

2011

M.Sc. Part-I Examination
ENVIRONMENTAL SCIENCE

PAPER—I

Full Marks : 100

Time : 4 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give that answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Answer Q. No. 1 and any five questions from the rest.

1. Answer any ten of the following : 2×10

- (i) What is 'Ecosphere' ?
- (ii) What are saprotrophs ?
- (iii) State two unique structural features of *Homo sapiens*.
- (iv) Define 'primate city'. Give an example.
- (v) Name two agreements of UNCED held at Rio (1992).
- (vi) Mention distribution of *Australopithecus*.
- (vii) What is ecological succession ?
- (viii) Who wrote 'Silent Spring' and in which year ?
- (ix) In which year human population crossed 1 Billion and 6 Billion mark ?
- (x) What are Mohorovicic and Gutenberg discontinuities ?
- (xi) What is enthalpy ?
- (xii) What are the thickness of the earth's mantle and the outer core ?
- (xiii) What are the full forms of eV and MWd ?

(Turn Over)

- (xiv) Name the continents where the lorisoids are found.
- (xv) Name two water rich and two water poor countries.
- (xvi) What is replacement fertility?
- (xvii) What is carrying capacity of environment?
2. Explain in what way stability of an ecosystem is maintained through feedback control and through redundancy of components. Differentiate between resistance stability and resilience stability. 10+6
 3. State the characteristic features of primate. Give an outline sketch of 'Order Primates'. 10+6
 4. Give an account on the central place theory proposed by Christaller. What are the advantages of Lochian concept of central place? 10+6
 5. Make a comparative study of the demographic trends of developed and developing countries. Justify that human population growth is neither logistic nor exponential. 10+6
 6. State the first and second laws of thermodynamics. How do the biospheric system obey thermodynamic principles in transferring mass and energy. 8+8
 7. Differentiate the old world and new world montay. 16
 8. What do you mean by resource? Differentiate between resource and wealth. Classify natural resources citing suitable examples. 3+3+10
 9. Define ecosystem. State the structural components of ecosystem. Add a note on types of food web. 3+8+5
 10. Describe with graphical presentation the temperature distribution along the different layers of atmosphere from the ground surface of the earth. What are the causes of high temperature in the thermosphere? 12+4