

**2008****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) Discuss in brief 'Universal model' of the energy flow. What are the limitations of this model?  
(b) Add a note on the two channel model of energy flow. (6+2)+2
2. (a) Give an account of the effects of global warming in the Arctic and the Antarctic regions.  
(b) Elaborate the effects of dichlorophenyl derivative of DDT and DDE on male and female reproductive systems of animal. 5+5
3. (a) How would you broadly divide the major regions of atmosphere? State their respective altitudes and temperature ranges.  
(b) Citing an example explain how does carbon-monoxide pollution cause the reduction in O<sub>2</sub>-carrying capacity of blood. (2+4)+4

(Turn Over)

4. (a) Write down briefly the different sources of environmental radiation. What is X-unit?  
 (b) What is 'basophilic stippling'? Comment on the role of lead on the mechanism behind basophilic stippling.  
 (4+2)+(1+3)

### UNIT—18

Answer any *two* from the following questions.

5. (a) Differentiate between 'toxicokinetics' and 'toxicodynamics'.  
 (b) State the mechanisms of statin-induced myotoxicity.  
 (2+2)+6
6. (a) Describe what do you mean by thermo-syphon and green house effect. Mention their uses in solar water heaters and space heating with neat diagrams.  
 (b) Mention the technology by which solar thermal power can be used for generating electricity. (2+6)+2
7. (a) How does lethality exhibit a normal Gaussian distribution? What are findings from this distribution curve?  
 (b) "Two compounds may have identical LD<sub>50</sub> values but different toxicological characteristics."—Justify it with diagram. (3+3)+4
8. (a) Give a brief account on the mechanisms of cell injury by genobiotics.  
 (b) State the genotoxic mode of action of benzo[a] pyrene in our body. 5+5