



BRAINWARE UNIVERSITY

Term End Examination 2021 - 22

Programme – Diploma in Medical Laboratory Technology

Course Name – Clinical Biochemistry

Course Code - DMLT205

(Semester II)

Time allotted : 1 Hrs.15 Min.

Full Marks : 60

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question)

1 x 60=60

Choose the correct alternative from the following :

- (1) The general formula of polysaccharides is

a) $(C_6H_{10}O_5)_n$	b) $(C_6H_{12}O_5)_n$
c) $(C_6H_{10}O_6)_n$	d) $(C_6H_{10}O_6)_n$
- (2) The aldose sugar is

a) Glycerose	b) Ribulose
c) Erythrulose	d) Dihydroxyacetone
- (3) The pentose sugar present mainly in the heart muscle is

a) Lyxose	b) Ribose
c) Arabinose	d) Xylose
- (4) The number of isomers of glucose is

a) 2	b) 4
c) 8	d) 16
- (5) Isomers differing as a result of variations in configuration of the —OH and —H on carbon atoms 2, 3 and 4 of glucose are known as

a) Epimers	b) Anomers
c) Optical isomers	d) Stereoisomers
- (6) Which of the following monosaccharides is the majority found in the human body?

a) D-type	b) L-type
c) LD-types	d) None of the above
- (7) Which of the following are the major functions of Carbohydrates?

a) Storage	b) Structural framework
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- c) Transport Materials
- (8) Which of the following is a reducing sugar?
- a) Dihydroxyacetone
b) Erythrulose
c) Glucose
d) All of the above
- (9) Molisch test is used for _____.
- a) Lipids
b) Proteins
c) Mucoproteins
d) Flavoproteins
- (10) Which of the following does not have sulphuric acid groups?
- a) Heparin
b) Kerato sulfate
c) Hyaluronic acid
d) Chondroitin sulfate
- (11) Which sugars are present in Sucrose?
- a) Fructose and glucose
b) Glucose and glucose
c) Glucose and galatose
d) Fructose and galatose
- (12) Which of the following will not be reactive towards selivanoff reagent?
- a) Maltose
b) Inulin
c) Fructose
d) Sucrose
- (13) Which of the following monosaccharides is a ketohexose?
- a) Glucose
b) Galactose
c) Fructose
d) mannose
- (14) Glucose on Fehling's test gives _____
- a) Noreaction
b) Silver mirror
c) Red precipitate
d) Pungent gas
- (15) The enantiomer of D-sorbose
- a) is a D-sugar that has opposite configuration around one carbon
b) is a D-sugar that has opposite configuration around three carbons.
c) is an L-sugar that has opposite configuration around one carbon.
d) is an L-sugar that has opposite configuration around three carbons.
- (16) This molecule acts as molecular chaperones to assist the folding of proteins
- a) Vitamins
b) Carbohydrates
c) Amides
d) Lipids
- (17) Which of these is not a lipid?
- a) Fats
b) Oils
c) Proteins
d) Waxes
- (18) Rancidity of lipids of lipid-rich foodstuff is because of
- a) Reduction of fatty acids
b) Hydrogenation of unsaturated fatty acids
c) Dehydrogenation of saturated fatty acids
d) Oxidation of fatty acids
- (19) The degree of unsaturation of lipids can be measured as
- a) Iodine number
b) Saponification number
c) Reichert Meissel number
d) Polenske number
- (20) Arachidonate has 20 carbon atoms with
- a) 3 double bonds
b) 2 double bonds
c) 4 double bonds
d) 8 double bonds

- (21) In the intestine, the dietary fats are hydrolysed by
- a) triacylglycerol lipase
 - b) adenylate cyclase
 - c) pancreatic lipase
 - d) protein kinase
- (22) HDLs are synthesized in
- a) blood
 - b) liver
 - c) intestine
 - d) pancreas
- (23) Triacylglycerols are
- a) soluble in water
 - b) insoluble in water
 - c) soluble in water at elevated temperature
 - d) partially soluble in water
- (24) In eukaryotes fatty acid breakdown occurs in
- a) mitochondrial matrix
 - b) cytosol
 - c) cell membrane
 - d) endoplasmic reticulum
- (25) Phospholipid contains
- a) hydrophilic heads and hydrophobic tails
 - b) long water-soluble carbon chains
 - c) positively charged functional groups
 - d) both (b) and (c)
- (26) Micelles of fatty acids in water are organized such that the _____ faces the solvent and the _____ are directed toward the interior
- a) carboxylic acid groups, hydrocarbon chains
 - b) hydrophilic heads, hydrophobic tails
 - c) hydrocarbon chains, carboxylic acid groups
 - d) both (a) and (b)
- (27) Cholesterolemia means
- a) lack of functional LDL receptors
 - b) lack of functional HDL receptor
 - c) high sensitivity to fatty food intake
 - d) none of the above
- (28) Chylomicrons are synthesized in
- a) blood
 - b) liver
 - c) intestine
 - d) pancreas
- (29) How many types of lipoproteins are there?
- a) 2
 - b) 6
 - c) 8
 - d) 5
- (30) Cholesterol is the precursor of
- a) steroid hormones
 - b) vitamin A
 - c) bile salts
 - d) both (a) and (c)
- (31) Palmitate has 16 carbon atoms with
- a) 2 double bonds
 - b) 3 double bonds
 - c) One double bond
 - d) None of these
- (32) What is the solubility of lipids in water?
- a) soluble
 - b) partially soluble
 - c) insoluble
 - d) partially in-soluble
- (33) Name the two essential fatty acids?
- a) Linoleate and linolenate
 - b) Oleic and linoleic
 - c) Lauric and myristic
 - d) Arachidonic and oleic
- (34) The melting point of fatty acids depends upon chain length and _____

