2010

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) State how global climate affect the oceanic and Antarctic environment?

(b) "Many enrivonmental Chemical are responsible for birth defects" — justify the statement.

(c) What is basophilic stippling? Why it is formed during chronic lead toxicity? $(1\frac{1}{2}+1\frac{1}{2})+3+(2+2)$

2. (a) Elaborate the Chemical hydrolysis of sulfonylurea bridge and microbial degradation in soil.

(b) Mention the degradation of pyrethroids in soil. 5+5

3. (a) What do you understand by a cybernetic system?

(b) Discuss how stability of ecosystem is maintained through feedback control.

(c) Distinguish between biosphere and ecosphere. 2+6+2

4. (a) What is biomass ?

(b) "Garbage farming is one of the best methods of solid waste management in Indian scenario". — Justify the statement with explanation.

(c) State the components of acid rain and its possible mechanism of ecological damage. 2+4+4

UNIT—18

Answer any *two* from the following questions.

1. Answer the following questions : 5×2

(a) State the relationship between 'toxicokinetics' and 'toxicodynamics'.

(b) Elaborate the mechanisms of statin-enduced myotoxicity.

(c) What is 'rhabdomyolysis' ?

2. (a) Briefly mention the characteristics of cytochrome P–450 enzymes.

(b) Describe the CYP–1 family mediated toxicity with a suitable example. 5+5

3. (a) State why mitochondrial DNA is much prone to oxidative damage compared to nuclear DNA ?

(b) "DNA base oxidation has several consequences on base pairing" — justify the statement.

(c) Why does oxidative DNA damage ultimately lead to mutation and eventually tumors. 3+4+3

4. (a) How are biosensors used to detect environmental pollutants ?

(b) What are the different biotechnological approach of energy management ?

(c) What do you mean by biodegradation ? 3+5+2

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