

Ex/SC/PHY/PG/CBS/TH/201/2024
MASTER OF SCIENCE EXAMINATION, 2024

(2nd Year, 1st Semester)

PHYSICS

PAPER : PHY/TH/201

(Biophysics—I)

Time : Two Hours

Full Marks : 40

Answer **any two** questions from each Group.

GROUP—A

1. (a) What is synapse? Explain the structure and activity of synapse with suitable diagram. 5 (CO1)
(b) Explain different parts of auditory system with their work function. How is the intensity of sound controlled? 5 (CO1)
2. (a) What is brain wave? Explain various types of brain waves and how these various types help in detecting abnormal conditions of a living body. 5 (CO1)
(b) Explain the structure of membrane in living cells. Describe various types of transports across the membrane. 5 (CO3)
3. (a) Make a comparison among the various types of muscle available in our body. Explain with diagram, the movement of skeletal muscle. 5 (CO3)

PHY-125

[Turn Over]

(2)

- (b) Explain how the electrical activity (action Potential) differs in skeletal and cardiac muscles. 5 (CO3)

GROUP—B

1. (a) Explain in detail, the protein synthesis in a bacterial cell. 7 (CO2)
(b) Discuss in brief, the importance of diffusion in exchange of gases in lungs. 3 (CO4)
2. (a) Discuss how Meselson and Stahl experimentally verified the semi-conservative mode of DNA replication. 7 (CO4)
(b) Discuss the role of point mutation in sickle cell anemia. 3 (CO2)
3. (a) How do you determine the molecular weight of a protein molecule by centrifugation technique? 7 (CO4)
(b) Discuss the differences between DNA polymerase and RNA polymerase. 3 (CO2)

★ ★ ★

PHY-125

XX23(071)—30