

B.Sc. Semester - 2 (CBCS) Examination**March/April- 2018****BIO-TECHNOLOGY****(CORE)****Time: 2:30 Hours****Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Que-1 Answer the following :

- (A) Answer all (Answer Shortly) (04)
- (1) One molecule of water molecule is surrounded by how many hydrogen bonds?
- (2) Which bond is covalent bond in biomolecule?
- (3) Write name of one biological buffer?
- (4) Define free energy?
- (B) Answer any One. (02)
- (1) Differentiate p^H and Pka Value? (2) Define buffer? How it maintain ph ?
- (C) Answer any One. (03)
- (1) Write properties of water?
- (2) Discuss about hydrophobic bond?
- (D) Answer any One. (05)
- (1) Explain high energy compound with two example?
- (2) Discuss the first law of thermodynamics in detail?

Que-2 Answer the following :

- (A) Answer all (Answer Shortly) (04)
- (1) Give two example of disachharides.....
- (2) How many isomer glucose may form?
- (3) Give one example of glycoprotein?
- (4) What is ceramide?
- (B) Answer any One. (02)
- (1) What is hemiacetal and hemiketal?
- (2) Write important functions of carbohydrate?
- (C) Answer any One. (03)
- (1) With example explain reducing and nonreducing sugar?
- (2) Write three chemical properties of monosachharide?
- (D) Answer any one. (05)
- (1) Give the detail accounts of starch and glycogen.
- (2) Discuss about glycolipids?

Que-3 Answer the following :

- (A) Answer all (Answer Shortly) (04)
- (1) Write two example of non polar amino acid?
- (2) Major site for protein folding in cell is.....
- (3) Peptide bond is nonrotatable bond-statement is right or wrong?
- (4) What is the purpose of protein sequencing?
- (B) Answer any One. (02)
- (1) Write about zwiter ion?
- (2) What is heat shock protein?

- (C) Answer any One. (03)
- (1) Write about α -helical confirmation?
- (2) Write briefly about DNA-Protein interaction?
- (D) Answer any One. (05)
- (1) Discuss the process of protein folding?
- (2) Write Edman degradation method of protein sequencing in detail?

Que-4 Answer the following :

- (A) Answer all (Answer Shortly) (04)
- (1) Write the component of nucleoside.
- (2) 5-bromouracil is analogue of
- (3) RNA having catalytic activity is called.....
- (4) Define T_m value of DNA.
- (B) Answer any One. (02)
- (1) Write name of various factor affecting DNA denaturation?
- (2) Write about Z-form of DNA?
- (C) Answer any One. (03)
- (1) Briefly explain Chargaff's rule?
- (2) Explain structure of t-RNA?
- (D) Answer any One. (05)
- (1) Write important properties of B-form of DNA?
- (2) Write the detail accounts any one method of DNA sequencing?

Que-5 Answer all :r

- (A) Answer all (Answer Shortly) (04)
- (1) Define polyunsaturants ?
- (2) Write one example of cholesterol derived molecule?
- (3) Carboxylation reaction required vitamin.....
- (4) Write one name of Fat soluble vitamin.
- (B) Answer any One. (02)
- (1) Write physiological importance of lipid?
- (2) What is derived lipid?
- (C) Answer any One. (03)
- (1) With name and structure explain about essential fatty acid?
- (2) Briefly explain structure and function of cholesterol?
- (D) Answer any One. (05)
- (1) Explain about membrane lipid in detail?
- (2) Discuss about any five vitamins and its importance in detail?
