



BIOLOGY

BOOKS - SARAS PUBLICATION

BIOMOLECULES



1. The most basic amino acid is

A. Arginine

B. Histidine

C. Glycine

D. Glutamine

Answer:

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2. An example of feedback inhibition is

A. Cyanide action on cytochrome

B. Sulpha drug on folic acid synthesizer

bacteria

C. Allosteric inhibition of hexokinase by

glucose-6-phosphate

D. The inhibition of succinic dehydrogenase

by malonate

Answer:

3. Enzymes that catalyse inter-covnersion of optical, geomtrical or positional isomer are

A. Ligases

B. Lyases

C. Hydroglases

D. Isomerases

Answer:

4. Proteins perform many physiological functions. For example, some functions as enzymes. One of the following represents an additional function that some proteins discharge:

A. Antibiotics

B. Pigment conferring colour to skin

C. Pigments making colours of flowers.

D. Hormones







5. The two polynucleotide chains in DNA are

A. Semiconservative

B. Parallel

C. Discontinuour

D. Antiparallel

Answer:

6. Glycogen is a homopolymer made of

A. Glucose units

B. Galactose units

C. Ribose units

D. Amino acids

Answer:

7. The most abudant chemical in living organisms could b

A. Protein

B. Water

C. Sugar

D. Nucleic acid

Answer:

8. The basic unit of nucleic acid is

A. Pentose sugar

B. Nucleoid

C. Nucleoside

D. Nucleotide

Answer:



9. Adenine is

A. Purine

- B. Pyrimidine
- C. Nucleoside
- D. Nucleotide

Answer:



10. Which is wrong about nucleic acids?

A. DNA is single stranded in some viruses

B. RNA is double stranded occasionally

C. Length of one helix is $45A^{\,\circ}\,$ in B-DNA.

D. One turn of Z-DNA has 12 bases.

Answer:

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11. In which of the following groups are all polysaccharides?

A. Sucrose, glucose and fructose

B. Maltose, lactose and fructose

C. Glycogen, sucrose and maltose

D. Glycogen, cellulose and starch

Answer:

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12. Which one of the following is a wrong statement?

A. Glycogen is stored in fungi

B. Glycogen is seen in liver cells.

C. Glycogen is seen in brain

D. Glycogen is stored in animals.

Answer:

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13. In the DNA molecules.

A. The total amount of purine nucleotides

and pyrimidine nucleotides is not always

equal.

B. There are two strands which run parall

in the 5' ightarrow 3' direction.

C. The proportion of adenine in relation to

thymme varies with the organism.

D. There are two strands which run $% \mathcal{D}_{1}(x)=0$ antiparallel one is $5^{\,\prime}
ightarrow 3^{\,\prime}$ direction

and other in $3' \rightarrow 5'$.

Answer:

14. Which is not consistent with double helical structurre of DNA?

A. A=T, C=G

B. Density of DNA decreases on heating.

C. A+T/C+G is not constant.

D. both a and b

Answer:

15. In RNA, thymine is replaced by

A. adenine

B. Guanine

C. Cytosine

D. Uracil

Answer:

16. DNA is composed of repeating units of

A. Riboncleosides

B. Deoxyribornucleosides

C. Ribonucleosides

D. Deoxyribonucleotides.

Answer:

17. What are the most diverse molecules in the

cell?

A. Lipids

B. Mineral salts

C. Protein

D. Carbohydrates

Answer:

18. Lipids are insoluble in water because lipid

molecules are

A. Hydrophilic

B. Hydrophobic

C. Neutral

D. Zwitter ions

Answer:

19. Which of the following polymer is stored in

the liver of animals?

A. Amylose

B. Cellulose

C. Amylopectin

D. Glycogen

Answer:

20. Sucrose on hydrolysis gives

- A. 2 molecules of glucose
- B.2 molecules of glucose + 1 molecule of

fructose

C.1 molecule of glucose + 1 molecule of

fructose

D. 2 molecules of fructose.

Answer:

21. Which of the following bases is not present

in DNA

A. adenine

B. Thymine

C. Cytosine

D. Uracil

Answer:

22. Sucrose is a _____

A. Monosaccharide

B. Disaccharide

C. Reducing sugar

D. Polysaccharide

Answer:



23. Name the two components of glucose which constitute starch

A. Aldoses and ketoses

B. Trioses and tetroses

C. Amylose and amylopectin

D. Phosphates and phospholipids.

Answer:

24. Sugar are technically called carbohydrates, referring to the fact that their formula are only multiple of $C(H_2O)$. Hexose therefore have six oxygen atoms, Glucose is a hexose. Choose from aamong the following another hexose.