- a) The shape of the fatty acids
c) Charge on the carbon
- b) The position of the double bond
d) Degree of unsaturation
- (35) Name the reagent which is used in Saponification?
a) Ammonia
c) NaOH/KOH
- b) Acetic acid
d) Butanone
- (36) Which of the following phospholipid is considered as a major constituent of nervous tissue?
a) Glycerophospholipid
c) Inositol
- b) Plasmalogen
d) Sphingomyelin
- (37) Which of the following sterol is present in the cell membrane of fungi?
a) Ergosterol
c) Sitosterol
- b) Stigmaterol
d) Campesterol
- (38) Identify the amino acids containing nonpolar, aliphatic R groups.
a) Phenylalanine, tyrosine, and tryptophan
c) Lysine, arginine, histidine
- b) Glycine, alanine, leucine
d) Serine, threonine, cysteine
- (39) The two amino acids having R groups with a negative net charge at pH 7.0 are _____
a) Aspartate and glutamate
c) Cysteine and methionine
- b) Arginine and histidine
d) Proline and valine
- (40) Which of the following is a true statement?
a) Tryptophan and tyrosine are significantly more polar than phenylalanine
c) Aspartate is an essential amino acid
- b) Leucine is commonly used as an ingredient in the buffers of SDS page
d) Lysine is a non-essential amino acid
- (41) Which of the following is an essential amino acid?
a) Cysteine
c) Glutamine
- b) Asparagine
d) Phenylalanine
- (42) Which of the following is an imino acid?
a) Alanine
c) Proline
- b) Glycine
d) Serine
- (43) Which among the following is both glucogenic and ketogenic?
a) Isoleucine
c) Lysine
- b) Leucine
d) Histidine
- (44) An amino acid that yields acetoacetyl CoA during the catabolism of its carbon skeleton will be considered as _____
a) Glycogenic
c) Both glycogenic and ketogenic
- b) Ketogenic
d) Essential
- (45) Which of these amino acids are not optically active?
a) Cysteine
c) Arginine
- b) Lysine
d) Glycine
- (46) Choose the incorrect statement with respect to Amino Acids.
a) Only L amino acids are found in the biological system
c) Tyrosine is a modified amino acid
- b) Glycine is optical inactive
d) Seleno cysteine is 21 st amino acid

- (47) Choose a nano peptide out of the followings-
- a) Oxytocin
 - b) Vasopressin
 - c) Bradykinin
 - d) All of the above
- (48) Which out of the following amino acids is a precursor for a mediator of allergies and inflammation?
- a) Histidine
 - b) Tyrosine
 - c) Phenyl Alanine
 - d) Tryptophan
- (49) Among the 20 standard proteins coding amino acids, which one is least occurs in proteins?
- a) Glycine
 - b) Alanine
 - c) Tryptophan
 - d) Methionine
- (50) The first amino acid in a polypeptide chain is
- a) Serine
 - b) Valine
 - c) Alanine
 - d) Methionine
- (51) Aromatic amino acids include
- a) Phenylalanine, tyrosine and tryptophan
 - b) Phenylalanine, serine and tryptophan
 - c) Threonine, tyrosine and tryptophan
 - d) Asparagine, tyrosine and tryptophan
- (52) Positively charged basic amino acids are
- a) Lysine and arginine
 - b) Lysine and asparagine
 - c) Glutamine and arginine
 - d) Lysine and glutamine
- (53) Acidic amino acids include
- a) Arginine and glutamate
 - b) Aspartate and asparagine
 - c) Aspartate and lysine
 - d) Aspartate and glutamate
- (54) Identify the amino acids containing nonpolar, aliphatic R groups
- a) Phenylalanine, tyrosine, and tryptophan
 - b) Glycine, alanine, leucine
 - c) Lysine, arginine, histidine
 - d) Serine, threonine, cysteine
- (55) Which of the following amino acid is sweet in taste?
- a) Glycine
 - b) Alanine
 - c) Glutamic acid
 - d) None of these
- (56) Which of the following amino acid will be absent in α (alpha) helix structure of protein?
- a) Glycine
 - b) Galine
 - c) Glutamic acid
 - d) Proline
- (57) Which of the following amino acid has buffering capacity
- a) Tryptophan
 - b) Cysteine
 - c) Histidine
 - d) Arginine
- (58) Glycine and proline are the most abundant amino acids in the structure of-
- a) Hemoglobin
 - b) Myoglobin
 - c) Insulin
 - d) Collagen
- (59) Peptide bond is a _____
- a) Covalent bond
 - b) Ionic bond
 - c) Metallic bond
 - d) Hydrogen bond
- (60) The average molecular weight of an amino acid residue in a protein is about _____
- a) 128
 - b) 118

c) 110

d) 120