



14339

**BRAINWARE UNIVERSITY**

Library
Pharmaceutical Technology
Brainware University
Barasat, Kolkata-700125

Term End Examination 2024-2025**Programme – B.Pharm-2020/B.Pharm-2022/B.Pharm-2023/B.Pharm-2024****Course Name – Biochemistry/Biochemistry - Theory****Course Code - BP203T****(Semester II)****Full Marks : 75****Time : 3:0 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 20=20

1. Choose the correct alternative from the following :

- (i) What is the full form of ATP?
- | | |
|----------------------------|-------------------------------|
| a) adenosine tri phosphate | b) adenosine di phosphate |
| c) adenine tri phosphate | d) adenosine triose phosphate |
- (ii) What is the name of biosynthesis of triacylglycerol?
- | | |
|----------------|-----------------|
| a) Lipolysis | b) Glycerolysis |
| c) lipogenesis | d) Alkylosis |
- (iii) Identify the lipid which is not harmful for health.
- | | |
|--------|----------------|
| a) LDL | b) VLDL |
| c) HDL | d) Cholesterol |
- (iv) What is the waste product of fatty acid?
- | | |
|----------------|--------------------|
| a) Glycerol | b) Ketone body |
| c) Nitro group | d) Aliphatic group |
- (v) Select the correct example of saturated fatty acid.
- | | |
|------------------|----------------|
| a) palmitic acid | b) oleic acid |
| c) linoleic acid | d) erucic acid |
- (vi) Which technique used for identification of RNA?
- | | |
|----------------------|----------------------|
| a) Southern blotting | b) Northern blotting |
| c) Western blotting | d) Eastern blotting |
- (vii) Select the proper statement from the below option: Fatty liver can be described as ____.
- | | |
|------------------------------------|--------------------------------|
| a) Fat deposition in liver | b) Protein deposition in liver |
| c) Cholesterol deposition in liver | d) Lipid deposition |

- (viii) Recall the name of inhibitor for glycogen synthesis.
- | | |
|------------|--------------|
| a) Insulin | b) Glucose |
| c) cAMP | d) Mg^{2+} |
- (ix) Identify the normal blood sugar level.
- | | |
|-----------------|-----------------|
| a) 80-120mg/dl | b) 70-100mg/dl |
| c) 100-140mg/dl | d) 140-160mg/dl |
- (x) Identify the correct pH of urine.
- | | |
|-------------|-------------|
| a) 4.5-8.0 | b) 7.4-7.5 |
| c) 4.5-11.3 | d) 4.5-17.7 |
- (xi) Select the component responsible for primary structure of protein is due to ____.
- | | |
|-----------------|-------------------|
| a) peptide bond | b) Covalent bond |
| c) amino bond | d) disulfide bond |
- (xii) Select the sugar which give positive result in osazone test.
- | | |
|---------------|-------------------|
| a) Reducing | b) Non-reducing |
| c) keto group | d) Aldehyde group |
- (xiii) Select the factor which does not affect pKa value of an amino acid.
- | | |
|--|---|
| a) The loss of charge in the α -carboxyl and α -amino groups | b) The interactions with other peptide R groups |
| c) Other environmental factors | d) Molecular weight |
- (xiv) Identify the cause of oxidative phosphorylation which was uncoupled in the mitochondria.
- | | |
|---|---------------------------------|
| a) Decreased concentration of ADP in the mitochondria | b) Decreased oxidative rate |
| c) Increased inorganic phosphate in the mitochondria | d) Decreased production of heat |
- (xv) Predict the correct answer that is not the example of conjugated proteins.
- | | |
|----------------------|--------------------|
| a) Lipoproteins | b) Glycoproteins |
| c) Complete proteins | d) Metalloproteins |
- (xvi) Select the correct process where protein structure will be unfolded.
- | | |
|-----------------|-----------------|
| a) Renaturation | b) Denaturation |
| c) Oxidation | d) Reduction |
- (xvii) Choose the correct enzyme that participates in DNA replication process.
- | | |
|-------------------|------------------|
| a) Helicase | b) Topoisomerase |
| c) Both a) and b) | d) None |
- (xviii) Choose the correct full form of VLDL.
- | | |
|---------------------------------|------------------------------------|
| a) Very low density lipoprotein | b) Very liquid density lipid |
| c) very low density lipid | d) Very liquid density lipoprotein |
- (xix) Choose the precursor of glycine.
- | | |
|------------|--------------|
| a) Proline | b) Glutamine |
| c) Serine | d) Glutamate |
- (xx) Identify the enzyme for responsible the acetyl Co-A formation.
- | | |
|---------------------------|---------------------------|
| a) Pyruvate dehydrogenase | b) Pyruvate decarboxylase |
| c) Succinate hydrazase | d) All of these |

Group-B
(Short Answer Type Questions)

5 x 7=35

2. Explain the different type of protein structures. (5)
3. Explain the biosynthesis of cholesterol. (5)
4. Define and classify lipids based on their biological significance. (5)
5. Define amino acid and explain why it is called as zwitterions. (5)
6. Define essential and non-essential amino acid with examples. (5)
7. Illustrate Michaelis Menten equation and draw the graphical diagram. (5)

OR

- Write a short note on allosteric regulation of enzyme. (5)
8. Explain the six main classes of enzymes based on the Enzyme Commission (EC) classification system, and provide examples of each class. (5)

OR

- Explain the difference between reversible and irreversible enzyme inhibitors, and provide examples of each. (5)

Group-C

(Long Answer Type Questions)

10 x 2=20

9. Define lipids and describe the beta-oxidation of fatty acid with its importance. (10)
10. Explain briefly the formation and utilization of ketone bodies in biological system. (10)

OR

- Explain the inhibitors name and function of translation process. (10)