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SARDAR PATEL UNIVERSITY

M.Sc. (II semester) Examination (CBCS)

Tuesday, 28/04/2015

2:30 P.M. to 5:30 P.M.

Organic chemistry

PS02ECHE02- Introduction to Biochemistry

Max. Marks: 70

Note: 1. Attempt all questions.
2. Figures on the right in brackets indicate marks

Q.1 Mark the right answer of following questions. [08]

1. On exposure to light rhodopsin forms
   a. cis- retinal
   b. Retinol
   c. All-trans retinal
   d. Retinoic acid

2. The vitamin containing isoalloxazine ring
   a. Riboflavin
   b. Biotin
   c. Thiamine
   d. Folic acid

3. Which disease is occurring by the deficiency of essential fatty acid?
   a. Atherosclerosis
   b. aging
   c. Cancer
   d. Phrynoderma

4. The nitrogenous base present in lecithin.....
   a. Ethanolamine
   b. Choline
   c. Inositol
   d. Serine

5. The phenomenon of disorganization of native protein structure is called.....
   a. Denaturation
   b. Flocculation
   c. Coagulation
   d. All of the above

6. What is the breakdown product of cellulose?
   a. Amylase
   b. α-D-glucose
   c. β-D-glucose
   d. α-D-galactose

7. There is an electrostatic attraction between the oxygen atom of one water molecule and hydrogen of another, called a ..... bond.
   a. Hydrogen
   b. Weak
   c. Van Der Waals
   d. None of the above

8. Water is a polar solvent. It readily dissolves.....solutes.
   a. Polar
   b. Amphoteric
   c. Non-polar
   d. All of the above

Q.2 Answer the following questions. (ANY SEVEN OUT OF NINE) [02x7]

1. Justify: Vitamin D is a hormonr
2. Write a short note on sphingophospholipid
3. Write a short note on functions of proteins
4. Classify proteins based on their metabolic fate
5. Explain the activation of latent enzyme
6. Explain optical specificity with suitable example.
7. Write a note on "inversion of sucrose"
8. Describe the structure and function of chondroitin sulphates
9. Add a note on triple stranded DNA

Q.3 a. Give an account of absorption, transport and storage of vitamin A [06]

b. Enlist different tests used to check the purity of fats and oils and describe them [06]

OR

b. Describe the structure and function of cholesterol [06]

Q.4 a. Classify amino acids based on their polarity & nutritional value [06]

b. Give an account of the determination of primary structure of proteins [06]

OR

b. 1. Write a short note on fibrous proteins [03]

2. Write a short note on physical and chemical properties of Amino acids [03]

Q.5 a. Define monosaccharides and explain its reactions [06]

b. Define isomers and draw the possible isomers of the glucose [06]

OR

b. 1.Write a short note on Hyaluronic acid and Heparin [03]

2. What is "Haworth projection"? Explain with special reference to glucose [03]

Q.6 a. Explain the enzyme inhibition. [06]

b. What is RNA? Explain the types of RNA [06]

OR

b. Diagrammatic overview of Watson & Crick's double helical structure of DNA [06]

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