



**J-0859**  
**Second Year B. Sc. Examination**  
**March/April – 2013**  
**Microbiology : Paper - V**  
*(Biochemistry & Enzymology) (Old Course)*

Time : 3 Hours]

[Total Marks : 70

**Instructions :**

(1)

<p>नीचे दृशविवेक निशानीवाणी विगतो उत्तरवही पर अवश्य लखवी. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination : S. Y. B. Sc.</p> <p>Name of the Subject : Microbiology : Paper - 5 (Old)</p> <p>Subject Code No. : 0 8 5 9 Section No. (1, 2,.....): NIL</p>	<p>Seat No. : <input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/></p> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; text-align: center; margin-top: 10px;"><p>Student's Signature</p></div>
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- (2) Figures to the right indicate full marks of the questions.  
(3) Draw neat diagram wherever necessary.

- 1 Give specific answers : 16
- (a) Define : Coordinate bonds with one example.  
(b) Give two examples of reducing disaccharides and name monosaccharide consist it of.  
(c) What are non-Standard Protein amino acids ? Name any two such aminoacids.  
(d) Define : Terpenes and name two triterpenes.  
(e) Define :  
(i) Tautomers  
(ii) Antiparallelity of the poly-nucleotide chain.  
(f) Define :  
(i) Isoenzymes  
(ii) Optical specificity of enzymes.  
(g) Define :  
(i) Zymogens  
(ii) Allosteric enzymes.  
(h) Define :  
(i) Energy  
(ii) Entropy.

- 2 Explain/Comment on any **three** of the following : **15**
- (a) Ionic bonds are of importance.
  - (b) Epimers are different from enantiomers.
  - (c) Animal fats differ from plant fats.
  - (d) t-RNAs have some common structural features.
  - (e) Thermodynamics have three fundamental laws.

- 3 Answer any **two** of the following : **12**
- (a) Define “buffer” and discuss the factors determine the effectiveness of buffer solution.
  - (b) Describe the artificial or synthetic sweeteners.
  - (c) Discuss : Biological roles of enzymes.

- 4 Write an essay on : **12**
- (i) Classification of proteins based on composition and solubility.

**OR**

- (ii) Reversible Enzyme Inhibition.

- 5 Write short notes on any **three** of the following : **15**
- (a) Chemical bonds involved in protein structure.
  - (b) Biological roles of lipids.
  - (c) Evidences providing the protein nature of the enzymes.
  - (d) DNA Vs RNA
  - (e) Role of high energy phosphates as the ‘energy currency’ of the cell.