



Avinashilingam Institute for Home Science and Higher Education for Women

Deemed to be University Estd. u/s 3 of UGC Act 1956, Category A by MHRD (now MoE)

Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category I by UGC

Coimbatore - 641 043, Tamil Nadu, India

Master's Degree Examination – May 2025

II Semester

Class : I P.G.
Major : Biochemistry

Time: 3 Hours
Max. Marks: 100

23MBCC10 Diagnostic Biochemistry

Course Outcomes:

CO1: Obtain basic knowledge about specimen collections, pathological variations of water, electrolytes.

CO2: Understand the, patterns of inherited disorders and disorders of hemaoglobin metabolism

CO3: Correlate the tests used for renal and gastric functions and their interpretations

CO4: Impart the diagnostics tests for liver function and lipoprotein metabolic disorders.

CO5: Evaluate the alterations in blood glucose regulation and enzymes of clinical importance.

Part A **10 x 1 = 10**
Choose the Correct Answer

1. Select the factor that is mainly involved for catalytic action and diagnosis of various diseases. CO1K1
a. Buffer b. Enzymes c. Hormones d. Metabolites
2. Identify the specific hormone that is mainly responsible for regulation of blood pressure CO1K2
a. ADH b. ACTH c. TSH d. GH
3. Examine the deficiency of tyrosinase enzyme leads to CO2K2
a. AKU b. Albinism c. PKU d. Cystic Fibrosis
4. Recall the disease sickel cell anemia is mainly caused by the single point mutation of CO2K1
a. Glutamic acid b. Glutaric acid c. Aspartic acid d. Glycine
5. Indicate the normal level of Glomerular Filtration Rate in human adult per day is CO3K2
a. 170 L/Day b. 180 L/Day c. 100 L/Day d. 120 L/Day
6. The kidney stone is otherwise known as CO3K2
a. Nephritis b. Nephrotic Syndrome c. Renal Calculi d. Renal Damage
7. Indicate the sugar level is decreased in blood that condition is known as CO4K2
a. Hyperglycaemia b. Hypoglycaemia c. DM d. Jaundice
8. Indicate the specific marker enzyme which is responsible for CVD CO4K1
a. SGOT b. SGPT c. LDH d. ALP
9. Mention the specific marker enzyme for the detection of bone disorder in human being CO5K2
a. AST b. ALT c. Acid Phosphatase d. Alkaline Phosphatase
10. Identify the specific marker enzyme which is responsible for liver disease CO5K1
a. SGOT b. CK c. LDH d. CK

Part B **5 x 6 = 30**

Answer ALL questions

Each answer should not exceed 400 words or two pages

- 11.a. Describe short notes on specimen collection and types for biochemical test. CO1K1

(or)

- 11.b. Explain the concept of water and electrolyte homeostasis. CO1K2

- 12.a. Explain the clinical manifestation of Alkaptonuria and its features. CO2K2
(or)
- 12.b. Discuss about the clinical features of Albinism. CO2K2
- 13.a. Explain Diabetes Insipidus and its clinical features. CO3K2
(or)
- 13.b. Describe the mechanism of Dialysis. CO3K2
- 14.a. Summarize the excretion and detoxification function of liver. CO4K2
(or)
- 14.b. Demonstrate the diagnosis of different types of Jaundice. CO4K2
- 15.a. Discuss the clinical importance of Isozymes. CO5K2
(or)
- 15.b. Summarize the serum marker enzymes in Cardiovascular disease. CO5K2

Part C **5 x 12 = 60**
Answer ALL questions
Each answer should not exceed 800 words or four pages

16. a. Write a detailed note on Biomedical and Biosafety management. CO1K2
(or)
- 16.b. Describe the diagnosis and interpretation of pathological variations of Electrolytes and water. CO1K2
- 17.a. Discuss the concept of abnormal hemoglobin and hemoglobinopathies. CO2K2
(or)
- 17.b. Explain the detailed notes on Glycogen Storage Disease and its types. CO2K2
- 18.a. Depict the detailed mechanism involved in formation of urine. CO3K2
(or)
- 18.b. Illustrate the clinical significance of Gastric Function Test. CO3K2
- 19.a. Narrate the cause and pathophysiology of Diabetes Mellitus, Glycosuria and GTT. CO4K2
(or)
- 19.b. Illustrate the Biochemical changes in Cancer and detection of tumormakers. CO4K2
- 20.a. Outline the clinical significance of enzymes from GIT and muscle. CO5K2
(or)
- 20.b. Describe the significance enzyme transaminase and Gamma glutamyl transferase. CO5K2
