

SECOND YEAR T. D.C.SCIENCE, 2018-19

ENVIRONMENTAL SCIENCES

The second 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: Ecological Factors, Adaptations and Distribution	50
Paper-II: Aquatic Ecology	50
Paper-III: Terrestrial 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 marks, 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.

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PAPER-I

ECOLOGICAL FACTORS, ADAPTATIONS & DISTRIBUTION

Duration: 3 Hrs.

M.M.:50

UNIT-I

Ecological factors in relation to plants and animals:

1. Edaphic
2. Light
3. Temperature
3. Precipitation
5. Topography

Laws of limiting factors – Leibig and Shelford's.

UNIT-II

Ecological adaptation- Xerophytes, hydrophytes, halophytes, adaptations and ecotypes; Plant indicator; animal fitness to habitats; fossorial, arboreal, aquatic, volant adaptations.

UNIT-III

Patterns in vegetation – brief idea of morphological, environmental and sociological patterns. Measurement of non-randomness in vegetation, continuous and discontinuous distribution, interpretive phytogeography. Endemic areas and theories of endemism; Endemic flora of India.

UNIT-IV

Major biomes of the world: Forest, savannah, grassland, desert and tundra biomes. Flora and vegetation of India; vegetation of Rajasthan.

UNIT-V

Zoogeographical regions – Palaearctic, Nearctic, Neotropical, Ethiopian, Oriental, Australian region, Dynamic biogeography – Dispersal dynamics, barriers, dispersal pathways, continental drift theory, land bridge, centre of origin, age and area hypothesis; Migration.