2009

M.Sc.

2nd Semester Examination

HUMAN PHYSIOLOGY

PAPER—IX

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—17

Answer any *two* from the following questions.

1. (a) How environmental pollutants affect the reproductive system.
   (b) Explain the differences between the total cancer death rates and the respiratory-system cancer death rates in the U.S. between 1950 and 1990.
   (c) Enumerate the effect of lead toxicity in haemoglobin synthesis. 4+3+3

2. (a) How carbon monoxide hampers the O_2-carrying capacity in a normal individual compared to anaemic one.
   (b) Elaborate the adverse effects of acute carbon monoxide poisoning. 5+5

3. (a) What do you mean by 'Chelation'? Mention the characteristics of Chelating agents?
   (b) Describe the use of Chelators to control metal pollution with special reference to arsenic intoxication. (2+3)+5

4. (a) Mention the sources of ionizing radiation.

(b) Write the principle and procedure of the assessment of radio activity by using scintillation counter. 4+6

UNIT—18

Answer any *two* from the following questions.

1. Answer the following questions : 5×2

(a) What are bio-diversity hot spots? Name three hot spots of India.

(b) What do you understand by megadiversity country? How many countries have been designated as megadiversity country?

(c) What is SLOSS debate?

(d) Distinguish between 'critically endangered' and 'endangered' species. Give one example of each.

(e) What is IUCN version 3.1 of Red List category?

2. (a) Discuss the different types of Chemical interactions exerted by the environmental pollutants.

(b) "Toxicodynamic factors may trigger functional or structural alterations in a cell and ultimately lead to a toxic effect"—justify the statement citing an example. 5+5

3. (a) What do you mean by n– and p– type of semi-conductor?

(b) Mention the construction of a silicon solar cell.

(c) Discuss the principle of operation of a solar cell.

(d) How much electrical energy can be obtained from a silicon solar cell? 2+4+3+1

4. (a) How does a xenobiotic induce enzyme inhibition by binding to the active site?

(b) Discuss how endocrine disruptions are caused by different xenobiotics. 5+5
