

U.G. 4th Semester Examination - 2020

PHYSIOLOGY

[GENERIC ELECTIVE]

Course Code : PHYSIOL(H)GE-T-4

(Physiology of Nerve & Muscle Cells)

Full Marks : 40

Time : 2½ Hours

The figures in the right-hand margin indicate marks.

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

GROUP-A

1. Answer any **five** questions: 2×5=10
- a) Define Sarcomere.
 - b) What is motor unit?
 - c) Differentiate between thick and thin filaments.
 - d) What is synapse?
 - e) What is synaptic cleft?
 - f) What is meant by isometric contraction? Give one example.
 - g) State the cause of rigor mortis.

GROUP-B

2. Answer any **two** questions: 5×2=10
- a) Describe briefly the mechanism of smooth muscle contraction.
 - b) Write a short note on Sarcotubular system.
 - c) Write a short note on Pacemaker tissue.
 - d) Describe the structure of triad.

GROUP-C

3. Answer any **two** questions: 10×2=20
- a) What is postsynaptic potential? Describe briefly the mechanism of synaptic transmission process. 3+7=10
 - b) Write briefly the molecular basis of contraction of skeletal muscle. 10
 - c) Describe structure of neuromuscular junction with a suitable diagram. 5+5=10
 - d) Describe the following properties of skeletal muscle: 5+5=10
 - i) All or none law
 - ii) Summation