

C 2746

# First Year MBBS Examination

## I MBBS Biochemistry Paper 2

Time: 3 hours

Max Marks: 50

Date: 10-12-2019

Instructions: 1. Answer to the points. 2. Figure to the right indicates marks. 3. Use separate answer books for each section. 4. Draw diagrams wherever necessary. 5. Write legibly.

### Section 1

1. Give an account on any two (10)
  - a. Causes and deficiency manifestations of Vitamin B12.
  - b. Repair mechanism of damaged DNA and associated disorders.
  - c. Recombinant DNA Technology and its applications.
2. Write Short Note on any three (9)
  - a. Phase I reactions of detoxification

mechanism.

- b. Use of Radio-isotopes in Medicine.
- c. Gene Therapy.
- d. Plasma proteins as diagnostic tools.
- e. Lac operon.

3. Read the following case and answer in two or three lines: A 65 years old man presented With back pain, loss of weight and breathlessness. On examination he was (6) anaemic. Investigations showed: Hb 7gm/dL, Serum total proteins: 10.5gm/dL, albumin 3 gm/dl. serum uric acid 48 gm/dl, serum Creatinine 2.4mg/dL serum protein electrophoresis showed M band in gamma region. In urine, Bence Jones Protein were present. Radiological examination showed punched out lytic lesions in lumbar vertebrae, ribs, pelvis vertebrae, ribs and pelvis.

- a. What is the likely diagnosis?
- b. Enlist any two other conditions in which A-G ratio is reversed.
- c. What are Bence Jones Proteins?

- d. What is the normal pattern of serum proteins in electrophoresis?
- e. How are paraproteins (Myeloma Proteins) different from normal immunoglobulin molecule?
- f. How Bence Jones Proteins are detected in urine?

## Section 2

- 1. Give an account on any two: (10)
  - a. Protein Energy Malnutrition (PEM).
  - b. Sources, absorption, transport, functions and disorders of Calcium,
  - c. Disorders of Aromatic Amino Acids.
- 2. Write Short Note on any three (9)
  - a. Salvage pathway of purines and its importance.
  - b. Biologically active nucleotides.
  - c. Wald's Visual Cycle.
  - d. Antioxidant Vitamins
  - e. Glycemic Index

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3. Comment and justify on any six of the

following: (6)

- a. Lead poisoning causes anemia.
- b. Replication is semi-conservative.
- c. Hemolysed samples should not be used for estimation of Potassium.
- d. Puromycin results in production of incomplete proteins.
- e. Hyperammonemia is toxic.
- f. Methotrexate is an anticancer drug.
- g. Serum TIBC is increased in iron deficiency anemia.
- h. Vitamin K is required for blood coagulation process.

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