PAPER CODE: MB2019103

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

MBBS FIRST YEAR EXAMINATIONS: NOVEMBER, 2023

BIOCHEMISTRY (New Regulation) PAPER -II

Time: 3 Hours Max Marks:100

Note: Answer all questions Draw diagrams wherever necessary with Black Ball point pen /HB pencil /any dark Colour pencil

---

Multiple Choice Questions: 10 X 1 = 10

1. Peptide bond is

a) Single bond in character

b) Double bond in character

c) Partial double bond in character

d) Triple bond in character

2. During urea cycle, the two nitrogen atoms are derived from

a) Ammonia and Arginine

b) Ammonia and Aspartic acid

c) Both from Ammonia

d) Ammonia and Ornithine

3. The sources of oxalic acid in urine are

a) Ornithine and citrulline

b) Oxalosuccinate and formic acid

c) Oxaloacetate and aspartic acid

d) Ascorbic acid and Glycine

4. Elevated homocysteine levels are associated with a risk of

a) Bronchiectasis

b) Nephrotic syndrome

c) Coronary artery disease

d) Diabetes mellitus

5. Regarding DNA structure which is not correct.

a) Two strands are covalently bonded

b) Two strands are antiparallel

c) Strands have polarity

d) Strands are complementary to each other

6. Which of the following conditions is not associated with hyperuricemia.

a) Multiple myeloma

b) Xanthanuria

c) Psoriasis

d) Polycythemia vera

7. Sickle cell anaemia occurs due to

a) Silent mutation

b) Mis-sense mutation

c) Nonsense mutation

d) Frameshift mutation

8. Which of the following renal functional tests are used to measure the Glomerular Filtration Rate (GFR)

a) Clearance tests

b) Urine concentration tests

c) Urine dilution tests

d) Urine acidification tests

9. Which is an anticancer drug.

a) Zidovudine

b) 6-mercaptopurine

c) Allopurinol

d) Acyclovir

10. Okazaki fragments occur on the

a) Leading strand

b) Lagging strand

c) Double helical DNA strand

d) All the above

Essay/ Long Answer Questions: 2 X 15 = 30

11. A 15-year-old boy complained of swelling and pain in the distal phalangeal joints. Blood investigations showed the following results. On diagnosing the pathology, the physician decided to treat patient with allopurinol. a. What is your probable diagnosis in the above patient. b. Write the synthesis of Uric Acid. serum - 12 mg/dL c. What is the normal uric acid level? d. What are other blood investigations would you suggest. e. Comment on the serum uric acid level and explain the cause

of pain in joints. f. Write the ways for lowering serum uric acid level. g. What is the biochemical explanation for the treatment given in the above patient. (1+3+2+3+3+3)

12. Describe the steps of catabolism of Phenylalanine and Tyrosine. Indicate the inborn errors of metabolism. What are the Biomedically important compounds derived from tyrosine. (8+5+2)

Short Answer Questions: 7 X 6 = 42

13. Name the enzymes measured to assess liver functions. Discuss the clinical significance of Alanine transaminase and Alkaline phosphatase in assessing liver function.

14. Discuss the Watson and Crick model of DNA. Add a note on different forms of DNA.

15. Write on the classification of Acid-base disorders in the body and also mention the compensatory mechanisms for each type.

16. Justify the statement “Physician is a lifelong learner”.

17. Describe the formation of bilirubin. Name the different types of jaundice.

18. What are tumour markers. Discuss the clinical utility of any three tumour markers.

19. Write about structure, classification and functions of immunoglobulins.

Very Short Answer Questions: 6 X 3 = 18

20. Orotic aciduria.

21. List the thyroid function tests. Mention the laboratory findings in a case of hypothyroidism.

22. What is Polymerase Chain Reaction (PCR). Mention two clinical applications of PCR technique.

23. Importance of cytochrome P450 in detoxification.

24. What is foetal haemoglobin. How does its structure differ from adult haemoglobin and explain how it is useful to the foetus.

25.ACTH.

*****