**Karan Arora**  **R.L. Institute M :9416974837**

**Max Time : 1 hr** **BIOMOLECULES Max Marks : 25**

**CODE : A**

1. Glucose do not react with

|  |  |  |  |
| --- | --- | --- | --- |
| a) Br2 / H2O | b) NH2OH | c) (CH3CO)2O | d) NaHSO3 |

1. The number of chiral carbons in -D (+) glucose is

|  |  |  |  |
| --- | --- | --- | --- |
| a) 5 | b) 6 | c) 3 | d) 4 |

1. The term anomer of glucose refer to

a) isomers of glucose that diffe90r in configuration at carbons one and four (C1 & C4).

b) a mixture of (D) – glucose and (L) – glucose

c) enantiomers of glucose

d) isomers of glucose that differ in configuration at carbon one (C1)

1. Which of the following disaccharide gives a ketose and aldose only on hydrolysis ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Sucrose | b) Maltose | c) Lactose | d) All the three |

1. Which of the following sets consists only of essential amino acids ?

|  |  |
| --- | --- |
| a) Alanine , tyrosine , cysteine | b) Leucine , lysine , tryptophan |
| c) Alanine , glutamine , lysine | d) Leucine , proline , glycine |

1. At PH = 4, glycine exists as

|  |  |  |  |
| --- | --- | --- | --- |
| a) H3N+CH2COO – | b) H3N+CH2COOH | c) H2NCH2COOH | d) H2NCH2COO – |

1. The helical structure of protein is stabilized by

|  |  |  |  |
| --- | --- | --- | --- |
| a) dipeptide bond | b) hydrogen bonds | c) ether bonds | d) peptide bond |

1. Which one is not a constituent of nucleic acids ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Uracil | b) Guanidine | c) Phosphoric acid | d) Ribose sugar |

1. Adenosine is an example of

|  |  |  |  |
| --- | --- | --- | --- |
| a) nucleotide | b) nucleoside | c) purine base | d) pyrimidine base |

1. Dinucleotide is obtained by joining two nucleotides together by phosphodiester linkage. Between which carbon atoms of pentose sugars of nucleotides are these linkages present ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) 5′ and 3′ | b) 1′ and 5′ | c) 5′ and 5′ | d) 3′ and 3′ |

1. Nucleic acid are the polymer of ………… .

|  |  |  |  |
| --- | --- | --- | --- |
| a) Nucleosides | b) Nucleotides | c) Bases | d) Sugars |

1. Which of the following statements is not true about glucose ?

|  |  |
| --- | --- |
| a) It is an aldohexose | b) On heating with HI it forms n-hexane |
| c) It is present in furanose form | d) It does not give 2, 4 – DNP test |

1. DNA and RNA contain four bases each. Which of the following bases is not present in RNA ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Adenine | b) Uracil | c) Thymine | d) Cytosine |

1. Sucrose is disaccharide. One molecule of sucrose on hydrolysis gives ……….

a) 2 molecules of glucose

b) 2 molecules of glucose + 1 molecule of fructose

c) 2 molecules of fructose

d) 1 molecules of glucose + 1 molecule of fructose

1. The sugar which is not a disaccharide in the following

|  |  |  |  |
| --- | --- | --- | --- |
| a) Lactose | b) Galactose | c) Sucrose | d) Maltose |

1. Purine derivative in the following bases is

|  |  |  |  |
| --- | --- | --- | --- |
| a) Guanine | b) Cytosine | c) Thymine | d) Uracil |

1. Which of the following is an example of ketohexose ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) mannose | b) Galactose | c) maltose | d) fructose |

1. Muta rotation does not occur in

|  |  |  |  |
| --- | --- | --- | --- |
| a) Sucrose | b) D – glucose | c) L – glucose | d) None of these |

1. Which one is the complementary base of adenine in one strand to that in other strand of DNA ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Guanine | b) Cytocine | c) Thymine | d) Uracil |

1. Which amino acids are essential building units of proteins ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) -amino acids | b) -amino acids | c) -amino acids | d) None of these |

1. -D (+) glucose and - D (+) glucose are

|  |  |  |  |
| --- | --- | --- | --- |
| a) enantiomers | b) geometrical isomers | c) epimers | d) anomers |

1. The functional group which is found in amino acid is

|  |  |  |  |
| --- | --- | --- | --- |
| a) – COOH | b) – NH2 | c) – CH3 | d) Both (a) & (b) |

1. The reason for double helical structure of DNA is operation of

|  |  |
| --- | --- |
| a) electrostatic attractions | b) Vander Waal’s forces |
| c) dipole-dipole interactions | d) hydrogen bonding |

1. Which of the following is a protein

|  |  |  |  |
| --- | --- | --- | --- |
| a) Lecithin | b) Glycogen | c) keratin | d) Lysine |

1. Which exists as Zwitterion ?

|  |  |
| --- | --- |
| a) Urea | b) Acetic acid |
| c) Glycine | d) Aniline hydrochloride |

**Karan Arora**  **R.L. Institute M :9416974837**

**Max Time : 1 hr** **BIOMOLECULES Max Marks : 25**

**CODE : B**

1. Glucose do not react with

|  |  |  |  |
| --- | --- | --- | --- |
| a) Br2 / H2O | b) NH2OH | c) (CH3CO)2O | d) NaHSO3 |

