120522

VCD : _____ CLASS:**FYBT** Paper:**USBT 201:Bioorganic Chemistry** Duration: **2 ½ hours** MARKS: **75**

1. Attempt **all** questions.
2. Draw **neat labeled diagrams** wherever necessary.
3. Use of **log tables** and **non-programmable calculator** is **allowed**.
4. For **Q 2, Q 3 and Q 4** attempt A and B **OR** C and D.

Q 1 Select appropriate option for the following questions: **40**

1. Glucose is a _____ .
   a) Monosaccharide b) Disaccharide c) Oligosaccharide d) Polysaccharide
2. Starch is polymer of _____
   a) Glucose b) Lactose c) Allolactose d) Fructose
3. Lipid is _____ in water.
   a. Soluble b. Insoluble c. Miscible d. charged
4. Fatty acid has _____ functional group.
   a) carboxylic acid b) Aldehyde c) Ketone d) Amino
5. Steroids are classified as _____ lipids.
   a) Simple b) compound c) derived d) Miscellaneous
6. The _____ is reduced by reducing sugars.
   a) DNSA b) ANSA c) $KMnO_4$ d) water
7. Saturated fatty acids have _____ bonds in the carbon chain.
   a) single b) double c) triple d) quadruple
8. Following question contains an Assertion followed by Reason. Read them carefully and answer the question on the basis of following options. You have to select the one that best describes the two statements.
   Assertion: Cysteine and Methionine are similar to each other.
   Reason: Both Cysteine and Methionine contain sulphur.
   a) both assertion and reason are true b) assertion is true but reason is not
   c) assertion is false but reason is not d) both assertion and reason are false
9. PH at which amino acids have zero charge is _____.
   a) Isoelectric point b) Electric point c) Field point d) all of above
10. Which of the following is a non-essential amino acid?
    a) Threonine b) Glutamine c) Phenylalanine d) Valine
11. Which of the following is NOT a factor responsible for denaturation of proteins?
    a) pH change b) atmospheric pressure c) Heat d) Charge
12. Which of the following is a transport protein?
    a) collagen b) mucin c) transferrin d) keratin
13. What is the one letter code for asparagine?
    a) A b) P c) N d) S
14. Which of the following is NOT the classified form of conjugated proteins?
    a) Lipoproteins b) Casein c) Metalloproteins d) Transferrin
15. DNA contains _____.
    a) D-ribose b) D-deoxyribose c) D-lactose d) D-glucose

16. The 40S subunit of ribosome contains 28S rRNA, 5S rRNA and _____ rRNA
    a) 18S b) 2S c) 70S d) 80S
17. The 3c-terminal end of mRNA contains_____.
    a) 7-methyl GTP b) poly A tail c) poly U tail d) 7-methyl ATP
18. When only a single strand of palindromic DNA (or RNA) is involved, a _____ is formed.
    a) hairpin b) Cruciform c) H-DNA d) mRNA
19. The _____ is the most stable structure for a random-sequence DNA molecule.
    a) B-form b) A-form c) D-form d) Z-form
20. In t-RNA _____ arm contains a sequence of T, pseudouridine
    a) TΨC arm b) D arm c) anticodon arm d) acceptor arm

Q. 2 A	Give classification of carbohydrates based on number of saccharides.	**07**
Q. 2 B	Give names of 4 tests for detection of carbohydrates	**04**
	OR	
Q. 2 C	Classify lipids with examples.	**07**
Q. 2 D	Write a note on fatty acids.	**04**
Q. 3 A	What are amino acids? Explain the classification of amino acids based on charge present on them.	**07**
Q. 3 B	Explain in brief about chemical reactions of amino acids.	**04**
	OR	
Q. 3 C	Explain in brief about functional classification of proteins.	**07**
Q. 3 D	Write a short note on properties of proteins	**04**
Q. 4 A	Enlist the types of RNA. Give their location and function in the cell.	**07**
Q. 4 B	Draw structure of Pyrimidine. Give one example of Pyrimidine.	**04**
	OR	
Q. 4 C	Draw the structure of the nucleotide and show any 2 bonds in the same structure.	**07**
Q. 4 D	Enlist the differences between DNA and RNA. And state their location in a eukaryotic cell.	**04**

Q. 5 **Do as directed (Any Two)** **02**

a. State true or false. Iodine is used for detection of glucose.
b. Give an example of aromatic amino acids.
c. Give an example of proteins in milk.
d. Give the composition of a nucleoside.