A. Frusctose

B. Erythrose

C. Ribulose

D. Ribose





25. Glycogen is a homopolymer made of

- A. Glucose units
- B. Galactose units
- C. Ribose units
- D. Amino acids





26. Which one of the following is the sweetest

sugar

A. Glucose

B. Fructose

C. Galactose

D. Sucrose

Answer:





27. Starch and Cellulose are the compounds

made up of many units of ____

A. Simple sugar

B. Fatty acid

C. Glycerol

D. Amino acids

Answer:

28. Inulin found in plant cell is a

A. Lipid

B. Proteins

C. Polysaccharide

D. Vitamin

Answer:

29. Pentoses and hexoses are the most

common

- A. Disaacharides
- B. Monosaccharides
- C. Oligosaccharides
- D. Polysaccharide

Answer:



30. Simplest form of carbohydrate is

A. Sucrose

B. Starch

C. Monosaccharide

D. Cane sugar

Answer:

31. Which is non-reducing sugar?



32. Sugar and amino acids are

A. Primary metabolities

B. Secondary metabolites

C. Feed stock

D. Inoculum

Answer:



33. Match the terms in column I with suitable

terms in column II and choose the correct

answer from A,B,C, and D

Column I P.) Glucose Q) Cellulose R) Starch S) Glycogen Column II i) Stored food in plants. ii) Reserve food in animals iii) The plant cell wall iv) Most widely used in respiration

34. Find the wrongly matched pair.

A. Primary metabolite - Amino acid

B. Secondary metabolites - Alkaloids

C. Protein - RuBisCO

D.

Answer:



35. Celluslose - Heteropolymer



conditions.

D. Forms a permanent enzyme. Substrate

complex.

Answer:



37. One strand of DNA has the following sequence of nucleotide 3'ATTCGCTAT5'. So the other strand of DNA has

A. 5'TAAGCGATA3'
B. 3'TAAGCGATA5'

C. 5'GACGCGATA3'

D. 3'GACGCGATA 5'

Answer:

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38. With reference to enzymes, which one of

the following statement is true?

A. Apoenzyme = Holoenzyme + coenzyme

B. Holoenzyme = Apoenzyme + Coenzyme

C. Coenzyme = Apoenzyme + Holoenzyme

D. Holoenzyme = Coenzyme + Apoenzyme

Answer:

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39. Feedback inhibition of enzymes is affected

by which of the following?

A. Enzyme

B. Substrate

C. End product

D. Intermediate end products

Answer:

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40. Example of a typical homopolysacharide is

A. Lignin

B. Suberin

C. Insulin

D. Starch

Answer:



41. Function of molybdenum is

- A. Synthesis of oligosaccharides
- B. Fixation of nitrogen
- C. Synthesis of glycoprotein

D. Synthesis of monosaccharides

Answer:

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42. Which was the first alkaloid discovered?

A. Morphine

B. Coedeine

C. Abrin

D. Ricin





43. From which plant is morphine taken?

A. Cinchona

- B. Papaver somniferum
- C. Catharanthus

D. Brassica





- A. Monosaccharides

 - B. Disaccharide
 - C. Oligosaccharides
 - D. Polysaccharide

Answer:



45. Glucose stored in the liver as?

A. Glycoprotein

B. Galactose units

C. Glycogen

D. Glycans

Answer:

46. _____ is the component in the cell

membrane of fungi is absent in humans

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47. Which component present in cell wall of TB

and leprosy causin bacteia is infetious?

A. Wax A

B. Wax B

C. Wax C

D. Wax D

Answer:

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48. An example of a polymer which is a storage carbohydrate is

A. Starch

B. Cellulose

C. Chitin

D. Hexose

Answer:

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49. Where are starch grains synthesized in a plant cell?

A. Golgi body

B. Mitochondria

C. Chloroplast

D.	Nu	cle	us
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Answer:



52._____ is the polymer of amino acid.

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53. What is the polymer of fatty acid?

A. Adipose

- B. Triglyceride
- C. Fat droplets

D. Sugar





54. What is the monomer in lipids?

A. Fatty acids,

B. Fat droplets

C. Triglycerid

D. Adipose

Answer:



55. What is the polymer present in adipose cell?

A. Lipids

B. Starch

C. DNA

D. Amino acids

Answer:





57. Who first sequenced insulin protein?

A. Fred Sanger

B. Linus Pauling

C. Gerardus Johannes

D. Christian Anfinsen

Answer:

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58. The secondary structure of proteins was proposed by ____

A. Christian Anfinsen

B. Linus Pauling and Robert Corey.

C. Carolas Lainnaeus

D. Gerardus Johannes Mulder

Answer:

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59. ____is the abundant protein in whole

biosphere.



