

2019

(January)

Time : 2 hours

Full Marks : 40

Answer all questions

The figures in the right-hand margin indicate marks

*Candidates are required to answer in their own words
as far as practicable*

(BIOPHYSICS AND BIOCHEMISTRY)

1. Describe the principles of Thermodynamics in relation to living organisms. 14

Or

Write any *two* of the following : 7 × 2

- (i) Membrane composition

(2)

- (ii) Properties of colloids
- (iii) Structure and ionisation of water.

2. Describe the Primary and Secondary Structure of Proteins. 13

Or

Write notes on any *two* of the following : $6\frac{1}{2} \times 2$

- (i) Explain Ramachandran plot
- (ii) Classification of enzymes and co-enzymes
- (iii) Regulation of enzyme activity.

3. Describe the electron transport in Mitochondria and proton pump. 13

Or

Write notes on any *two* of the following : $6\frac{1}{2} \times 2$

- (i) Explain gluconeogenesis and glyoxilate cycle

(3)

- (ii) Describe fatty acid biosynthesis
- (iii) Describe general reactions of amino acid metabolism.