SH-I/PHY/102/C-2/19

B.Sc. 1st Semester (Honours) Examination, 2019

PHYSIOLOGY

Course ID : 12512 **Course Code : SH/PHY/102/C-2**

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.

The questions are of equal value.

1. Answer *any five* questions from the following: 1×5=5

(a) Define 'Gibb's free energy'.

(b) What do you mean by Colloid?

(c) Define Chromatography.

(d) What do you mean by isoelectric pH of protein?

(e) Define Osmolality.

(f) What is Surfactant?

(g) Write the full form of PAGE.

(h) What is Abzyme?

2. Answer *any two* questions from the following: 5×2=10

(a) Compare competitive and non-competitive enzyme inhibition. What is Km? 4+1=5

(b) What is cell fractionation? State the procedure of cell fractionation. 1+4=5

(c) Write the principle of electrophoresis. How it differs from the principle of Chromatography? 3+2=5

(d) State the 'Van't Hoff' law of osmosis. Explain the biological application of osmosis. 3+2=5

3. Answer *any one* question from the following: 10×1=10

(a) Differentiate between lyophilic and lyphobic colloid. Briefly describe the optical properties of colloid and mention its significance. 2+5+3=10

(b) Write the effects of competitive inhibitors on hyperbolic kinetics of enzyme action. Write the role of serum alkaline phosphatase and SGOT in clinical diagnosis. 5+(2½+2½)=10

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