2018

CBCS

1st Semester

PHYSIOLOGY

PAPER—C1T

(Honours)

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

Cellular Basis of Physiology

1. Answer any *five* questions : 5×2

(a) What do you mean by apoptosis ? Mention the events of cell cycle ? 2

(b) What do you mean by mitoribosomes and peroxisomes ? 2

(c) What do you mean by CAM ? 2

(d) Name two proteins present in microtubules. 2

(e) What is codon and anti codon ? 2

(f) Write the structure of nuclear sheath. 2

(g) What do you mean by $V \alpha [A] [B]$? 2

(h) Write the use of and fluorescence microscope. 2

2. Answer any *four* questions : 4×5

(a) Briefly discuss the process of phagocytosis with a suitable diagram. Differentiate between gap and tight junction. 3 + 2

(b) Write down the principles of fluorescence microscopy with its uses. How electron are released from a source of electronmicroscope. 3+2

(c) Mention the functions of integrin as cell adhesion molecule. What do you mean by interphase ? 4 + 1

(d) State the role of Golgi Complex in post translational modification of proteins. Mention the properties of amino acids. 3 + 2

(e) How does secondary active transport differ from primary active transport. What is glucose transporter type-2 ? 3 + 2

(f) Define Vant Holf Law. How does osmosis help the absorption of water in our body ? 2 + 3

3. Answer any *one* questions : 1×10

(a) Describe the structure of cell membrane with special reference to fluid mosaic model. Discuss the role of membrane lipids to maintain membrane fluidity. Draw the substrate saturation curve in presence and absence of competitive inhibitor. 4 +3 + 3

(b) Give an account of ultrastructure of Endoplasmic Reticulum with a suitable diagram. Discuss the role of smooth endoplasmic reticulum. Write down the principle of Atomic Force Microscopy (AFM). Explain the different phases of meiosis. 3 + 2 + 2 + 3

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