

05-03-2021

01113A3+01113A4

I-MBBS

(This paper consists of 2 pages)
First M.B.B.S. (Main) Examination (New Scheme)
February - 2021
Biochemistry
Paper- II
Time: Three Hours
Maximum Marks: 100
Attempt all questions in both sections
(Use separate answer book for each section)

Section-A

1. Fill in the blanks:

6 x 1 = 06

- a) SDA value for proteins is _____.
- b) Blood Urea Nitrogen = Blood Urea X _____.
- c) The jumping genes are also called _____.
- d) The guardian of the genome is _____.
- e) In Eukaryotes the mRNA during transcription is synthesized by enzyme _____.
- f) The names of two light chains of Ig are _____ and _____.

2. Choose the correct option in the following multiple choice questions:

4 x 1 = 04

A) Western blotting techniques is for detection of:

- a) Protein b) RNA c) DNA d) All

B) Tumour marker used for the diagnosis and management of ovarian cancer:

- a) TPA b) PSA c) CA-125 d) VMA

C) Xeroderma Pigmentosum occurs due to defect in:

- a) Base excision repair b) Double strand break repair
- c) Nucleotide excision repair d) Mismatch repair

D) Monoclonal antibodies are prepared by cloning:

- a) Myeloma cells b) Hybridoma cells
- c) T-lymphocytes d) B-lymphocytes

3. Clinical Case Study: A two day old baby on examination was found to be icteric. Laboratory findings shows serum bilirubin was 12.8 mg/dL: 5 x 3 = 15

- a) What is the probable diagnosis?
- b) What are the precursors of bilirubin and what are different types of bilirubin?
- c) Which type of bilirubin is high in this disease?
- d) What can be the enzyme defect in this disease?
- e) How is the above disease treated?

4. Write short notes on (Any five):

5 x 2 = 10

- a) Protein-Energy malnutrition
- b) Reactive Oxygen species
- c) Disorders associated with Collagen

- d) Applications of PCR
- e) MHC
- f) Clearance test

5. Explain briefly (Any three):

3 × 5 = 15

- a) Lac Operon
- b) BMR
- c) Post transcriptional modification
- d) Cytochrome P-450 mediated biotransformation

Section-B

6. Give an account with illustrations on Translation in prokaryotes with its inhibitors. Add a note on post-translational modifications.

20

7. Explain Why (Any five):

5 × 2 = 10

- a) Immunity is both a boon and evil.
- b) Serum creatinine is more sensitive parameter than urea for assessing renal functions.
- c) Why restriction Endonucleases are called molecular scissors.
- d) Folate antimetabolites are used as anti-cancer agents.
- e) Vegetarian diet is helpful in controlling cholesterol.
- f) Genetic code is degenerate.

8. Explain briefly (Any four):

4 × 5 = 20

- a) Anti oxidant enzymes.
- b) Tumour markers.
- c) Structure of immunoglobulins.
- d) Human genome project.
- e) Mutations.