

M.Sc. 1st Semester Examination, 2010

HUMAN PHYSIOLOGY

PAPER—IV

Full Marks : 40

Time : 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

Illustrate the answers wherever necessary

Write the answers to questions of each Unit in separate books

UNIT—7

Answer any *two* questions

(Turn Over)

1. (a) Define the terminologies :
 - (i) Overshoot of movements
 - (ii) Damping of movement and
 - (iii) Intention Tremor.

- (b) Discuss the effects of lesions of vestibulo-cerebellum on the muscle tone, posture and reflexes. (2 + 2 + 2) + 4

2. (a) Discuss the role of habituation and sensitization in non-associative learning.

- (b) How is C-AMP associated with non-associative learning ? 5 + 5

3. Discuss the HCN current in Pacemaking activity of thalamic cells. 10

4. (a) Mention the role of REM-on cells and Non-REM-on cells in the generation of Non-REM and REM sleep.

- (b) Discuss the different coding mechanisms of sensory signals. 5 + 5

UNIT-8

Answer any *two* questions

1. (a) Define neurotransmitter and neuromodulator.
(b) Give a list of small molecule neurotransmitters.
(c) State the modern concept for the mode of action of glutamate as a neurotransmitter. 3 + 3 + 4

2. (a) Give a brief account of the mechanism of contraction of smooth muscle with a suitable diagram.
(b) What is latch-bridge mechanism in smooth muscle contraction? 8 + 2

3. (a) Write briefly on Myasthenia Gravis. What is myasthenic syndrome?

- (b) Give suitable examples of cholinceptor stimulating and blocking agents.
- (c) Discuss the effects of drugs acting on different cholinceptors present in autonomic ganglia with a diagram. (3 + 1) + 2 + 4

4. Write short notes on : 3 + 4 + 3

- (i) Papez circuit
- (ii) Kluver Bucy Syndrome
- (iii) Duchenne's muscular dystrophy.
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