OLABANJO UNIVERSITY

DEPARTMENT OF BIOCHEMISTRY

REMO CAMPUS

IKENNE

MDB 201: 1 GENERAL BIOCHEMISTRY TIME: 1 HOUR

INSTRUCTION: ANSWER ALL QUESTIONS. **Date: 25th of August, 2006**

There will be a subtraction of 0.2 for every wrong answer

1. Which of these saccharides contains largest number of glucose
   (a) Maltose (b) Ribulose (c) Glycogen (d) Trehalose (e) Sucrose
2. One of this is not a reducing sugar
   (a) Sucrose (b) Glucose (c) Fructose (d) Galactose (e) Xylose
3. The empirical formula of carbohydrate $(CH_20)n$ one of this does not conform with it
   (a) Glucose (b) Fructose (c) Ribose (d) Xylose (e) Rhamnose
4. Carbohydrate can not be classified on the basis of one of these
   (a) No carbon atom between 3-6 (b) Aldose or Keltose (c) Furanos Pyranose
   (d) Available or non Available (e) Peptide Linkage
5. Galactosemia is an inherited disease due to inability of infant
   (a) Metabolize glucose (b) Hydrolyse sucrose (c) Ferment galactose
   (d) Metabolize galactose (e) Metabolise lactose
6. Which of this is not a symptom of galactosemia
   (a) High blood level of galactose (b) Vomitting (c) Diarrhea
   (d) Scurvy (e) Night blindness
7. In the deoxyribose oxygen is missing from D-ribose molecule at
   (a) Carbon 2 (b) Carbon 3 (c) Carbon 4 (d) Carbon 5 (e) Carbon 1
8. The following statements about cellulose are true except
   (a) It is a polysaccharide (b) There are β-1, 4 glycosideic linkages (c) It is inv. carbohydrate (d) It is unbranched molecules (e) It is a branched molecle
9. One of the following is not a major component of cell coat of higher animals
   (a) Cerebrosides (b) Ganglosides (c) Glycoproteins
   (d) Mucopolysaccharides (e) Plasmalema
10. Hyaluronic acid is not present in one of these
    (a) Ground material of connective tissue (b) Cell Coats
    (c) Synovial fluid (d) Vitreous humour (e) Aqueous humour

11. The Linkage of the nucleoside is called

(a) α- 1,4 – glycosidic linkage (b) Disulphide linkage (c) O-Glycosidi

(d) N-Glycoside linkage (e) α-1,6 – glycosidic linkage

12. Which of the following is nolnlantide nucleotide ?

(a) Adenosine (b) Caffeine (c) Guanosine

(d) Adenosine –5¹- phospnate (e) 5-hydroxymethylctosine

13. The Watson-crick model of DNA structure shows:

a) A riple-stranded structure

b) The DNA strands running in opposite directions

c) The pair bonding between A and G inside of DNA helix

d) The Phosphate backbone to be in the inside of DNA helix

e) Covalent bonding between the bases

14. DNA template is utilized in which process?

a) Aminoacylation b) Translation (c) Glucosylation

d) Transcription e) None of the above

15. Which position of the ribose moiety in tRNA is charged with an amino acid?

a) 2¹ Phosphate b) 3¹ Phosphate c) 1¹ OH

d) 2¹ OH e) 3¹ OH

16. One type of stop signals for the termination of RNA synthesis is

a) Sigma factor b) Rho factor c) DnaB Protein

d) Actinomycin D e) Alpha- amahitin

17. Fatty acids with even number of C-atoms are synthesized from

a) Straight Chain carbon atoms b) W-end of fatty acids

c) 2-Carbon units d) Carbocxylcarbon e) None of the above

18. In living cell, the principal energy carrier compound is

a) AMP b) GMP c) GDP d) ATP e) UDP

19. Entropy is th... ...be regarded as

a) Transformation b) Rendomness c) Spontaneous

d) Exergonic e) All of the above

20. Whenever equilibrium constant is greater than 1.0 the reaction is termed

a) Endogonic b) $\Delta G^{o}_{...} = +$ c) exergonic

d) Kelvin reaction e) None of the above

21. Endergonic reactions are accompanied by

(a) loss in free energy (b) Gain of free energy.

