

**KALOJI NARAYANA RAO UNIVERSITY OF HEALTH SCIENCES
WARANGAL, TELANGANA STATE – 506 002**

MBBS FIRST YEAR SUPPLEMENTARY EXAMINATIONS: NOVEMBER, 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. One of the following vitamins is associated with purine synthesis
 - a) Folate
 - b) Biotin
 - c) Pyridoxine
 - d) Vitamin B12
2. Vanden Bergh reaction is indirect positive in which jaundice
 - a) Hepatocellular
 - b) Hemolytic
 - c) Obstructive
 - d) All of the above
3. Following are the tests used to assess the gastric function, except
 - a) Pentagastrin stimulation test
 - b) Alcohol test meal
 - c) Urea clearance
 - d) Insulin test meal
4. All of the following porphyrias are inherited as autosomal dominant, except
 - a) Porphyria cutanea tarda
 - b) Congenital erythropoietic porphyria
 - c) Protoporphyria
 - d) Acute intermittent porphyria
5. The substance that facilitates the release of oxygen from oxyhemoglobin to the tissues
 - a) H^+ ion
 - b) Cl^- ions
 - c) 2,3 —Bisphospho glycerate
 - d) Glucose
6. Endocrine gland that is associated with the regulation of BMR
 - a) Pituitary
 - b) Thyroid
 - c) Adrenal
 - d) Endocrine part of pancreas
7. Which one of the following is a cancer suppressor gene
 - a) sis
 - b) ras
 - c) erb-B
 - d) p53
8. The factories of protein biosynthesis is
 - a) Nucleus
 - b) Ribosomes
 - c) Mitochondrion
 - d) Cell sap
9. Regan isoenzyme is increased in
 - a) Lung cancer
 - b) Osteoporosis
 - c) Paget's disease
 - d) Myocardial infarction

10. The principal cation in intracellular fluid is

- | | |
|------------|--------------|
| a) Sodium | b) Potassium |
| c) Calcium | d) Magnesium |

Essay/ Long Answer Questions:

2 X 15 = 30

11. A 6-month-old infant began to vomit occasionally and ceased to gain weight at 9 months of the age. He was readmitted to the hospital. After one week he became drowsy had fever, pulse was elevated and there was hepatomegaly. EEG was done and was grossly abnormal.

Blood ammonia was elevated and urine contained high amount of glutamine and uracil

- a) What is probable diagnosis?
- b) What is pathogenic mechanism involved?
- c) Describe how ammonia of amino acid is metabolised?
- d) What is the normal plasma concentration of ammonia? (2+5+7+1)

12. What are the types of DNA repair and name the diseases caused by various mutations.

Short Answer Questions:

7 X 6 = 42

13. Structural organization levels of Proteins.

14. Mention the different types of tumour markers. Describe the significance of any three tumour markers.

15. Salvage pathway of Purine synthesis and add a note on Lesch Nyhan syndrome.

16. Discuss the Renal mechanisms involved in regulation of blood pH.

17. Define detoxification. Write in detail on the phases of detoxification and mention examples clinically related where ever necessary.

18. Degradation of Haemoglobin.

19. Explain the commitment to lifelong learning is related to physician growth.

Very Short Answer Questions:

6 X 3 = 18

20. Synthetic Nucleotides.

21. Autoimmunity.

22. Hartnup's disease.

23. Calculate the anion gap using the following data: serum Sodium: 145 mmol/L, Serum potassium; 4.0 mmol/L, Serum bicarbonate – 24 mmol/L, serum chloride: 104 mmol/L.

24. Genetic code.

25. Explain Chloride shift.
