DPP
DAILY PRACTICE PROBLEMS

Class : XIth
Date :

Solutions

Subject : BIOLOGY
DPP No. : 8

Topic :- Biomolecules

1 **(c)**
The physical and the chemical compositions of amino acids are essentially of the amino, carboxyl and *R* groups

2 **(b)**
The enzymes which work only in the presence of cofactors are known as apoenzymes. A working combination of an apoenzyme and cofactor (mineral ion, prosthetic group or coenzyme) is called enzyme system or holoenzyme.
Apoenzyme + Mineral ion/Prosthetic/ Coenzyme group → Enzyme system or holoenzyme

3 **(c)**
The proteins are composed of carbon, hydrogen, oxygen, nitrogen and sulphur. Certain proteins may contain phosphorous, iron or other elements also

4 **(a)**
Two or more polynucleotide chains may join together by intermolecular hydrogen bonds and may bend into parallel folds to form β-pleated sheet

5 **(d)**
Enzymes, vitamins and hormones are helpful in metabolism regulation.

6 **(a)**
Waxes are the **esters** formed between a long chain alcohol and saturated fatty acids. This material is typically pliable and soft when warm but hard and water resistant when cold, *e.g.*, paraffin wax.

7 **(b)**
Certain proteins form enzymes, some coenzymes and many hormones (insulin, parathormone) and regulate metabolism. They are called functional proteins

8 **(d)**
On full turn of the helical strand would involves ten steps or ten base pairs

9 **(d)**

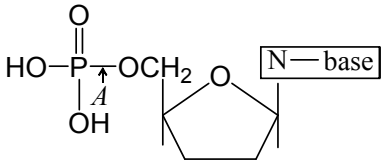
In a double stranded DNA, the sequence of nucleotides is complementary to each other, *i.e.*, A pair with T and G pair with C. So, the sequence of nucleotide for 3' ATTCGCTAT 5' will be 5' TAAGCGATA 3'.

10 **(a)**

In a protein molecule, the amino acid units are linked together by peptide bonds formed between the amino acid units and the carboxyl groups of successive amino acids

11 **(a)**

A is ester bond formed by condensation reactions, involving elimination of water



12 **(c)**

Statement II is false. Amount of biomolecules in an organisms is fixed

13 **(c)**

Michaelis Menten constant (km) is equal to the substrate concentration at which the velocity of the reaction is half maximum. It is inversely proportional to the enzyme activity

14 **(c)**

Miller and **Urey** were the two scientists, who recreated the condition of primitive earth in laboratory and abiotically synthesized amino acids and bases. They synthesized glycine, aspartic acid and alanine in abundant quantities, while **glutamic acid** was not synthesized in their experiment.

15 **(a)**

Glycine is not optically active amino acid.

16 **(a)**

Cellulose provides roughage (fibre) in our diet

17 **(c)**

Starch can be used as an indicator for the detection of traces of **iodine** in aqueous solution.

18 **(d)**

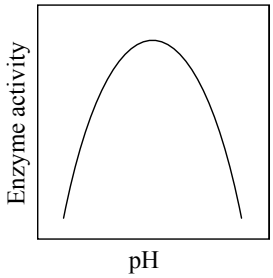
Metabolic pathways not always follow linear routes. They are circular sometimes. These pathways criss-cross each other

19 **(b)**

Fructose is the sweetest sugar. It is found in sweet fruits and honey.

20 **(c)**

Some enzymes acts best in an acid medium and others in an alkaline medium. For every enzyme, there is an optimum pH where its action is maximum. Most enzymes shows activity in a pH range of about 6.0 to 7.5 *i.e.*, neutral pH. A shift towards the alkaline or acid side rapidly decreases the enzyme activity and finally, stops it altogether



ANSWER-KEY										
Q.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
A.	**c**	**b**	**c**	**a**	**d**	**a**	**b**	**d**	**d**	**a**
Q.	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
A.	**a**	**c**	**c**	**c**	**a**	**a**	**c**	**d**	**b**	**c**