

GMERS MEDICAL COLLEGE, VALSAD
DEPARTMENT OF BIOCHEMISTRY
1st MBBS Preliminary Examination, June-2019

Paper – II

Time – 2 Hrs 30 min

Marks- 50

SECTION – I

- 1. Short notes (2 out of 3) 8**
 - a) What are the different types of Hemoglobinopathies. Give an account of their biochemical basis and clinical relevance.
 - b) Describe protein biosynthesis (Translation)
 - c) What are antioxidant vitamin and write biochemical functions, source, RDA and deficiency manifestation of any one of them.

- 2. Short notes (4 out of 6) 12**
 - a) Primary and secondary structures of protein
 - b) Factors affecting enzyme activity
 - c) Describe the catabolism of purine nucleotides and the metabolic disorder associated with it.
 - d) Restriction fragment length polymorphism (RFLP)
 - e) Southern blotting technique and its application
 - f) Phase II reactions of detoxification

- 3. Answer in one or two lines (5 out of 6) 5**
 - a) Suicide inhibition with examples
 - b) Applications of PCR
 - c) Function of restriction endonucleases
 - d) Enumerate type of mutation and their effects
 - e) Enhancers and silencers
 - f) Gene amplification

SECTION – II

4. Read the following case and answer the questions :

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A 45 year old man presented with severe pain and weakness. He had lost 8 kg weight in three months. There was apparent loss of appetite. History revealed that he suffered from facial palsy two months back for which he was taking treatment, but there was no visible improvement. There was no history of any fever or any illness.

The X ray skull revealed punched out lesions. His bone marrow biopsy showed an excess of plasma cells. Serum electrophoresis showed an abnormal band between β globulin and gamma globulin. Urine test for Bence jones protein was present.

- a) What is probable diagnosis?
- b) What are bence jones protein?
- c) What is the treatment of this disease?
- d) What is the function of gamma globulin?
- e) Write principle of electrophoresis.

5. Write justification (5 out of 7)

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- a) 5 fluorouracil is an anticancer drug.
- b) Delayed prothrombine time is observed in vitamin K deficient subjects.
- c) Genetic code is universal.
- d) Glycine is optically inactive.
- e) Increase level of homocysteine increase risk of atherosclerosis.
- f) Activity of urea cycle increased in starvation.
- g) Vitamin D considered as a hormone.

6. Answer in one or two lines (5 out of 6)

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- a) Xeroderma pigmentosum
- b) Ubiquitin – proteasome system
- c) FIGLU
- d) Deficiency manifestations of vitamin B₁₂
- e) Telomere and telomerase
- f) Isoenzymes