60. Holoenzyme is an enzyme with		
its non protien component.		
Watch Video Solution		
61. Apoenzyme is an enzume without		
61. Apoenzyme is an enzume without non protein component.		
61. Apoenzyme is an enzume without non protein component. • Watch Video Solution		
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62. Telomersae is also called

A. Isomerase

- B. Hydrolase
- C. Transferase
- D. Terminal transferase

Answer:

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63. Who isolated nuclein first?

A. Friedrich Miescher

B. Fanklin

C. Robert Miescher

D. Erwin

Answer:

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64. _____ produced the cystallographic

data supporting the Watson and Crick model

of DNA.

65. The first clear crystallographic evidence for

helical structure of DNA was produced by ____



66. who discovered the double helix structure

of DNA ?

A. Erwin Chargaff

B. James Watson an dFrancis Crick

C. Rosalind Franklin

D. Friedrich Miescher

Answer:

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67. Identify the Heteropolysaccharide

A. Cellulose

B. Agar agar

C. Chitin

D. Inulin

Answer:

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68. Pick out the amino acid with non-polar aromatic R group

A. Lysine

B. Arginine

C. Phenylalanine

D. Histidine

Answer:

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69. The inactive enzyme without its nonprotein

compound

A. Coenzyme

B. Holeoenzyme

C. Apoenzyme

D. Cofactor.

Answer:

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70. Monomer of proteins.

A. Fatty acids,

B. Glucose

C. Purines

D. Amino acids





71. Which is an ester?

A. Chitin

B. Cellulose

C. Wax

D. Lactose





72. Components of fat

A. Trioses

B. Triglycerides

C. Inuin

D. Peptides

Answer:

73. Benedict's test is used for

A. Proteins

B. Fats

C. Reducing sugar

D. Non reducing sugars.

Answer:

74. N-acetyl glucosamine is the basic unit of

A. Oil

B. Lactose

C. Starch

D. Chitin

Answer:

75. Identify the enzyme catalyzing this reaction



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76. in RNA Nucleotide is formed of

A. Nucleotide + Fatty acid

B. Nucleotide + Ribose

C. Nucleotide + Deoxyribose

D. Nucleotide + Phosphoric acid





77. Which one make up nucleotide?

A. Nitrogenous bases + Pentose sugar +

Phosphate

B. Nitrogen base + Hexose sigar + Fatty

acid

C. Triglyceride + Pentose sugar +

Phosphoric acid

D. Nitrogen base + Pentose sugar + Amino

acid

Answer:

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78. The number of hydrogen bonds between G

and C in nucleic acids is

A. 1

B. 2

C. 3

D. 4

Answer:



79. Pick out the correct out the correct one

A. A+G = T+G

$$B. A+G = T+A$$

C. A+G = T+U

D. A+G = T+C

Answer:

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80. Which one is RNA strand?

A. AGCT

B. AGTC

C. ATGC

D. AGCU

Answer:



81. The nucleoitide sequence of one of DNA

strand is as follows 5'TACG3'. Identify the other

strand from the following

A. 5'ATGC3'
B. 5'UTGC 3'

C. 3' ATGC 5'

D. 3' AUGC 5'

Answer:

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82. An example of feedback inhibition is

A. Cyanide action on cytochrome

B. Sulpha drug on folic acid synthesizer

bacteria

C. Allosteric inhibition of hexokinase by

glucose-6-phosphate

D. The inhibition of succinic dehydrogenase

by malonate

Answer:

83. The most abudant chemical in living organisms could b

A. Protein

B. Water

C. Sugar

D. Nuclei acid

Answer:

84. Which one is RNA strand?

A. AGCT

B. AGTC

C. ATGC

D. AGCU

Answer:



85. Enzymes that catalyse interconversion of optical, geometrical or positional isomers are

A. Ligases

B. Lyases

C. Hydrolases

D. Isomerases

Answer:

86. The most basic amino acid is

A. Arginine

B. Histidine

C. Glycine

D. Glutamine

Answer:



87. List the types of enzymes.



90. What is RuBisCO? What is function?





95. Distinguish between nitrogenous base and

a base found in inorganic chemistry.



96. Explain the structure of different types of

RNA.

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97. Most herbivores have a problem. What is

it? How can it be solved?

98. What is the reason for hair curls?



101. How are polysaccharides classified



103. Give the molecular structure of glucose-

 $C_{6}H_{12}O_{6}$





2. What are the factors affecting the rate of

enzyme reaction?







