



BRAINWARE UNIVERSITY

Term End Examination 2021 - 22
Programme – Bachelor of Pharmacy
Course Name – Biochemistry
Course Code - BP203T
(Semester II)

Time allotted : 1 Hrs.30 Min.

Full Marks : 75

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question)

1 x 75=75

Choose the correct alternative from the following :

- (1) $C_n(H_2O)_n$ is the general formula of

a) Amino acid	b) protein
c) carbohydrate	d) peptide
- (2) Lipids are naturally

a) Hydrophilic	b) Hydrophobic
c) Lipophilic	d) lipophobic
- (3) Glucose has the formula of

a) $C_6H_{12}O_5$	b) $C_5H_{11}O_6$
c) $C_6H_{12}O_6$	d) $C_5H_{10}O_6$
- (4) Which of the following is a conjugated protein

a) Albumin	b) Globulin
c) Prolamine	d) glycoproteins
- (5) Which is the symbol of free energy.

a) G	b) F
c) E	d) NONE
- (6) If enthalpy change for a reaction is zero, then ΔG° equals to

a) $-T\Delta S^\circ$	b) $T\Delta S^\circ$
c) $-\Delta H^\circ$	d) $\ln k_{eq}$
- (7) Unfolding of regular secondary protein structure causes

a) Large decrease in the entropy of the protein	b) Little increase in the entropy of protein
c) No change in the entropy of the protein	d) Large increase in the entropy of the protein
- (8) The study of energy relationships and conversions in biological systems is called as

- a) Biophysics
c) Bioenergetics
- b) Biotechnology
d) Microbiology
- (9) What does first law of thermodynamics state?
- a) Energy can neither be destroyed nor created
c) All living organisms are composed of cells
- b) Energy cannot be 100 percent efficiently transformed from one type to another
d) Input of heat energy increases the rate of movement of atoms and molecules
- (10) Name the pathway for glucose synthesis by non-carbohydrate precursors?
- a) Glycogenesis
c) Gluconeogenesis
- b) Glycolysis
d) Glycogenolysis
- (11) Name the enzyme which is responsible for the conversion of pyruvate to phosphoenolpyruvate (PEP)?
- a) Pyruvate carboxylase
c) Glucose 6-phosphatase
- b) Pyruvate carboxykinase
d) Phosphofructokinase
- (12) Which of the following hormone maintain blood glucose level by activation of gluconeogenesis?
- a) Nor-epinephrine
c) Insulin
- b) Glucagon
d) Epinephrine
- (13) Name the hormone which is secreted in an emergency or in stress condition?
- a) Epinephrine
c) Insulin
- b) Glucagon
d) Melanin
- (14) In hydration, fumarate is converted by fumarase to
- a) - malate
c) a-malate
- b) d-malate
d) c-malate
- (15) Diabetes happens because of which of these?
- a) Your liver doesn't make enough blood sugar
c) Your body can't use blood sugar the way it should
- b) Your muscles use too much blood sugar
d) Your body makes more insulin than it needs
- (16) High blood pressure can be a side effect of some medicines. Which of these can raise blood sugar?
- a) Ibuprofen
c) Thyroid medicines
- b) Antidepressants
d) Oral steroid medicines
- (17) A positive benedicts test is given by
- a) sucrose
c) maltose
- b) fructose
d) .glucose
- (18) Insulin has no effect on the activity
- a) glycogen synthetase
c) pyruvate kinase
- b) fructokinase
d) pyruvate dehydrogenase
- (19) Find the INCORRECT statement about the biological functions of lipids.
- a) Storage form of metabolic fuel
c) The structural component of membranes
- b) Have a protective function in bacteria, plant, and insects
d) Exhibit increased catalytic activity
- (20) Name the reagent which is used in Saponification?

