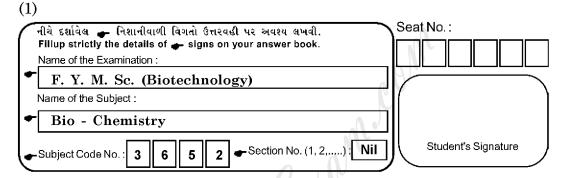


SB-3652

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

Time: 3 Hours] [Total Marks: 70

Instructions:



- (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 $\mathrm{NH_3}$ and $\mathrm{H_2O}$ molecule.
- (b) Explain Werner's theory in details.
- (c) Derive a rate equation for the reaction $2A \rightarrow \text{product}$ 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 lyophboic 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".

SB-3652] 1 [Contd...

3 Attempt any three	3	Attempt	any	three	
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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.

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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