7. What are macronutrients?

8. What are micronutrients?



11. What is the use of morphine?





16. How are polysaccharides classified



17. Comment on the biological nature of glucose

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18. What are ketoses?







24. Describe starch test

25. Do mushroom cells have cell wall?

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26. Give the structure and functions of inulin

in a tabular form.

27. Tabulate the structure and function of hylauronic acid. Watch Video Solution **28.** What is Agar? Watch Video Solution 29. What is heparin? What is its use?

30. Write notes on chondroitin sulphate



31. Write the structure and functions of

keratan sulphate



32. Give an example of organsim that exhibit

mutualistic relationship

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33. What are triglycerides?

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34. What are fats? Mention their types

35. What do you know about steroids?



37. What is the use of lecithin?

38. What is nucleotide made up of?



40. Define isoelectric point.





42. What are polypetides?

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43. Give the names of amino acids with nonpolar, aliphatic R groups.



45. Give the names of amino acids with

nonpolar, aliphatic R groups.

46. Why was Linus Pauling and Robert Corey

awarded Nobel Prize in 1954?



48. Give the differences between primary and

secondary structure of proteins





49. What do you mean by tertiary protein

structure?

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50. What are anitbodies?

51. What is the role of soap, detergents, acid, alcohol and some disinfectants in protein denaturation?



52. What is the contribution of Christian Anfinsen?





56. What do you mean by disulphide bond?



57. Define enzymes.

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58. Define metabolites

59. List some of the basic metabolic processes



61. Define catabolic reactions.





64. What do you mean by activation energy?
65. How is the rate of enzyme reaction measured?



66. How does the enzyme concentration effect

the rte of reaction?



67. What are enzyme inhibitors?



70. What is RuBisCO? What is function?



71. Which molecule acts as competitive

inhibitor in photosynthesis?





74. Write about ribozyme.

75. What is the function of telomore?



77. Define a gene.





80. Differentiate Prokaryotic mRNA and Eukaryotic mRNA.





83. What are the different forms of DNA based on the helix and the distance between each turns?



84. Tabulate the components in the cell and

percentage of the total cellular mass.



85. Write short notes on water.





90. What are macromolecules? Give example.

91. Describe the structure of carbohydrats.



93. Write briefly about monosaccharide.

94. How are monosaccharides classified?



96. Write short notes on starch.

97. Write short notes on glycogen.



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99. Most herbivores have a problem

100. Define glycogenolysis?

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101. What do you know about reducing

sugars?



102. How is the bacteria in the gut of herbivores exhibit mutualistic relationship? Watch Video Solution **103.** Write about lipids. Watch Video Solution 104. Distinguish between saturated and unsaturated fatty acids.



106. Name the complex molecules present in

the cell wall and cell membrane of fungi.



107. Write about proteins



109. Name the type of amino acid based on the

R group.

110. How is peptide bond formed?

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111. Give short notes on the structure of protein.



112. Write short notes on quaternary protein structure. Watch Video Solution **113.** Explain briefly about protein denaturation. Watch Video Solution

114. What is the role of heat in denaturation of

protein?



115. What happens to egg albumen on heating?

Watch Video Solution

116. Give short notes on hydrogen bond



117. What is the reason for hair curls?



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119. What happens during a chemical reaction?

120. Explain briefly the effect of temperature

on the rate of reaction.



121. Write short notes on the effect of pH on

the rate of reaction?



122. What are competitive inhibitors?



125. What are allosteric inhibitors?



128. Prepare a table giving the names of enzymes, source and their applications.
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129. Write short notes on nomenclature of enzymes.



130. Write short notes o nucleotides



133. Write notes on nitrogenous bases



136. State Chargaff's rule.



glucose molecule.

139. Write short notes on polysaccharides



141. Briefly comment on cellulose molecules.

142. Briefly explain chitin?



143. Explain Benedict's test

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144. Write short notes on fatty acids?

145. Write briefly about phospholipids.



147. Give a short account of amino acids.

148. Identify the figures given below and

comment

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149. Explain briefly biuret test



150. Explain lock and key mechanism.



151. How is the rate of enzyme reaction measured?

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152. Describe end product inhibition?

153. Describe the structure of DNA as

proposed by Watson and Crick.

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154. Give an account of the salient features of

RNA?



155. What are macronurtrients?



158. What are polymers?



161. What is a glycosidie bond?


164. What is heparin? What is its use?



167. Define amphioteric compound.



170. What are antibodies?



173. Define anabolic reactions.



176. What are intracellular enzymes?

Г



179. What is RuBisCO? What is function?

Γ



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182. Define a gene.



185. What are secondary metabolites?



188. Define glycogenolysis?



191. What are non-competitive inhibitors?





