PG 3rd Semester Examination, 2010

HUMAN PHYSIOLOGY

PAPER—XIII

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—25

Answer any *two* questions

1. (*a*) What is WCT? How WCT is constructed for recording unipolar ECG?

   (*b*) Discuss the lead configuration of standard bipolar limb leads.

(*c*) Discuss the ECG changes during myocardial infarction. 3 + 3 + 4

2. (*a*) What is receptor potential? Discuss the stimulus-response relationship with reference to Michaelis equation.

(*b*) What do you mean by receptor sensitivity? 8 + 2

3. (*a*) Discuss the characteristics of alpha and beta rhythms of EEG.

(*b*) Discuss the EEG changes during grandmal and petitmal epilepsy. (4 + 3) + 3

4. Write the answer of the following : $2\frac{1}{2} \times 4$

(*a*) State the Goldman equation.

(*b*) What is bipolar action potential?

(*c*) What do you mean by P-R interval and VAT of ECG?

(*d*) How pyramidal cells help in the summation of electrical potential of cerebral cortex?

UNIT — 26

Answer any *two* questions

1. (*a*) Write on the transduction of chemical signals to electrical signals in olfactory cell.

   (*b*) Write short notes on :

   (*i*) Asosmia and Disosmia

   (*ii*) Adaptation of olfactory sense. $5 + 2\frac{1}{2} + 2\frac{1}{2}$

2. (*a*) Mention the mechanism of action of Retinal Ganglionic Cells in vision.

   (*b*) What are primary and secondary visual areas in Cerebral Cortex ? Discuss their roles in visual perception. $4 + 6$

3. (*a*) How auditory pathway carry the auditory impulse to the auditory area of Cerebral Cortex ?

(*b*) What do you mean by sound perception ?

(*c*) "Mechanical behaviour of basilar membrane is most important for sound transmission." Explain it. 6 + 1 + 3

4. (*a*) Write on the mechanisms of gustatory transduction with respect to Salt and Sour tastes.

(*b*) Describe the Taste Pathway. 5 + 5