

U.G. 2nd Semester Examination - 2022**PHYSIOLOGY****[HONOURS]****Course Code : PHYSIOL-H-CC-T-03****(Physiology of Nerve & Muscle Cells)**

Full Marks : 40

Time : $2\frac{1}{2}$ 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: $2 \times 5 = 10$
- What is saltatory conduction?
 - Name the contractile proteins present in skeletal muscle.
 - State any two functions of glial cells.
 - What is 'Rheobase'?
 - Why are sensory receptors called biological transducers?
 - Why is SA node called the pacemaker of the heart?
 - What do you mean by the 'all or none law'?
 - Define 'synaptic delay'.

*[Turn over]***GROUP-B**

2. Answer any **two** questions: $5 \times 2 = 10$
- Discuss about the different phases of an action potential in a nerve fibre with diagram. What is absolute refractory period of a nerve fibre?
 $3 + 2 = 5$
 - What do you mean by multiunit smooth muscle? State their distribution and function.
 $2 + (2 + 1) = 5$
 - Write a short note on myasthenia gravis. Write the names of one excitatory and one inhibitory neurotransmitter.
 $3 + (1 + 1) = 5$
 - Define 'EPSP'. Explain why cardiac muscles, can not be fatigued.
 $3 + 2 = 5$
3. Answer any **two** questions: $10 \times 2 = 20$
- Define Synapse. Classify synapses according to their mode of transmission. Discuss the mechanism of transmission of impulses across a chemical synapse.
 $2 + 2 + 6 = 10$
 - Classify nerve fibres according to their diameter. Write any four properties of nerve fibre.
 $6 + 4 = 10$
 - What is sarcomere? Describe the sliding filament theory of skeletal muscle contraction.
 - What do you mean by phasic and tonic adaptation of sensory receptors? State Weber-Fechner law. What are photoreceptors? Name the receptors for touch and pressure found in the skin.
 $(2 + 2) + 2 + 2 + 2 = 10$