إجابات بنك الكيمياء

لطلاب الفرقة الأولى

إعداد
عمر عادل

اشراف ليدرز (ب)

Complete the following statements:

1- Cells contain four major types of biomolecules

Amino acid – lipids – Nucleotides – carbohydrates

2- Simple carbohydrates have the formula $(CH_2O)_n$

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 bone

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 tree 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- Transferase.. 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 D_2. derived from plants and Vitamin D_3. derived from cholesterol.

45- Ultraviolet. is required to formation of vitamin D_2 and D_3

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 B^{12}

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 tractions like synthesis of DNA, me
thionine 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.

إعداد/
عمر عادل