05-03-2021

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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 x 5 = 15

a) Lac Operon

b) BMR

c) Post transcriptional modification

d) Cytochrome P-450 medicated 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 x 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 x 5 = 20

a) Anti oxidant enzymes.

b) Tumour markers.

c) Structure of immunoglobulins.

d) Human genome project.

e) Mutations.