- a) Ammonia
c) NaOH/KOH
- b) Acetic acid
d) Butanone
- (21) Which of the following is not a component of a phospholipid?
a) Phosphate
c) Glycerol
- b) Alcohol
d) Protein
- (22) Which of the following sterol is present in the cell membrane of fungi?
a) Ergosterol
c) Sitosterol
- b) Stigmasterol
d) Campesterol
- (23) Identify the lowest density lipoprotein among the following?
a) HDL
c) VLDL
- b) LDL
d) Chylomicrons
- (24) A tripeptide has
a) 3 amino acids and 1 peptide bond
c) 3 amino acids and 3 peptide bonds
- b) 3 amino acids and 2 peptide bonds
d) 3 amino acids and 4 peptide bonds
- (25) Which of the following is not the classified form of conjugated proteins?
a) Lipoproteins
c) Complete proteins
- b) Glycoproteins
d) Metalloproteins
- (26) Unfolding of a protein can be termed as
a) Renaturation
c) Oxidation
- b) Denaturation
d) Reduction
- (27) What are the following is not a factor responsible for denaturation of proteins?
a) pH change
c) Heat
- b) Organic solvents
d) Charge
- (28) Which of the following is false about chymotrypsin?
a) Hydrolytic cleavage of a peptide bond by chymotrypsin has two phases
c) It is synthesized in the thyroid gland
- b) It is activated in the presence of trypsin
d) Polypeptide chains in chymotrypsin are linked by S-S bonds
- (29) Precursor of glycine is
a) Proline
c) Serine
- b) Glutamine
d) Glutamate
- (30) Which of the following gives rise to valine and isoleucine?
a) Pyruvate
c) Aspartate
- b) Glutamate
d) Serine
- (31) Identify the purine base of nucleic acids in the following
a) Cytosine
c) Uracil
- b) Thymine
d) Adenine
- (32) Which of the following are not the components of RNA?
a) Thymine
c) Guanine
- b) Adenine
d) Cytosine
- (33) What is the composition of nucleotide?
a) a sugar + a phosphate
c) a base + a phosphate
- b) a base + a sugar
d) a base + a sugar + phosphate

- (34) Building blocks of nucleic acids are
- | | |
|----------------|----------------|
| a) Nucleotides | b) Nucleosides |
| c) Amino acids | d) Histones |
- (35) In anaerobic glycolysis no of ATP Production from one glucose in cell is
- | | |
|--------|--------|
| a) a.4 | b) b.2 |
| c) c.6 | d) d.8 |
- (36) pH of Urine is
- | | |
|--------------|--------------|
| a) a.4.5-8.0 | b) b.7.4-7.5 |
| c) c.6-7 | d) d.8-9 |
- (37) The hormones responsible for regulation of water metabolism
- | | |
|----------------|---------------------|
| a) Vasopressin | b) aldosterone |
| c) renin | d) All of the above |
- (38) SAP- value of coconut oil is
- | | |
|----------|----------|
| a) a.200 | b) b.300 |
| c) c.250 | d) d.400 |
- (39) Primary structure of protein is due to
- | | |
|-------------------|---------------------|
| a) a.peptide bond | b) b. Covalent bond |
| c) c.amino bond | d) d.disulfide bond |
- (40) Frsh arachis oil have acid value not more than.....
- | | |
|--------|--------|
| a) a.4 | b) b.6 |
| c) c.2 | d) d.8 |
- (41) Sodium lauryl sulfate is used as
- | | |
|----------------|-------------------|
| a) a.detergent | b) b.surfactant |
| c) c.emulsion | d) d. Baking soda |
- (42) Osazone test is used to identifysugar
- | | |
|-------------|-----------------|
| a) reducing | b) non reducing |
| c) keto | d) aldo |
- (43) Which of the following is the prosthetic group of NADH dehydrogenase?
- | | |
|-------------|-------------|
| a) a) NADH | b) b) FAD |
| c) c) NADPH | d) c) NADPH |
- (44) If the oxidative phosphorylation was uncoupled in the mitochondria then there is a/an
- | | |
|---|---------------------------------|
| a) Decreased concentration of ADP in the mitochondria | b) Decreased oxidative rate |
| c) Increased inorganic phosphate in the mitochondria | d) Decreased production of heat |
- (45) What is the nature of an enzyme?
- | | |
|--------------------|---------------|
| a) a) Vitamin | b) b) Lipid |
| c) c) Carbohydrate | d) d) Protein |
- (46) Name the coenzyme of riboflavin (B2)?
- | | |
|----------------|---------------------------|
| a) NAD or NADP | b) FAD and FMN |
| c) Coenzyme A | d) Thiamine pyrophosphate |
- (47) Eukaryotes differ from prokaryote in mechanism of DNA replication due to