1. Dinucleotide is obtained by joining two nucleotides together by phosphodiester linkage. Between which carbon atoms of pentose sugars of nucleotides are these linkages present ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) 5′ and 3′ | b) 1′ and 5′ | c) 5′ and 5′ | d) 3′ and 3′ |

1. Sucrose is disaccharide. One molecule of sucrose on hydrolysis gives ……….

a) 2 molecules of glucose

b) 2 molecules of glucose + 1 molecule of fructose

c) 2 molecules of fructose

d) 1 molecules of glucose + 1 molecule of fructose

1. At PH = 4, glycine exists as

|  |  |  |  |
| --- | --- | --- | --- |
| a) H3N+CH2COO – | b) H3N+CH2COOH | c) H2NCH2COOH | d) H2NCH2COO – |

1. Purine derivative in the following bases is

|  |  |  |  |
| --- | --- | --- | --- |
| a) Guanine | b) Cytosine | c) Thymine | d) Uracil |

1. Which of the following is an example of ketohexose ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) mannose | b) Galactose | c) maltose | d) fructose |

1. The reason for double helical structure of DNA is operation of

|  |  |
| --- | --- |
| a) electrostatic attractions | b) Vander Waal’s forces |
| c) dipole-dipole interactions | d) hydrogen bonding |

1. Which amino acids are essential building units of proteins ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) -amino acids | b) -amino acids | c) -amino acids | d) None of these |

1. The term anomer of glucose refer to

a) isomers of glucose that diffe90r in configuration at carbons one and four (C1 & C4).

b) a mixture of (D) – glucose and (L) – glucose

c) enantiomers of glucose

d) isomers of glucose that differ in configuration at carbon one (C1)

1. Which of the following statements is not true about glucose ?

|  |  |
| --- | --- |
| a) It is an aldohexose | b) On heating with HI it forms n-hexane |
| c) It is present in furanose form | d) It does not give 2, 4 – DNP test |

1. The sugar which is not a disaccharide in the following

|  |  |  |  |
| --- | --- | --- | --- |
| a) Lactose | b) Galactose | c) Sucrose | d) Maltose |

1. Which one is not a constituent of nucleic acids ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Uracil | b) Guanidine | c) Phosphoric acid | d) Ribose sugar |

1. Which exists as Zwitterion ?

|  |  |
| --- | --- |
| a) Urea | b) Acetic acid |
| c) Glycine | d) Aniline hydrochloride |

1. Muta rotation does not occur in

|  |  |  |  |
| --- | --- | --- | --- |
| a) Sucrose | b) D – glucose | c) L – glucose | d) None of these |

1. Which of the following is a protein

|  |  |  |  |
| --- | --- | --- | --- |
| a) Lecithin | b) Glycogen | c) keratin | d) Lysine |

1. The number of chiral carbons in -D (+) glucose is

|  |  |  |  |
| --- | --- | --- | --- |
| a) 5 | b) 6 | c) 3 | d) 4 |

1. Adenosine is an example of

|  |  |  |  |
| --- | --- | --- | --- |
| a) nucleotide | b) nucleoside | c) purine base | d) pyrimidine base |

1. DNA and RNA contain four bases each. Which of the following bases is not present in RNA ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Adenine | b) Uracil | c) Thymine | d) Cytosine |

1. The functional group which is found in amino acid is

|  |  |  |  |
| --- | --- | --- | --- |
| a) – COOH | b) – NH2 | c) – CH3 | d) Both (a) & (b) |

1. Which one is the complementary base of adenine in one strand to that in other strand of DNA ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Guanine | b) Cytocine | c) Thymine | d) Uracil |

1. Nucleic acid are the polymer of ………… .

|  |  |  |  |
| --- | --- | --- | --- |
| a) Nucleosides | b) Nucleotides | c) Bases | d) Sugars |

1. The helical structure of protein is stabilized by

|  |  |  |  |
| --- | --- | --- | --- |
| a) dipeptide bond | b) hydrogen bonds | c) ether bonds | d) peptide bond |

1. Which of the following disaccharide gives a ketose and aldose only on hydrolysis ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Sucrose | b) Maltose | c) Lactose | d) All the three |

1. -D (+) glucose and - D (+) glucose are

|  |  |  |  |
| --- | --- | --- | --- |
| a) enantiomers | b) geometrical isomers | c) epimers | d) anomers |

1. Which of the following sets consists only of essential amino acids ?

|  |  |
| --- | --- |
| a) Alanine , tyrosine , cysteine | b) Leucine , lysine , tryptophan |
| c) Alanine , glutamine , lysine | d) Leucine , proline , glycine |

**Answers**

**BIOMOLECULES [CLASS = 12th ]**

|  |  |
| --- | --- |
| **CODE : A** | **CODE : B** |
| 1. d | 1. d |
| 2. a | 2. a |
| 3. d | 3. d |
| 4. a | 4. b |
| 5. b | 5. a |
| 6. b | 6. d |
| 7. b | 7. d |
| 8. b | 8. a |
| 9. b | 9. d |
| 10. a | 10. c |
| 11. b | 11. b |
| 12. c | 12. b |
| 13. c | 13. c |
| 14. d | 14. a |
| 15. b | 15. c |
| 16. a | 16. a |
| 17. d | 17. b |
| 18. a | 18. c |
| 19. c | 19. d |
| 20. a | 20. c |
| 21. d | 21. b |
| 22. d | 22. b |
| 23. d | 23. a |
| 24. c | 24. d |
| 25. c | 25. b |