



16302

**BRAINWARE UNIVERSITY****Term End Examination 2024-2025****Programme – D.Pharm-2022/D.Pharm-2023****Course Name – Biochemistry & Clinical Pathology - Theory****Course Code - ER20-23T****( Year II )**

Library

Pharmaceutical Technology  
Brainware University  
Barasat, Kolkata-700125**Full Marks : 80****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) Find the correct answer: Greater number of carbon atoms in chain results in higher \_\_\_\_\_.

- a) Melting point
- c) Freezing point

- b) Boiling point
- d) Stability

(ii) Select the correct answer: Lipids provide insulation against cold and hot weather to exoskeleton of insects in form of \_\_\_\_\_.

- a) Cutin
- c) Cholesterol

- b) Waxes
- d) Oil

(iii) Which is an example of non-reducing sugar?

- a) Glucose
- c) Maltose

- b) Lactose
- d) Starch

(iv) Select the correct answer for reducing sugar.

- a) Reducing sugar - Lactose
- c) Reducing sugar - Cellulose

- b) Reducing sugar - Starch
- d) Reducing sugar - Galactose

(v) What is the single unit of carbohydrate?

- a) Glucose
- c) Amino acid

- b) Starch
- d) Protein globule

(vi) Which colour shows in Benedict's reagent test?

- a) Yellow
- c) Purple red

- b) Cherry red
- d) Pink

(vii) Which acid is use in Molisch reagent test?

- a) Nitric acid
- c) Both

- b) Sulphuric acid
- d) None

(viii) What is the function of dehydrogenase enzyme?

- a) Removal of hydrogen

- b) Removal of water

- c) Removal of carbon-dioxide  
d) Removal of nitrogen
- (ix) Identify the proper place for beta oxidation of fatty acid.
- a) Cytoplasm  
b) Mitochondria  
c) Cytosol  
d) All
- (x) Identify the proper place for synthesis of bile.
- a) Kidney  
b) Liver  
c) Gall bladder  
d) Brain
- (xi) Select the enzyme for responsible of PKU.
- a) Phenylalanine hydroxylase  
b) Phenylalanine dehydrogenase  
c) All  
d) None
- (xii) Select the enzyme for responsible of alkaptonuria.
- a) Phenylalanine ketolase  
b) Phenylalanine amylase  
c) Phenylalanine hydroxylase  
d) Phenylalanine lyase
- (xiii) Select the reason for occur albinism.
- a) Reduce melanine synthesis.  
b) Increases melanine synthesis  
c) All  
d) None
- (xiv) Choose the correct co-factor responsible for the succinate formation.
- a) CDP  
b) ADP  
c) GDP  
d) NADPH
- (xv) Choose the correct full form of VLDL.
- a) Very low density lipoprotein  
b) Very liquid density lipid  
c) Very low density lipid  
d) None
- (xvi) Choose the precursor of glycine.
- a) Proline  
b) Glycine  
c) Serine  
d) All
- (xvii) Explain the cause of ketoacidosis.
- a) Diabetes melitus.  
b) Blood become acidic.  
c) Body can't use blood sugar.  
d) Body makes more insulin than it needs.
- (xviii) Identify the enzyme for not responsible the acetyl Co-A formation.
- a) Pyruvate dehydrogenase  
b) Pyruvate decarboxylase  
c) Succinate hydratase  
d) Both b) and c)
- (xix) Write the major sites for fat storage into body.
- a) Adipose tissue  
b) Brain  
c) Liver  
d) All
- (xx) Choose the hormone which is secreted in an emergency or stress condition.
- a) Adrenaline  
b) Insuline  
c) Glucagon  
d) All

### Group-B

(Short Answer Type Questions)

$$3 \times 10 = 30$$

2. Define the following terms: nitrogenous base, nucleoside, nucleotide, triacylglycerol, rancidity, lipoprotein. (3)
  3. Define triglycerides and explain their properties. (3)
  4. Illustrate a short note on omega-3-fatty acids and cholesterol. (3)
  5. Describe the terms: water turnover and water balance. (3)
  6. What are the functions of cholesterol and lipids? (3)
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7. Write down the chemical composition of fehling's solution and molisch reagent. (3)
  8. Describe the causes of fatty liver. (3)
  9. Explain the properties of phosphorylation process. (3)

10. Focus on the functions of folic acid.  
11. Illustrate the functions of vitamin B12.

(3)  
(3)

OR

Illustrate the functions of vitamin B2.

(3)

### Group-C

(Long Answer Type Questions)

5 x 6=30

12. Define erythrocytes and mention their functions.  
13. Illustrate the qualitative test of protein.

(5)  
(5)

14. Distinguish between alpha and beta oxidation of fatty acid.  
15. Illustrate the beta oxidation of palmitic acid.  
16. Illustrate short notes on the following: Composition of urine, megaloblastic anaemia, sickle cell anaemia, microcytic anaemia, haemolytic anaemia.  
17. Summarize the biosynthesis process of cholesterol and functions in our body.

(5)  
(5)  
(5)  
(5)

OR

Summarize the mechanism action of enzymes with proper diagram.

(5)