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except.

Hexoses are

a) C-atoms dimmers b) Dissaccharides c) Polysaccharides

d) Aldehydes e) None of the above

23. When isomers are mirror images this term below is applicable

a) Assymetry b) Enantiomers c) Optical rotation

d) Rotational e) None of the above

24. Rotation of the plane of polarized light is called

a) assymetrical rotation b) dextrorotatory c) Optical rotation

d) Geometric rotation d) None of the above

25. Enantiomers are identical except for the property of

a) Geometric arrangement b) assymetrical rotation c) Optical rotation

d) Levorotatory e) None of the above

26. Sugar with 5 C atoms have only

(a) 2 possible isomers (b) 5 possible isomers (c) 3 possible isomers

(d) 4 possible isomers (e) None of the above

27. The scientist Harworth proposed that most pentoses and Hexoses exist in solutions in the

(a) linear structure (b) Ring forms (c) β-forms (d) α-forms (e) Open chain forms

28. The free energy of Hydrolysis of ATP

(a) 8.8Kcal/mole (b) 6.2 kcal/mole (c) 10.2 kcal/mole (d) 15.8kcal/mole (e) None

29. [illegible]

(a) [illegible] (b) [illegible] (c) C-2 epimer of glucose

30. [illegible]

(a) ATP (b) ADP (c) APP (d) UTP (e) GMP

31. Which one of these [illegible]

(a) Albumin (b) Casein (c) [illegible] globin (d) Myoglobin (e) Collagen

32. Which one of those amino acid is not found in protein

(a) Glycine (b) Citrulline (c) Valine (d) alanine (e) aspartate

33. All of these are true about [illegible] found in protein except

(a) They have C-configuration (b) They are of natural occurrence (c) they are all α-amino acids (d) They all have a chiral atom (e) None of the above

34. All these proteins are found in plasma except

(a) Albumin (b) Keratin (c) Transferin (d) Globin (e) Ceruloplasmin

35. Plasma protein conc- WW

(a) prolong [illegible]

(b) liver [illegible]

36. The PH at which an amino acid will not migrate in an electric field is called
(a) pI (b) PI (c) Pi (d) i: (e) a and b

37. Total number of amino acid in the β-chain of haemoglobin is
(a) 152 (b) 150 (c) 146 (d) 148 (e) 192

38. All haemoprotein contain all of the following except
(a) Amino acid (b) Fe (c) Porphyrin (d) Globin (e) Heme

39. All of these are polar amino acids except.
(a) Valine (b) Lysine (c) Glutamate (d) Tyrosine (e) Cysteine

40. Peptide band is present in all of the following except
(a) Cystine (b) Insuline (c) glutethione GSSH (d) Glucyalanine
(e) Valyl cystylalnine

Use the following options to answer questions 41–45
(a) 7 (b) ≥ 7 (c) ≤ 7 (d) 2 (e) 3

The pH at equivalence when

41. Strong acid is titrated with strong base is _____
42. When strong base is titrated against weak acid is _____
43. Strong acid is titrated against weak base _____
44. How many equivalence points would _____ have
H_2SO_4 when titrated against NaCH
45. H_3PO_4 when titrated against NaOH
46. The backbone of DNA is held together by:
(a) Covalent bond (b) Salt linkage (c) Hydrogen bond
(d) Yander waals (e) Phosphodiester bond
47. Some viruses RNA double structure are produce by the formation of
(a) Criciforms (b) Bonds (c) Hairpin loops (d) Circular loops (e) All of the above
48. The term codon is a sequence of
(a) One Nucleotide (b) Two Nucleotides (c) Three Nucleotides
(d) Three polynucleotides (e) Three Nucleosides
49. An enzyme that initiates the transcription of an operon is
(a) Permease (b) Galactosidase (c) RNA polymerase (d) Inhibitory (e) Contigi
50. Post-translational modifications of polypeptide chains include the following except
(a) Methylation (b) Hydrolation (d) Phosphorylation
(d) attachment of protein grp
(e) excission & splicing