

B.Sc. Semester - 2 (CBCS) Examination
June/July-2022 [NEW COURSE]
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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Question-1

Q. 1 Answer all the questions:**a. Answer one out of two-****(07 Marks)**

- i. Discuss any two bond present in biomolecule in detail
- ii. Give the detail account of first law of thermodynamics.

b. Answer one out of two-**(04 Marks)**

- i. Why water is called universal solvent?
- ii. Write short notes on Buffer.

c. Answer any three out of five-**(03 Marks)**

- i. Which bond is covalent bond in Biological system?
- ii. Bond angle between the hydrogen atoms in water is.....
- iii. Which law of thermodynamics is based on law of conservation of energy.
- iv. Define entropy.
- v. What is free energy.

Question-2

Q. 2. Answer all the questions:**a. Answer one out of two-****(07 Marks)**

- i. Discuss various configuration and confirmation of carbohydrate.
- ii. Give the structural and function difference of Cellulose and starch.

b. Answer one out of two-**(04 Marks)**

- i. Explain any two disachharides.
- ii. Write short notes on glycolipid.

c. Answer any three out of five-**(03 Marks)**

- i. All monosachharides are reducing sugar-True/False.
- ii. Which sugar is called as cane sugar.
- iii. Give one example of disachharide.
- iv. Write the bond present in cellulose.
- v. Write one function of proteoglycan.

Question-3

Q. 3 Answer all the questions:**a. Answer one out of two-****(07 Marks)**

- i. Discuss any two confirmation of secondary structure of protein.
- ii. Write the mechanism of protein folding.

b. Answer one out of two-

(04 Marks)

- i. Enlist any four biologically important peptide with its importance.
- ii. Write short notes on DNA-Protein interaction.

c. Answer any three out of five-

(03 Marks)

- i. Which amino acid is cyclic.
- ii. Define essential amino acid.
- iii. Write one example of structural protein.
- iv. Which cellular part is involved in protein folding?
- v. What is the purpose of protein sequencing?

Question-4

Q. 4 Answer all the questions:

a. Answer one out of two-

(07 Marks)

- i. Discuss any two experiments which proves DNA is a genetic material.
- ii. Write difference between A, B and Z form of DNA.

b. Answer one out of two-

(04 Marks)

- i. Write about semiconservative nature of DNA.
- ii. Write about various factor affecting DNA denaturation.

c. Answer any three out of five-

(03 Marks)

- i. What is Chargaff's rule.
- ii. Sugar combine with base form.....
- iii. Denaturation does not depend on concentration of DNA-True/False.
- iv. What is function of acceptor arm in t-RNA.
- v. Write role of Sanger.

Question-5

Q. 5 Answer all the questions:

a. Answer one out of two-

(07 Marks)

- i. Write the structure and importance of cholesterol. Give few example of cholesterol derived biomolecule.
- ii. Discuss any seven vitamin along with its role and deficiency disorder.

b. Answer one out of two-

(04 Marks)

- i. Give the various function of lipid.
- ii. Discuss any four phospholipid in detail.

c. Answer any three out of five-

(03 Marks)

- i. Lipid present in cell membrane is.....
- ii. Which disorder occur due to deficiency of Vitamin C.
- iii. Essential fatty acids are saturated fatty acid-True/False
- iv. Carrot is good source of Vitamin.....
- v. Why Fatty acid are amphipathic in nature.
