UCC-581: Environmental Studies.

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Nine questions will be set by the examiners, two from each unit and one question of short answers/objective type covering whole syllabus, which will be compulsory. Students will have to attempt five questions in all including one question from each unit & compulsory question. All questions will carry equal marks of 10 each.

Unit-1. (A) The multidisciplinary nature of environmental studies.

Definition, Scope and Importance. Need for public awareness. (2 Lectures)

B: Natural Resources:

Renewable and Non Renewable resources:

Natural resources and associated problems.

a) Forest resources: Use and over exploitation, deforestation, case studies, Timber extraction mining, dams and their effects on forest and tribal people.
b) Water resources: Use and over utilization of surface and ground water, floods, droughts, conflicts over water, dams-benefits and problems.
c) Mineral resources: Use and exploitation, environmental effects of extrading and using mineral resources, case study.
d) Food resources: World food problem, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizer- pesticide problem, water logging, salinity case studies.
e) Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternative energy sources. Case studies
f) Land resources: land as a resource, land degradation, man induced landslides, soil erosion and desertification.
  • Role of individual in the conservation of natural resources.
  • Equitable use of resources for sustainable life styles.

Unit-2 (A) Ecosystems

Introduction, types, characteristics features, structure and function of the following ecosystem:

Forest ecosystem, grassland ecosystem, desert ecosystem and aquatic ecosystem, (ponds, streams, lakes, rivers, ocean estuaries.)

(B). Biodiversity and its conservation

Introduction- definition: genetic, species and ecosystem diversity. Biogeographical classification of India. Value of diversity: consumptive use, productive use, social, ethical, aesthetic option values, biodiversity at global, national and local levels. India as a mega Diversity nation. Hot spots of biodiversity, threats to biodiversity, threats to biodiversity: loss, poaching of wildlife, man made conflicts, endangered and endemic species of India.

Conservation of biodiversity: in-situ and ex-situ conservation of biodiversity (8 lectures)

Unit-3 (A) environmental Pollution

Definition
- Causes, effects and control measures of:
  Air pollution, water pollution, soil pollution, marine pollution, noise pollution, thermal pollution and nuclear hazards
- Role of individual in prevention of pollution
- Role of individual in prevention of pollution
- Disaster management: floods, earthquake and landslides (8 lectures)

Unit-4 (A) social issues and the environment


(B) Human population and the environment (7 lectures)


Lab: field work & practical Training
- Visit to a local area to document environmental assets-river/forest/grassland/hill/mountain.
- Visit to a local polluted site urban/rural/industrial/agriculture. The student will required to submit the technical report of their field visit as directed by teacher.
- Study of common plants, insects, birds
- Study of simple ecosystem-pond, river, hill slopes, etc (field work equal to 5 lectures hours)
- Some water quality parameters and some air quality parameters.
- Study of simple ecosystem- pond, river, hill slopes etc.

Examination Pattern:

- The question paper should carry 100 marks
- The structure of the question paper being
  - Part – A: short Answer Pattern 25 Marks
  - Part –B: Essay type with inbuilt choice 50 Marks
  - Part – C: Field work 25 Marks

INSTRUCTIONS FOR THE EXAMINERS

- Part – A Question 1 is compulsory and will contain ten short-answer type questions of 2.5 marks each covering the entire syllabus
- Part – B Eight essay type questions (with inbuilt choice) will be set from the entire syllabus and the candidates will be required to answer, any four of them. Each essay type question will be of the 12 ½ marks.
- The examination will be conducted by the college concerned at its own level earlier than the annual examination and each student will be required to score minimum of 35% marks each in theory and practical. The marks obtained for the award of degree. However, these will be shown in the detailed marks certificates of the student.