

KALOJI NARAYANA RAO UNIVERSITY OF HEALTH SCIENCES

WARANGAL, TELANGANA STATE – 506 002

MBBS FIRST YEAR EXAMINATIONS: SEPTEMBER 2025

BIOCHEMISTRY

PAPER – II

Time: 3 Hours

Max Marks: 100

Note: Answer all questions

Give Diagrammatic representation wherever necessary

Multiple Choice Questions:

10 X 1 = 10

1. Pulses are deficient in
 - a) Lysine
 - b) Threonine
 - c) Methionine
 - d) Tryptophan
2. Which one of the following theories effectively explains the feature of immune response?
 - a) Selection theory
 - b) Germ line theory
 - c) Template theory
 - d) Clonal selection theory
3. Chronic obstructive airway disease results in
 - a) Respiratory acidosis
 - b) Metabolic acidosis
 - c) Respiratory alkalosis
 - d) Metabolic alkalosis
4. A hormone secreted from anterior pituitary is
 - a) Growth hormone
 - b) Vasopressin
 - c) Oxytocin
 - d) Epinephrine
5. Molecules involved in immune response are
 - a) MHC molecules
 - b) Cytokines
 - c) Chemokines
 - d) All the above
6. Antioxidant enzymes are
 - a) Superoxide dismutase (SOD)
 - b) Catalase
 - c) Glutathione peroxidase
 - d) All the above
7. Biotransformation takes place in
 - a) Intestines
 - b) Lungs
 - c) Skin
 - d) Liver
8. Serum acid phosphatase level increases in
 - a) Carcinoma of Prostate
 - b) Carcinoma of Lung
 - c) Carcinoma of Liver
 - d) Carcinoma of Oesophagus

9. The predominant buffer system of plasma is the
 - a) Albumin buffer
 - b) Bicarbonate buffer
 - c) Haemoglobin buffer
 - d) Phosphate buffer
10. The Peptide that protects RBC membrane is
 - a) Oxytocin
 - b) Glutathione
 - c) Vasopressin
 - d) Angiotensin

Write an essay on the following:

2 X 15 = 30

11. Discuss the metabolism of Glycine. Give an account on biological important compounds synthesised from Glycine. Add a note on primary Hyperoxaluria.
(8+4+3)
12. A 45-year-old obese lady presented to the casualty with complaints of acute right upper abdominal pain, mild fever, loss of appetite and generalized itching. On further questioning, she gave history of frothy, clay coloured stool and high coloured urine.
 - a) What is the probable diagnosis?
 - b) Mention the laboratory tests you advise to confirm the diagnosis?
 - c) Describe the normal bilirubin metabolism.
 - d) How do you relate the high coloured urine, itching and clay-coloured stools with altered metabolic pathway of bilirubin in this condition.

(1+2+6+6)

Write a short essay on the following:

7 X 6 = 42

13. Describe the Oncogenes and their role in Cancer with examples.
14. Discuss the Renal mechanisms involved in regulation of blood pH.
15. Recombinant DNA technology and its applications.
16. What are your perspectives on lifelong learning by Physician?
17. Discuss the structure of normal Haemoglobin. Add a note on haemoglobin derivatives.
18. What is Transamination and its significance? List two Transaminases.
19. Structure and functions of t-RNA.

Write briefly on the following:

6 X 3 = 18

20. DNA polymerase.
21. Alkaptonuria.
22. What is the normal anion gap? State its importance.
23. Phase II detoxification.
24. Point mutation.
25. Porphyria Cutanea tarda.
