

ENVIRONMENTAL SCIENCES

The first year TDC examination shall consist of three theory papers, each of three hours duration and a practical examination of five hours duration.

	<u>Marks</u>
Paper-I : Basic Concepts of Ecology and Evolution	50
Paper-II : Ecological Organisation	50
Paper-III : Ecosystem Ecology	50
Practical :	
75	

Pattern of question paper in the annual examination and distribution of marks:

Each theory paper in the annual examination shall have three sections i.e. A, B, and C. **In section A**, total 10 questions will be set in the paper, selecting at least two from each unit. These questions to be answered in a word or so. All questions are compulsory. Each question carries 0.5 mark, total 05 marks.

In section B, there shall be total 10 questions, selecting two questions from each unit, five questions to be answered by the student selecting at least one from each unit. Answer should be given in approximately 250 words. Each question carries 05 marks, total 25 marks.

In section C, 04 descriptive type questions will be set in the examination paper from five units of the syllabus of the paper, selecting not more than one question from a unit. Each question may have two sub divisions. Students are required to answer any two questions approximately in 500 words. Each question is of 10 marks, total 20 marks.

Duration : 3 Hrs

M.M.: 50

UNIT-I

Fundamental principles of environment; Man's attitude towards environment, Rise of agriculture, Domestication of animals, Ancient civilization and environment.

Ecology : Definition , aim, scope and branches; Historical background of ecology : Ecology in Indian classics and ancient Greek and Roman Literature, growth of ecology from 12th to 20th Century; Growth of plant as well as Animal Ecology in India.

UNIT-II

Natural processes – Primeval atmosphere and origin of life; Structure and composition of present day atmosphere; atmosphere and earth radiation balance; Hydrosphere: atmospheric humidity and precipitation, hydrological cycle. Lithosphere – soil formation, soil texture, soil profile, soil classification.

UNIT- III

Energy - Brief idea of Biogas, biomass, solar energy, coal, hydro – power and nuclear power. Environmental impacts of energy use. Energy conservation.

Evolution and Ecology : Evolution – evidences and theories of organic evolution. Darwinism & Lamarkism. Adaptation, co-evolution, speciation and selection. Evolution of Man.

UNIT - V

Plant nomenclature : Plant kingdom – classification, general characters and examples of different groups.

Animal kingdom – Classification and general characters upto class level with examples.