BRAINWARE UNIVERSITY

Term End Examination 2022
Programme – B.Tech.(CSE)-2018/B.Tech.(CSE)-2019
Course Name – Biology
Course Code - BSC(CSE)701
(Semester VII)

Full Marks : 60   **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A
(Multiple Choice Type Question)   1 x 15=15

1.   *Choose the correct alternative from the following :*

(i)   As per you what is bioinformatics comprises of?

a) Biology and IT   b) Biology and computer science
c) Biology, computerscience and IT   d) None of them

(ii)   Among the given which is not protein sequence database?

a) PIR   b) PSD
c) EMBL   d) SWISS PORT

(iii)   Name the bond which link animo acids

a) Glycosidic bond   b) peptide bond
c) Di ester bond   d) phosphate bond

(iv)   A multi subunit protein will have

a) quaternary structure   b) tertiary structure
c) secondary structure   d) primary structure

(v)   Hydrophobic side chain generally present in

a) Outer Periphery region   b) hydrophobic sidechain do not form bond
c) Core region   d) randomly assorted

(vi)   Name the basic amoni acid

a) Glutamic acid   b) Aspertic acid
c) Arginine,   d) Glycine

(vii)   Where is primary structure of Protein involved

a) Right hand twisted rotation   b) Peptide bond formation
c) beta sheet formation   d) metal ion involvment

(viii)   Which of the following is false about secondary protein structure?

a) The hydrophilic/hydrophobic character of amino acid residues is important to secondary structure.

b) The ability of peptide bonds to form intramolecular hydrogen bonds is important to secondary structure

c) The alpha helix, beta pleated sheet and beta turns are examples of protein secondary structure.

d) The steric influence of amino acid residues is important to secondary structure.

(ix) According to you Sanger sequencing is based on?

    a) Nucleotide base in DNA   b) Nucleotide base in RNA
    c) m-RNA sequence   d) Amino acid sequence

(x) Which base is absent in RNA?

    a) adenine   b) cytosine
    c) thymine   d) uracil

(xi) A full turn of the B-DNA double helix accommodates how many nucleotides?

    a) 4   b) 10
    c) 16   d) 64

(xii) Among these which is basic amino acid?

    a) Glutamic acid   b) Aspertic acid
    c) Arginine,   d) Glycine

(xiii) Recognize the factor not responsible for the denaturation of protein?

    a) Heat   b) Charge
    c) pH change   d) Organic solvents

(xiv) Can you predict bond which is broken during DNA replication?

    a) hydrogen bonds between bases   b) phosphodiester bonds
    c) covalent bonds between bases   d) ionic bonds between bases and phosphate groups

(xv) Which of these bases has zero weight in RNA?

    a) adenine   b) cytosine
    c) thymine   d) uracil

Group-B
(Short Answer Type Questions)   3 x 5=15

2. Explain is the error complexity equation of adjacency matrix   (3)
3. Define 6 vertices and compute the error complexity value for this   (3)
4. Write different structure of Proteins   (3)
5. Write a short notes about the structure of Nucleosome   (3)
6. Difference between cladogram and phylogenetic tree   (3)

                                    OR
    Distinguise between Leading strand and Lagging strand   (3)

Group-C
(Long Answer Type Questions)   5 x 6=30

7. Define sequence alignment and mention the Protocol of MSA   (5)
8. Discuss the role of denaturing agents in protein   (5)
9. Write down the name of different bones with their exact number   (5)
10. Distinguish between Transcription and translation process in eukaryotes   (5)
11. Diagrammatically represent double circulation process in human beings   (5)
12. Biology is important in computer science- Justify your answe with suitable example   (5)

                                    OR
    Criminal identification by DNA fingerprinting process is the application of bioinformatics- Justify   (5)

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