

إجابات بنك الكيمياء

طلاب الفرقة الأولى



Complete the following statements:

1- Cells contain four major types of biomolecules

Amino acid – lipids – Nucleotides – carbohydrates

2- Simple carbohydrates have the formula *$(\text{CH}_2\text{O})_n$* .

3- ATP contains the nitrogenous base *adenine* linked to the monosaccharide *ribose*.

3- The most common nucleoids containing nitrogenous base

Cytosine, adenine, guanine, Thymine or *uracil*.

4- Palmitic acid consists of highly insoluble chains of *15* Carbons attached to *Carboxylic acid* group.

5- Cholesterol is poorly soluble in water because of its *Hydrocarbon-like* Composition.

6- Polymers of amino acids are called *Proteins or polypeptides*.

7- The amino acids are linked to each other by bonds called *peptide bond*

8- Adenosine triphosphate is an example for *nucleotides*

9- Polymers of nucleotides are termed *nucleic acid*.

10- Carbohydrates are linked to each other by bond called *Glycosidic bonds*.

11- The K of water = *10^{-14}* at 25c°

12- A solution that has pH 7 is called neutral *neutral*.

13- A solution that has pH higher than 7 is called *basic*.

14- A solution that has pH less than 7 is called *Acids*.

15- The normal pH of human blood is *7.4*.

16- Proteins are chains of *Amino acid*.

17- Peptide bonds can be broken by the action of *exo. or endo. peptidases*.

18- Water molecule is *Polar*.

19- At physiological pH, the amino acid carries both *negative* and *positive* charge.

20- Most polypeptides contain **100** and **1000** amino acid residue

21- Polypeptides smaller than about 40 residues are called **Oligo peptides**.

22- The sequence of amino acids in polypeptides is called

Primary structure.

23- The kinds of secondary structure found in protein are **Alpha helix beta sheets**

24- The three dimensional shape of protein is known as **Tertiary structure**.

25- Living systems use catalysts called **enzyme** to increase the rate of chemical reactions.

26- Most enzymes are **protein**.

27- **chymotrypsin** is a digestive enzyme that is synthesized in the pancreas.

28- **oxidoreductases** enzyme denotes to oxidation – reduction reactions.

29- **Transferases** enzyme denotes to transfer of functional groups.

30- Hydrolase enzyme denotes to **Hydrolysis** reactions.

31- **lyases** enzyme denotes to group elimination to form double bonds.

32- Alanine aminotransferase catalyzes transfer of amino group from **alanine** to **alpha keto acid**.

33- Enzyme inhibitors are also used therapeutically as **drug**.

34- The most common fatty acids in plants and animals are in **even** number.

35- Unsaturated fatty acids contain one or more double bonds such as **oleate**, **Linoleate**.

36- The fats and oils found in animals and plants are **Triacylglycerols**.

37- Cholesterol is a metabolic precursor of steroid hormones such as **estrogen** and **testosterone**.

38- The linkage between nitrogenous base and sugar in nucleoside is

glycosidic linkage.

39- Nucleosides mean that **sugar + base**

40- Nucleotides mean that **sugar + base + phosphate**

41- There are three types of RNA **Ribosomal – messenger – transfer.**

42- Vitamin A is oxidized to **retinal**, which functions as a light receptor in the eye.

43- Deficiency of vitamin A can be leads to **blindness.**

44- Vitamin D has two similar compounds; **Vitamin D₂**, derived from plants and **Vitamin D₃**, derived from cholesterol.

45- **Ultraviolet** is required to formation of vitamin D₂ and D₃

46- Aldopentose contains **aldehyde** group.

47- Aldohexose contains **six** carbon atoms.

48- Glucose has **4** chiral carbon atom.

49- Carbohydrates that differ in configuration at one of its carbons are known as **epimers**.

50- **lactose** and **sucrose** are example for disaccharides

51- In RNA, the heterocyclic base is **Adenine – cytosine – guanine – uracil**

52- In DNA, the heterocyclic base is **Adenine – thymine – cytokine – guanine**

Write on:

1- Function of lipids.

1- Protection against physical shock.....

2- Protection against heat loss.....

3- Protection against water loss.....

4- energy storage.....

5- chemical messenger.....

6- major component.....

2- Function of nucleotides

1- As carriers of chemical energy :-.....

.. Nucleotides may have one two or three ..
.. phosphate groups covalently linked at 5-OH of ..
.. ribose ..

2- As components of enzyme factors :-.....

.. Many enzyme cofactors and coenzymes contain ..
.. Adenosine as part of their structure ..

3- Nutrition of vitamin B¹²

1- Required For maturation of cells

2- For the metabolism of folic acid

3- Along with Folate and iron required for ..
.. formation of red blood cells ..

4- Involved in formation of myelin sheath ..
.. Surrounding the nerve fiber ..

5- It forms part of coenzyme of some important ..
.. Metabolic reactions like synthesis of DNA ..
.. methionine and choline ..

What is the difference between DNA and RAN

DNA: adenine – guanine – cytosine – thymine

.. Deoxyribose ..

.. Double type ..

.. Hereditary molecule of cellular life ..

.. Storage genetic information ..

.. RNA: adenine – guanine – uracil – cytosine ..

.. nbose ..

.. single strand ..

.. encode and translate information on DNA to protein.

