

U.G. 2nd Semester Examination - 2022**PHYSIOLOGY****[HONOURS]****Course Code : PHYSIOL-H-CC-T-04****(Chemistry of Biomolecules)**

Full Marks : 40

Time : $2\frac{1}{2}$ Hours*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **five** questions : 2×5=10
- How D-glucose differ from d-glucose?
 - 'Lactose is a reducing sugar while sucrose is a non-reducing sugar' – explain the statement.
 - Name two sulphur containing amino acids.
 - Define acid number.
 - What is Ramachandran plot?
 - What is stereoisomerism? Give example.
 - What do you mean by sense and antisense strand of DNA?
 - Why is glucose also called dextrose?

2. Answer any **two** questions: 5×2=10
- What are the structural differences between α - helix and β -pleated sheet of protein? 5
 - Classify phospholipids and state their functions. 5
 - Discuss different forces that stabilize the tertiary structure of proteins. 5
 - State how A, B and Z DNA differ in structure. 5
3. Answer any **two** questions: 10×2=20
- Write short notes on : 5+5=10
 - Structure of DNA double helix and
 - tRNA
 - Explain anomerism of glucose. Why are glucose and galactose epimers of each other? What do you mean by semi-essential amino acids? Calculate the number of stereoisomers of glucose. 3+3+2+2=10
 - Classify amino acids based on the composition and properties of their R-groups. Cite example of each type. What is isoelectric pH? 8+2=10
 - Write short notes on : 5+5=10
 - Mutarotation
 - Heteropolysaccharides

[Turn over]