- a) Use of DNA primer rather than RNA primer
 b) Different enzyme for synthesis of lagging and leading strand
 c) Discontinuous rather than semi-discontinuous replication
 d) Unidirectional rather than semi-discontinuous replication
- (48) Which of the following is true about DNA polymerase?
 a) It can synthesize DNA in the 5' to 3' direction
 b) It can synthesize DNA in the 3' to 5' direction
 c) It can synthesize mRNA in the 3' to 5' direction
 d) It can synthesize mRNA in the 5' to 3' direction
- (49) The reaction in DNA replication catalyzed by DNA ligase is
 a) Addition of new nucleotides to the leading strand
 b) Addition of new nucleotide to the lagging strand
 c) Formation of a phosphodiester bond between the 3'-OH of one Okazaki fragment and the 5'-phosphate of the next on the lagging strand
 d) Base pairing of the template and the newly formed DNA strand
- (50) Eukaryotes differ from prokaryote in mechanism of DNA replication due to
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- (51) The reaction in DNA replication catalyzed by DNA ligase is
 a) a) Addition of new nucleotides to the leading strand
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 c) c) Formation of a phosphodiester bond between the 3'-OH of one Okazaki fragment and the 5'-phosphate of the next on the lagging strand
 d) d) Base pairing of the template and the newly formed DNA strand
- (52) Which of the following enzymes remove supercoiling in replicating DNA ahead of the replication fork?
 a) a) DNA polymerases
 b) b) Helicases
 c) c) Primases
 d) d) Topoisomerases
- (53) Which of the following enzymes is the principal replication enzyme in E. coli?
 a) a) DNA polymerase I
 b) b) DNA polymerase II
 c) c) DNA polymerase III
 d) d) None of these
- (54) The enzyme used to join bits of DNA is
 a) a) DNA polymerase
 b) b) DNA ligase
 c) c) Endonuclease
 d) d) Primase
- (55) Different types of DNA except
 a) B-DNA
 b) Z-DNA
 c) A-DNA
 d) K-DNA
- (56) What is an apoenzyme?
 a) It is a protein portion of an enzyme
 b) It is a non-protein group
 c) It is a complete, biologically active conjugated enzyme
 d) It is a prosthetic group
- (57) Mark the CORRECT function of enzyme, Peptidase?

- a) Cleave phosphodiester bond
 c) Remove phosphate from a substrate
- b) Cleave amino bonds
 d) Removal of H₂O
- (58) Which of the following reaction is catalyzed by Lyase?
- a) Breaking of bonds
 c) Intramolecular rearrangement of bonds
- b) Formation of bonds
 d) Transfer of group from one molecule to another
- (59) Which of the following is a sphingophospholipid?
- a) Lecithin
 c) Plasmolegen
- b) Sphingomyelin
 d) Cardiolipin
- (60) Which is true?
- a) DNA is more stable than RNA
 c) DNA & RNA are equally stable
- b) RNA is more stable than DNA
 d) .they are present in equilibrium
- (61) Identify the stop codon from following/?
- a) UAA
 c) UAG
- b) UGA
 d) ALL
- (62) Identify the palindrome sequesnce from the following?
- a) TATA
 c) CCTT
- b) GAAG
 d) CTAG
- (63) Fatty liver means
- a) Fat deposition in liver
 c) cholesterol deposition in liver
- b) protein deposition in liver
 d) Lipid deposition
- (64) SGOT and SGPT test is done for
- a) spleen
 c) pancreas
- b) Liver
 d) gall blader
- (65) Vitamin B1 is known as
- a) Riboflavin
 c) Niacin
- b) thiamin
 d) none
- (66) Which of the following is not a component of a phospholipid?
- a) Phosphate
 c) Glycerol
- b) Alcohol
 d) Protein
- (67) ATP full form
- a) .adenosine tri phosphate
 c) adenosine tetra phosphate
- b) adenosine di phosphate
 d) Adenosine triose phosphate
- (68) Succinate dehydrogenase converts
- a) succinyl CoA
 c) succinate
- b) succinic acid
 d) succinyl oxalate
- (69) Glycerol kinase work on
- a) Glycerol
 c) fatty acid
- b) Glyceric acid
 d) Pyruvate kinase.
- (70) Sudden infant death syndrome is also known as
- a) Reye's syndrome
 c) FATTY ACYL co-A syndrome
- b) Rai's syndrome
 d) dehydrogenase syndrome
- (71) Albuminuria is known as

- a) Urine associated with globulin
c) albumin associated with haeme
- (72) Biosynthesis of triacylglycerol is known as
a) Lipolysis
c) lipogenesis
- (73) Atherosclerosis is accumulation ofin artery
a) LDL
c) HDL
- (74) Deamination means removal ofgroup from amino acid
a) Carboxylic group
c) Nitro group
- (75) Purine contains.....heterocyclic rings
a) two
c) one
- b) Albumin associated with albumin
d) albumin associated with alanine
- b) Glycerolysis
d) .Alkylosis
- b) VLDL
d) Cholesterol
- b) amino group
d) aliphatic group
- b) three
d) none