

MEDICITI INSTITUTE OF MEDICAL SCIENCES

Dept. of Biochemistry

INTERNAL ASSESSMENT – 1

Date: 29/06/2021

Marks: 80

Long Answer Question:

1. A 20yr old female presented with muscle pain, cramps, stiffness, tingling of hands and feet with recurrent carpopedal spasms. Her diet was devoid of milk and milk products. (1+2+2+5+5 = 15M)
 - a) What is your probable diagnosis?
 - b) Write in detail about RDA, sources, functions and maintenance of homeostasis of the deficient nutrient.

Short Answer Notes:

(7×5=35M)

2. Draw a well labelled diagram of Electron Transport Chain. Explain the mechanism of Oxidative Phosphorylation.
3. Describe the normal electrophoretogram pattern. Add a note of abnormal pattern in Nephrotic syndrome and Cirrhosis of liver.
4. Explain the biochemical basis for neurological manifestations of vitamin B6 & B12 deficiency. Add a note on functions of vitamin B6 & B12.
5. Explain in detail the mechanism of absorption, transport and storage of Iron.
6. Describe the bonds responsible for stabilization of protein structure.
7. Provide biochemical basis for using
 - a) Allopurinol to treat Gout,
 - b) Statins for hypercholesterolemia.

Add a note on regulation of activity of enzyme by covalent modification.

8. Explain the biochemical defect, clinical features and diagnosis of infantile respiratory distress syndrome.

Very Short Answer Notes:

(10×3=30M)

9. Discuss the mechanism of activation of vitamin D and its function as hormone.
10. Enumerate Haemoglobin derivatives and their importance.
11. Enlist the functions and marker enzymes for any three subcellular organelles.
12. Explain the biochemical basis for anemia and hemorrhagic tendency in Scurvy.
13. Give examples of functional isomers, epimers and anomers of Glucose with structure.
14. Enlist any three vitamin like substances. Add a note on their functions.
15. Discuss the structure – function relationship of Haemoglobin and Myoglobin.
16. List the clinical application of any three glycosides.
17. Describe any three biologically important peptides with functions.
18. “Sickle cell trait is protective against malaria” – Justify.