

**B.Sc. Semester I (Honours) Examination, 2018-19**

**PHYSIOLOGY**

**Course ID : 12512**

**Course Code : SHPHY-102C-2(T)**

**Course Title : Biological Physics and Enzymes**

**Time: 1 Hour 15 Minutes**

**Full Marks: 25**

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

1. Answer *any five* questions from the following: 1×5=5
    - (a) State the Gibbs-Thomson's principle of surface tension.
    - (b) What is proenzyme?
    - (c) Differentiate between laminar flow and turbulent flow. (one difference)
    - (d) What is HPLC?
    - (e) Define 2nd law of thermodynamics.
    - (f) What is protective colloid?
    - (g) Define nano technology.
    - (h) What is 'Ribozyme'?
  
  2. Answer *any two* questions from the following: 5×2=10
    - (a) Define electrophoresis. Discuss the principle and application of electrophoresis. 1+2+2=5
    - (b) What is Poiseuille-Hagen formula? Explain the Velocity-Flow relationship of liquid. 2+3=5
    - (c) What is zwitterion? What is the significance of 'Handerson-Hasselbalch' equation? 2+3=5
    - (d) What is entropy? Give a short account on physiological application of dialysis. 2+3=5
  
  3. Answer *any one* question from the following: 10×1=10
    - (a) What is enzyme inhibition? Briefly describe different types of enzyme inhibition. What is Lineweaver-Burk double reciprocal plot. 2+6+2=10
    - (b) What do you mean by km? Discuss the physiological application of nanoparticles. Mention the role of rate limiting enzyme with one example. 1+6+(2+1)=10
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