B. Tech.
(Sem. VI) Examination, 2006-07
LEATHER BIOTECHNOLOGY

Time : 3 Hours] [Total Marks : 100

Note : Attempt all questions.

1 Attempt any four parts of the following:
   (a) Give the names and structure of polar class of amino acids present in proteins.
   (b) Proteins show strong absorbance of light at a wavelength of 280 nm. Elaborate.
   (c) Give the names and structure of some standard amino acids present in cells.
   (d) Give the titration curve of glutamate.
   (e) What is the difference between Nucleotide and Nucleoside?
   (f) DNA is a double Helix. Elaborate.

2 Attempt any four of the following:
   (a) Most enzymes are proteins. Comment.
   (b) Write short notes on the following:
       (i) Holoenzyme
       (ii) Active site
       (iii) Co-enzyme.

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(c) What are enzymes? What is the mode of their action?
(d) Discuss the effect of temperature and substrate concentration on the activity of enzymes.
(e) Give the method for determination of enzyme activity of enzyme protease.
(f) Describe the oxidoreductases class of enzymes.

3 Attempt any two parts of the following:
(a) Write short notes on the following:
   (i) Recombinant DNA
   (ii) Plasmids
   (iii) Operon
(b) Give the major stages of gene cloning employing bacterial plasmids.
(c) How gene action is regulated?

4 Attempt any two of the following:
(a) What do you understand by cleaner leather processing? Write in brief.
(b) What do you understand by fermentation? Name different products of fermentation. How will you prepare media for the growth of yeast?
(c) How will you use enzyme protease in bating for the production of gloving leather?

5 Attempt any two parts of the following:
(a) What are the inorganic pollutants and their levels in effluent from a tannery processing sheep skins from raw to finish for garment leather?
(b) What effects pollution as on human beings?
(c) Define BOD and COD. How will you determine total oxygen demand in water and what is its significance?