

PG (NEW) CBCS
M.Sc. Semester-I Examination, 2019
MMLT
PAPER: MMLT-103
(Human Anatomy & Physiology)

Full Marks: 40**Time: 2 Hours****1. Answer any four questions of the following questions:****2×4=8**

- a) What is domain?
- b) Define katal.
- c) How does the GC content affect thermal stability of DNA double helix structure?
- d) What is linking number of DNA?
- e) Why sucrose is called an invert sugar?
- f) Write down the structure of phosphatidic acid.
- g) Briefly state the functions of Vitamin D.
- h) Why are amino acids called ampholytes?

2. Answer any four questions of the following questions:**4×4=16**

- a) Briefly describe the oxygen-hemoglobin dissociation curve.
- b) Why ascorbic acid is essential for collagen formation.
- c) Describe isomerism in monosaccharide.
- d) Describe briefly Ramachandran plot with its importance.
- e) Briefly describe the models of enzyme-substrate binding.
- f) What is acid number? What are essential fatty acids?
Why triacylglycerols are sometimes called neutral lipid? **1+1+2=4**
- g) Write down the fate of glucose when treated with strong HNO₃ and HOBr with reaction.
- h) Difference between A-form and Z-form of DNA.

3. Answer any two questions of the following:**2×8=16**

- a) How do sodium ions absorb in body? Write a short note on Na⁺-K⁺-ATPase pump. Define isotope. **3+3+2=8**
- b) Write down the characteristics of Michael's constant. What are isozymes? Give an example.
How does PH affect the enzyme activity? **3+2+3=8**

c) Differentiate between DNA and RNA.

Write a short note on m RNA. Which bonds are responsible for stabilizing the double helical structure of DNA? **3+3+2=8**

d) Write down the effect of B-mercaptoethanol, SDS, organic solvents and heavy metals on protein structure. What is Bohr Effect? What is isoelectric precipitation? **4+2+2=8**