2025/11

SET B

BACHELOR OF OPTOMETRY
FIRST SEMESTER
GENERAL BIOCHEMISTRY
BOP-103

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs. **Full Marks: 70**

Objective

Time: 30 mins. **Marks: 20**

Choose the correct answer from the following: ***1×20=20***

1. Which molecule is the end product of glycolysis under aerobic conditions?
   a. Lactate b. Ethanol
   c. Acetyl-CoA d. Pyruvate

2. Glycolysis takes place in the:
   a. Mitochondria b. Cytoplasm
   c. Nucleus d. Endoplasmic reticulum

3. The primary site of the urea cycle in the body is the:
   a. Kidney b. Liver
   c. Muscle d. Intestine

4. What is the immediate precursor of urea in the urea cycle?
   a. Ornithine b. Citrulline
   c. Argininosuccinate d. Arginine

5. Pyruvate can be formed from which of the following amino acids?
   a. Leucine b. Lysine
   c. Alanine d. Phenylalanine

6. Which of the following amino acids is exclusively ketogenic?
   a. Threonine b. Leucine
   c. Tyrosine d. Methionine

7. Glycogenolysis happens in which of the following part?
   a. Skeletal muscle b. Eyes
   c. Muscle d. NOTA

8. Electrons are donated by:
   a. ATP b. ADP
   c. NADH d. PMF

9. Chemiosmotic therapy was 1st proposed by:
   a. Peter Maite b. John Mayor
   c. Peter Mitchell d. Joseph John

10. Glycogenesis happens in which of the following?
    a. Liver b. Brain
    c. Kidney d. Eyes

11. Which of the following is Sulphur containing?
    a. Serine
    b. Thionine
    c. Cystine
    d. Tyrosine

12. Which of the following is disaccharide?
    a. Fructose
    b. Sugar
    c. Sucrose
    d. Cellulose

13. Which carbohydrate is commonly known as milk sugar?
    a. Maltose
    b. Sucrose
    c. Lactose
    d. Glucose

14. Which sugar is found in RNA?
    a. Deoxyribose
    b. Ribose
    c. Fructose
    d. Glucose

15. Which of the following is a saturated fatty acid?
    a. Oleic acid
    b. Linoleic acid
    c. Palmitic acid
    d. Arachidonic acid

16. Fatty acids are activated for metabolism by:
    a. Acyl-CoA synthetase
    b. Lipase
    c. Carnitine
    d. Thiokinase

17. The most common storage form of fatty acids in adipose tissue is:
    a. Cholesterol
    b. Phospholipids
    c. Triglycerides
    d. Free fatty acids

18. The main function of phospholipids in the body is:
    a. Long term energy storage
    b. Enzyme activity
    c. Membrane structure
    d. Hormone signaling

19. The enzyme that converts glucose to glucose-6-phosphate is:
    a. Phosphoglucoisomerase
    b. Hexokinase
    c. Enolase
    d. Phosphofructokinase

20. What is the net gain of ATP molecules per glucose in glycolysis?
    a. 1
    b. 2
    c. 4
    d. 6

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Descriptive

Time : 2 hr. 30 mins. Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. Define about carbohydrates and write the classifications of it in details. 10
2. Write a note on lipids, fatty acids, phospholipids, glycolipids in details. 10
3. Define Enzyme. Write about its classification and factors affecting the enzyme activity. 10
4. Define Glycogenolysis in detail with the diagram of it. 10
5. What is biosynthesis of pyrimidine? Explain with proper cycle of the diagram. 10
6. Define urea cycle in details. Draw the diagram with proper labelling. 10
7. Define about oxidative phosphorylation. Elaborate the components involved in the process of oxidative phosphorylation. 10
8. What is Glycogenesis? Write about the process of it in details. 10

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