

RUHS

First Year MBBS Examination I MBBS BIOCHEMISTRY PAPER II

Date: 16-03-2022

Instructions: INSTRUCTIONS: Attempt all questions in both sections: (Use separate answer book for each section)

Section 1

Max Marks: 100

1. Fill in the blanks: (6)

- a. The Northern blot is used to demonstrate specific _____
- b. Cereals are deficient in _____ amino acid.
- c. The positive direct van den Bergh's reaction indicates the presence of _____
- d. The Jumping gene is also known as _____ element.
- e. The normal value of urea clearance is _____
- f. Hyperventilation is a compensatory respiratory response to _____

~~2. Choose the correct option in the following~~

multiple choice questions: (4)

- a. All of the following are the components of 'Pre initiation complex' Except;
- a) Enhancers
 - b) TF ID
 - c) TATA box
 - d) RNAP II
- b. Which of the following is not a mechanism for mutation of DNA?
- a) Substitution of nucleotide
 - b) Dimerization of nucleotide
 - c) Insertion of nucleotide
 - d) Deletion of nucleotide
- c. Superoxide radicals can be detoxified by:
- a) Cytochrome c
 - b) Cytochrome b
 - c) Cytochrome a
 - d) None
- d. The following enzyme is widely used in recombinant DNA technology;
- a) DNA polymerase
 - b) Telomerase
 - c) Restriction Endonuclease
 - d) None

3. A 45-year male complained of severe joint pain

especially in the big toes in the early morning hours. The consultant decided to get his uric acid level in serum to be estimated which was 12.0 mg/dL. He was non-vegetarian and alcoholic, he was asked to restrict the non-vegetarian diet and alcohol (15)

- a. What is the normal level of serum uric acid?
- b. What is the difference between primary gout and secondary gout?
- c. Explain the biochemical basis of the symptoms in this patient.
- d. How is the above disease treated?
- e. Why he was asked to restrict non-vegetarian diet and alcohol?

4. Write short notes on: (10)

- a. Post-transcriptional modifications.
- b. Reactive oxygen species and its formation.
- c. Cytochrome P-450.
- d. Lac operon concept.
- e. DNA Probes.

5. Explain briefly (Any three): (15)

- a. Application of PCR.
- b. Vitamin C is involved in the post-translational

modification of collagen.

- c. Vectors.
- d. Classification of immunoglobulins.

Section 2

1. Write an essay on biochemical bases of protein-energy malnutrition. (20)
 2. Explain Why (Any five): (10)
 - a. TSH is elevated in primary hypothyroidism.
 - b. UV radiation can cause Xeroderma Pigmentosum.
 - c. Methotrexate (Folic acid analogues) is used to treat neoplastic disease.
 - d. Oedema occurs in Kwashiorkor.
 - e. Clay color stool in obstructive jaundice.
 - f. Blue fluorescent light is useful in the treatment of neonatal jaundice.
 3. Explain briefly (Any four): (20)
 - a. Application of ELISA
 - b. DNA ligase is essential in lagging strand synthesis.
 - c. Restriction fragment length polymorphisms (RFLPs).
-

- d. Elastin.
- e. Oncogenes.

www.FirstRanker.com