

2009

M.Sc.

1st Semester Examination

HUMAN PHYSIOLOGY

PAPER—IV

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.

Unit—07

Answer any two questions.

1. (a) Show schematically the locations of major nerve tracts in cervical spinal segments. 4+2+4
- (b) What is the outermost layer of the spinal cord? What type of nerves are found in dorsal and ventral root ganglions? 4+2+4
2. (a) What is the other name of myotatic reflex? 1+3+6
- (b) What type of afferent and motor neuros are involved during this type of reflex action?
- (c) Describe the reflex briefly. 1+3+6

(Turn Over)

3. (a) Give modern perspective of the function of cerebellum in controlling voluntary movement.  
 (b) Explain the basis of Dysmetria and Ataxia. 6+(2+2)
4. Mention the clinical syndromes resulting from the damage of Basal Ganglia. Give reasons. 10

### Unit—08

Answer any two questions.

1. (a) Write briefly on the release of neurotransmitter from axonal ending with a special note on the function of 7 S and 20 S complex.  
 (b) Why action potential always moves in a forward direction?  
 (c) Why is synapse unidirectional? 6+2+2
2. (a) Write a note on SERCA (Sarcoplasmic Endoplasmic Reticulum  $Ca^{2+}$  ATPase).  
 (b) Discuss critically the action of acetylcholine esterase.  
 (c) Explain denervation hypersensitivity. 3+3+4
3. (a) Describe the mechanism of CSF secretion.  
 (b) What role do the arachnoid granulations play in CSF clearing? 6+4
4. (a) What kind of neuroglial cells are found in the central nervous system?  
 (b) Describe their functions in brief. 3+7