

D**r. . MEDICAL****[MBBS 0825]****AUGUST 2025****Sub. Code: 7056****M.B.B.S. DEGREE EXAMINATION****(For the candidates admitted from the Academic Year 2024-2025)****FIRST PROFESSIONAL – (CBME)****PAPER II – BIOCHEMISTRY*****Q.P. Code: 527056*****Time: Three hours****Maximum: 100 Marks (80 Theory + 20MCQs)****Answer All Questions****I. Essay:****(1 x 10 = 10)**

1. Explain the different levels of structural organization of protein with hemoglobin as an example.

II. Reasoning out short notes:**(2 x 5 = 10)**

1. Orotic aciduria can occur in Ornithine Transcarbamylase deficiency. Explain.
2. a) Phenylalanine has sparing action on Tyrosine. Discuss the statement.
b) Explain the reason for mousy body odour in phenylketonuria.

III. Write Short notes on:**(10 x 6 = 60)**

1. A 4 day old newborn presented with vomiting, lethargy and irritability. Investigation revealed hyperammonemia and respiratory alkalosis. The treating physician managed the acute episode well and advised low protein supplements.
a) What is the reference range for Urea and BUN in serum? (1)
b) Tabulate the disorders of urea cycle with the enzyme defect. (5)
2. Brief the synthesis and Physiological actions of Nitric Oxide.
3. a) Discuss any two biomarkers of sepsis. (3)
b) Explain the mode of inheritance of Hemophilia? (3)
4. Describe the metabolic reactions that need tetrahydrobiopterin as a cofactor.
5. a) A 39 year old antenatal mother on 12th week of gestation goes for check-up. Her doctor advises Quadruple Screening test. Discuss the significance of Quadruple screening test in antenatal mothers. (2)
b) Role of tumour markers in diagnosis of diseases. (4)
6. Enumerate the liver function tests. Discuss the markers of liver injury (2+4)
7. A 75 year old male came to OPD with complaints of low back ache, anaemia, hyperproteinemia with increase of Globulin fraction, Urine positive for a peculiar protein and serum protein electrophoresis had a characteristic band in the gamma region.
a) What is the probable diagnosis? Name the protein excreted in urine of the patient. (2)
b) Discuss the electrophoretic patterns in any two diseases. (4)

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8. Explain the Renal regulation of acid base balance.
9. A 50 year old male patient attended nephrology clinic for decreased urine output. The clinician suspected a chronic kidney disease and ordered eGFR in addition to other tests. (2 +2+2)
- a) Significance of Estimated GFR (eGFR).
 - b) Comment on Plasma Osmolality.
 - C) Indication of urine microalbumin test.
10. Role of physician in health care system.

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