

II B.Tech. I Semester Supplementary Examinations, May -2005
APPLIED CHEMISTRY AND BIO-CHEMISTRY
(Bio-Medical Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Give a detailed description of the Galvanic cell and add a note on the molecular conductance.
2. How do you determine the hardness of water. Give the significance of different methods of water treatment.
3. What is the structure of Biological membrane. How does it control the transportation of substances from and into the cell.
4. Write in detail about different properties of enzymes with suitable examples.
5. Write an essay on protein synthesis.
6. What is the mechanism behind Generation and conductance of nerve impulse.
7. Write a note on the following:
 - (a) Uses of PVC
 - (b) Urine analysis
 - (c) Hysosome.
8. What is the principle behind electrophoresis? How do you separate serum proteins by electrophoresis?

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1. Write a detailed essay on the production and uses of rubber.
2. Write in detail about different methods of water treatment.
3. What is the principle behind centrifugation? Give the methodology and significance of differential centrifugation.
4. Give a detailed description of the structure and functions of mitochondria.
5. Write an essay on Electron Transport System.
6. How are the muscular movements controlled by the nervous system.
7. Write a short note on the following:
 - (a) Uses of Teflon
 - (b) Zeolite
 - (c) Chemical composition of blood.
8. Write in detail about urine chemistry under normal and abnormal conditions.

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1. What is standard Electrode potential? How do you calculate the E.M.F. of a cell.
2. Write in detail the various theories of lubricants and add a note on its properties.
3. Give a detailed description of the structure and functions of ribosomes.
4. Mention different methods of isolating an enzyme and write in detail about any two methods.
5. Write in detail about Glycolysis and give its significance.
6. How does the central nervous system control the muscular movements.
7. What is the normal chemical composition of urine? How does it alter under different diseased conditions.
8. What is acid-base Balance. How do we measure it in patients.

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1. Write a detailed essay on the production and uses of Bakelite.
2. Name different impurities present in water and give a detail description of Ion-exchange process of analyzing water.
3. Give a description of the structure & functions of the following:
 - (a) Endoplasmic reticulum
 - (b) Golgi complex.
4. What is the principle behind spectrophotometry and how do you study enzyme kinetics by spectrometry?
5. Write an essay on Tri-carboxylic acid (TCA) cycle.
6. How does the nervous system control the muscular movements?
7. What is the chemical composition of the blood and how are the serum protine separated?
8. What are the normal levels of glucose in blood and how do you estimate it? Write a note on Hyperglycemia.
