DDE/I/EVS/III/13

M.Sc. Part-I Examination, 2013

ENVIRONMENTAL SCIENCE

PAPER – III

Full Marks : 100

Time : 4 hours

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

The figures in the right-hand margin indicate marks

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

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

   (*i*) Differentiate point pollution from non-point pollution.

   (*ii*) What is the full form of UNIFEM ?

   (*iii*) Mention the sources and sink of air pollutants.

(*iv*) What is RSPM ?

(*v*) Differentiate Acute Toxicity from Chronic Toxicity.

(*vi*) What is mixing height ?

(*vii*) What is the significance of CRZ ?

(*viii*) Enlist the sources of marine pollution.

(*ix*) Mention the differences between troposphere from stratosphere.

(*x*) Significance of Biomonitoring.

(*xi*) Draw the relationship between B.O.D. and D.O.

(*xii*) Explain the role of Bioinvasive species.

(*xiii*) Mention the sources of Indoor Pollution.

(*xiv*) What is 'Residence Time' of a pollutant ?

(*xv*) What are Mitigation measures for controlling 'Sound Pollution' ?

2. Differentiate sewage from suldge. Mention the differences between Industrial and Municipal sewage. Briefly discuss different sewage treatment processes. 2 + 4 + 10

3. Define eutrophication. What are the differences between cultural and natural eutrophication ? Schematically highlight different environmental consequences of eutrophication. 2 + 4 + 10

4. What is biomagnification ? Explain this phenomenon with evidences. Discuss the impact for chemical fetilisers on the environment and human health. Add a note on impact of pesticides on the environment. 2 + 4 + 5 + 5

5. Draw the relationship between 'Greenhouse Effect' and 'Global Warming'. Enlist different greenhouse gases with their sources. Discuss briefly the environmental consequences of global warming. 4 + 4 + 8

6. What is 'Ozone-Hole' ? Explain the mode of formation of 'ozone' in the stratosphere. Enlist

different ozone eating chemicals with their sources. Discuss the environmental consequences of ozone layer destruction. 2 + 6 + 3 + 5

7. What is photochemical smog ? Mention the differences between London and Loss-Angelles type for smog. Discuss the chemical pathways in the formation of photochemical smog. 2 + 5 + 9

8. Briefly discuss the physical-chemical-biological properties of soil. Mention different causes of soil pollution. Add a note on the control measures of soil pollution. 6 + 4 + 6

9. Write short notes on any *two* of the following : 16

   (*i*) Role of Meteorological parameters in the formation of Acid Rain.

   (*ii*) Thermal Pollution

   (*iii*) Thermal Inversion

   (*iv*) Particulate Pollutants.