

UNIVERSITY EXAMINATION 2024/2025

MEDICAL SCHOOL  
DEPARTMENT OF MEDICAL BIOCHEMISTRY

DIPLOMA IN CLINICAL MEDICINE  
REGULAR

UNIT CODE: DMB2201

UNIT TITLE: BIOCHEMISTRY

DATE: MARCH, 2025

SUPP/SPECIAL

TIME: 2 HOURS

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**INSTRUCTION: ANSWER ALL QUESTION IN SECTION A AND B AND ANY TWO QUESTIONS IN SECTION C Total Marks= 70**

**SECTION A: ANSWER ALL QUESTIONS (10 MARKS)**

1. In humans the final product of purine catabolism is
  - a) Adenine
  - b) Uric acid
  - c) Caffeine
  - d) Guanine
2. Which of the following is an example of primary active transport?
  - a) Absorption of oxygen in the lungs
  - b) glucose\Na<sup>+</sup> symport
  - c) Na<sup>+</sup>/K<sup>+</sup> ATPase
  - d) Endocytosis
3. Which of the following is a final waste product of hemoglobin catabolism?
  - a) Bilirubin
  - b) Biliverdin
  - c) Bile salts
  - d) Oxosterols

4. The urea cycle takes place in the
  - a) Liver
  - b) Kidney
  - c) Pancrease
  - d) Brain
  
5. Which of the following is an inhibitor of glycolysis
  - a) Fluoride
  - b) Aspartate
  - c) Thymine
  - d) Thymol
  
6. Which of the following is a function of the liver?
  - a) Catabolism of amino acids
  - b) Catabolism of cholesterol to bile acids
  - c) Synthesis of ketone bodies
  - d) All of the above
  
7. Which of the following is not a type of cellular cytoskeleton?
  - a) Microtubules
  - b) Microfilaments
  - c) Intermediate filaments
  - d) Collagen
  
8. Which serum enzyme is used to test for screening of alcohol abuse
  - a)  $\gamma$ -glutamyl transferase
  - b) Sorbitol dehydrogenase
  - c) Alanine transaminase
  - d) Aspartate transaminase
  
9. Which of the following is a source of galactose in the diet?
  - a) Sucrose
  - b) Lactose
  - c) Maltose
  - d) Trehalose
  
10. Which of the following can be a cause to post-hepatic jaundice
  - a) hemoglobinopathies
  - b) Chronic hepatitis
  - c) Gallstones
  - d) Incompatible blood transfusion

**SECTION B: ANSWER ALL QUESTIONS**

11. Outline the processing of messenger RNA in eukaryotic cells. (5 Marks)
12. Outline the function (s) of parathyroid hormone and calcitonin. (5 Marks)
13. Describe the major effect of hyperammonemia toxicity (5 Marks)
14. Discuss phenylketonuria. (5 Marks)

**SECTION C: ANSWER ANY TWO QUESTIONS**

15. a) Outline any five functions of the liver. (10 Marks)
- b) Describe the blood brain barrier. (10 Marks)
16. a) State different types of liver cells and their functions. (10 Marks)
- b) State any five causes of hypercalcaemia. (10 Marks)
17. a) State any 5 differences between prokaryotic and eukaryotic cells. (10 Marks)
- b) Outline the different receptors involved in intracellular communication in humans (10 Marks)