



SB-3652

First Year M. Sc. (Biotechnology) Examination
March / April - 2011
Bio - Chemistry

Time : 3 Hours]

[Total Marks : 70

Instructions :

(1)

नीचे दृशावेक निशानीवाणी विगतो उत्तरवडी पर अवश्य लपवी.
Fillup strictly the details of signs on your answer book.

Name of the Examination :
F. Y. M. Sc. (Biotechnology)

Name of the Subject :
Bio - Chemistry

Subject Code No. : 3 6 5 2 Section No. (1, 2,.....): Nil

Seat No. :

Student's Signature

- (2) All questions are compulsory.
(3) Figures to the right indicate full marks of the questions.
(4) Indicate clearly the options you attempt.

- 1 Attempt any **three** : 18
- (a) Explain why the bond angle is decrease in NH_3 and H_2O molecule.
(b) Explain Werner's theory in details.
(c) Derive a rate equation for the reaction $2\text{A} \rightarrow \text{product}$ and calculate the unit of same reaction.
(d) Define : Heat of combustion, 1st law of thermodynamics, Iodometry, Iodimetry.

- 2 Attempt any **three** : 18
- (a) Define : acid-base on the basis of arrhenious concept and derive Handerson-Hasselbatch equation.
(b) Define colloid. Give the difference between lyophilic and lyophobic colloids.
(c) Explain the mechanism of a reaction between two gases catalysed by a solid catalyst, give example.
(d) Write a detailed note on "Radioimmunoassay".

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[Contd...

- 3** Attempt any **three** : **18**
- (a) Give the structural formula of the following :
- (i) Propynal
 - (ii) Butanone
 - (iii) Butanenitrile
 - (iv) Pentanoic acid
 - (v) 2-Butanol
 - (vi) 3-pentanone
- (b) Explain : Homolytic and Heterolytic bond fission.
- (c) Give a brief account of the optical isomerism in tartaric acid.
- (d) Explain the classification of carbohydrate in details with example.
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- 4** Attempt any **three** : **16**
- (a) Give two methods of synthesis of a amino acids.
- (b) Explain : number average and weight average molecular weight for determining the molecular weight of polymer.
- (c) Explain the role of heamoglobin in human body.
- (d) (i) Write a note on anti TB-drugs.
(ii) Write preparation and application of Nylon-66.
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