

2009**M.Sc.****3rd Semester Examination****HUMAN PHYSIOLOGY****PAPER—XIII**

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.

Write the answers to the questions of each Unit in separate books.

UNIT—25

Answer any two questions.

1. Describe the ultrastructure of an ion channel. Discuss the gating kinetics of Na^+ ion channel. Discuss the actions of different neurotoxins on Na^+ channel. 3+3+4
2. What do you mean by resultant vector of the heart? How projected heart vector is determined in different limb lead axis? Discuss the vectorial analysis of QRS complex during depolarization of ventricles. 2+3+5
3. (a) State the characteristics of EEG components, which are found during sleep.
(b) Discuss the changes of EEG pattern in different stages of sleep.
(c) How brain tumor can be localized by EEG records? 4+4+2

(Turn Over)

4. Write notes on the followings :

(a) Adaptation of receptors.

(b) Practical use of EMG

5+5

UNIT—26

Answer any two questions.

1. (a) Discuss the organization of Retinal Neural Circuitry.
 (b) Mention the functioning of Bipolar Cells in response to visual stimulation. 5+5
2. (a) State the origin of cochlear microphonic potential.
 (b) Discuss the amplitude and phase characteristics of cochlear microphonic potential.
 (c) How summing potential is changed with the variation of stimulus frequency? 2+5+3
3. (a) Discuss the olfactory localization in cerebral cortex.
 (b) What are pheromones? Mention with example the influence of olfactory stimulus in behavioral control. 5+1+4
4. Write short notes on : 5×2
 (a) The Lateral Geniculate Body in Visual Perception.
 (b) Component analysis of ERG.