

*SH-II/PHY/201/C-3/(T)/19***B.Sc. 2nd Semester (Honours) Examination, 2019****PHYSIOLOGY****Paper : SH/PHY/201/C-3(T)****(Physiology of Nerve and Muscle cells)****Course ID : 22511****Time: 1 Hour 15 minutes****Full Marks: 25***The figures in the right hand side margin indicate marks.**Candidates are required to give their answers in their own words
as far as practicable.*

1. Answer *any five* questions of the following: 1×5=5
- (a) What is neurotransmitter? Give one example.
 - (b) Define repolarization.
 - (c) State the function of 'Intercalated disc'.
 - (d) Name the regulatory proteins of muscle contraction.
 - (e) Why does nerve cell not divide?
 - (f) What do you mean by denervation hypersensitivity?
 - (g) Name the receptors for cold and pain sensation.
 - (h) What is synaptic plasticity?
2. Answer *any two* questions of the following: 5×2=10
- (a) Describe the process of depolarization in nerve cell with suitable diagram. 3+2=5
 - (b) Define 'All or None law'. 'Heart muscle does not fatigue due to exhaustive exercise.'—
Mention the reasons. 2+3=5
 - (c) Differentiate between smooth muscle and skeletal muscle. Mention the location and
function of inter-synaptic canaliculi. 3+2=5
 - (d) What is 'Hursh factor'? Classify nerve fibres on the basis of diameter and velocity
of impulse conduction. 1+4=5
3. Answer *any one* question of the following: 10×1=10
- (a) (i) What is sarcomere? Mention the role of sarcotubular system.
 - (ii) Describe the mechanism of synaptic transmission of impulse with a labelled
diagram. (1+2)+(5+2)=10
 - (b) (i) Mention the ionic fluxes operations in skeletal muscle. Briefly elucidate the role
of any one of them.
 - (ii) Discuss the electrical properties of cardiac muscle. (2+2)+6=10