
      ii. Teflon
      iii. Bakelite. [8+4+4]
4. Write a note on the transportation of the following in and out of the cell?
   (a) Carbon Dioxide
   (b) Sodium
   (c) Enzymes
   (d) Glucose. [16]
5. (a) What is the common chemical meaning of an acid & a base?
   (b) Describe the importance of acid-base balance in human body.
   (c) Explain the mechanism of acid-base balance in human body fluids. [4+4+8]
6. (a) Describe the limitations of a Spectrophotometer for the study of enzyme kinetics.
   (b) What is a coenzyme? Describe different types of coenzymes. [10+6]
7. (a) Describe complexometric method of estimation of hardness?
   (b) Express the following in calcium carbonate equivalent:

i. Calcium bicarbonate=10.5 ppm
ii. Magnesium bicarbonate=12,5 ppm
iii. Calcium sulphate=15ppm
iv. Calcium chloride= 16.4ppm.

(c) Why lime treatment is followed by soda treatment in lime soda method? [8+4+4]

8. (a) What do you understand by partition coefficient? Describe the rate theory of chromatography.

(b) Write short notes on application of chromatography in separations. [8+8]

⋆ ⋆ ⋆ ⋆ ⋆

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

II B.Tech I Semester Examinations,MAY 2011
APPLIED CHEMISTRY AND BIOCHEMISTRY
Bio-Medical Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Describe complexometric method of estimation of hardness?
   (b) Express the following in calcium carbonate equivalent:
      i. Calcium bicarbonate=10.5 ppm
      ii. Magnesium bicarbonate=12,5 ppm
      iii. Calcium sulphate=15ppm
      iv. Calcium chloride= 16.4ppm.
   (c) Why lime treatment is followed by soda treatment in lime soda method? [8+4+4]
2. (a) What do you understand by partition coefficient? Describe the rate theory of chromatography.
   (b) Write short notes on application of chromatography in separations. [8+8]
3. Write a note on the transportation of the following in and out of the cell?
   (a) Carbon Dioxide
   (b) Sodium
   (c) Enzymes
   (d) Glucose. [16]
4. (a) Describe the limitations of a Spectrophotometer for the study of enzyme kinetics.
   (b) What is a coenzyme? Describe different types of coenzymes. [10+6]
5. (a) Give an example of galvanic cell? How does it differ from electrolytic cell?
   (b) A conductivity cell has two parallel electrodes of 1.25cm^2 and 1.05 cm apart. When filled with a solution of an electrolyte having a conon. of $\frac{N}{20}$ at 25^0C. The resistance was found to be 200 ohms. Calculate the equivalent conductance of the electrolyte.
   (c) What is the significance of SALT BRIDGE in a galvanic cell? [4+8+4]
6. (a) What is the common chemical meaning of an acid & a base?
   (b) Describe the importance of acid-base balance in human body.
   (c) Explain the mechanism of acid-base balance in human body fluids. [4+4+8]
7. (a) Explain the process of Enzyme linked immuno sorbent Assay (ELISA).

(b) Explain the applications of Enzyme linked immuno sorbent Assay (ELISA). [8+8]

8. (a) Describe the preparation and engineering uses of PVC?
   (b) Write a note on Vulcanization?
   (c) Give the monomers of the following:
      i. PVC
      ii. Teflon
      iii. Bakelite. [8+4+4]

⋆ ⋆ ⋆ ⋆ ⋆

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

II B.Tech I Semester Examinations,MAY 2011
APPLIED CHEMISTRY AND BIOCHEMISTRY
Bio-Medical Engineering

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) Describe complexometric method of estimation of hardness?
   (b) Express the following in calcium carbonate equivalent:
      i. Calcium bicarbonate=10.5 ppm
      ii. Magnesium bicarbonate=12,5 ppm
      iii. Calcium sulphate=15ppm
      iv. Calcium chloride= 16.4ppm.
   (c) Why lime treatment is followed by soda treatment in lime soda method? [8+4+4]

2. (a) What do you understand by partition coefficient? Describe the rate theory of chromatography.
   (b) Write short notes on application of chromatography in separations. [8+8]

3. (a) Describe the preparation and engineering uses of PVC?
   (b) Write a note on Vulcanization?
   (c) Give the monomers of the following:
      i. PVC
      ii. Teflon
      iii. Bakelite. [8+4+4]

4. (a) Explain the process of Enzyme linked immuno sorbent Assay (ELISA).
   (b) Explain the applications of Enzyme linked immuno sorbent Assay (ELISA). [8+8]

5. (a) What is the common chemical meaning of an acid & a base?
   (b) Describe the importance of acid-base balance in human body.
   (c) Explain the mechanism of acid-base balance in human body fluids. [4+4+8]

6. (a) Describe the limitations of a Spectrophotometer for the study of enzyme kinetics.
   (b) What is a coenzyme? Describe different types of coenzymes. [10+6]

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

(b) A conductivity cell has two parallel electrodes of 1.25cm^2 and 1.05 cm apart. When filled with a solution of an electrolyte having a conon. of $\frac{N}{20}$ at 25^0C. The resistance was found to be 200 ohms. Calculate the equivalent conductance of the electrolyte.

(c) What is the significance of SALT BRIDGE in a galvanic cell? [4+8+4]

8. Write a note on the transportation of the following in and out of the cell?

(a) Carbon Dioxide

(b) Sodium

(c) Enzymes

(d) Glucose. [16]

⋆ ⋆ ⋆ ⋆ ⋆