

B.Sc./Integrated B.Sc. (Hons/Hons. With Research)

EVS-1 ENVIRONMENTAL SCIENCE

Credit: 2
Maximum Marks: 35
Internal Marks: 15
External Marks: 50

Paper setter is required to set nine questions in all. Question no. 1 is compulsory and is based on the entire syllabus consisting of seven short answer type questions each of one marks. The remaining eight questions are to be set uniformly having two questions from each unit. The students are required to attempt five questions in all selecting one question from each unit and Question No. 1 is compulsory.

Unit 1: Multidisciplinary nature of environmental studies

Definition, scope and importance; Need for public awareness.

Unit 2: Ecosystems • Concept of an ecosystem.

Structure and function of an ecosystem: Producers, consumers and decomposers, Energy flow in the ecosystem, Ecological succession, Food chains, food webs and ecological pyramids, Introduction, types, characteristic features, structure and function of the following ecosystem: Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).

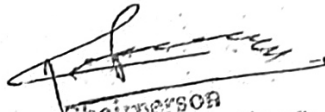
Unit 3: Biodiversity and its Conservation

Introduction – Definition: genetic, species and ecosystem diversity, Biogeographical Classification of India, Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values, Biodiversity at global, National and local levels, India as a mega-diversity nation, Hot-spots of biodiversity, Threats to biodiversity : habitat loss, poaching of wildlife, man-wildlife conflicts, Endangered and endemic species of India, Conservation of biodiversity : In-situ and Ex-situ conservation of biodiversity.

Unit 4: Environmental Pollution

Definition

Cause, effects and control measures of:- Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, Nuclear hazards, Solid waste Management: Causes, effects and control measures of urban and industrial wastes, Role of an individual in prevention of pollution, Pollution case studies, Disaster management: floods, earthquake, cyclone and landslides.


Chairperson
Deptt. of Env. Sc. & Engg.
GIUS&T, HISAR-125001

B.Sc./Integrated B.Sc. (Hons/Hons. With Research)

EVS-2 ENVIRONMENTAL SCIENCE

Credit: 2
Maximum Marks: 35
Internal Marks: 15
External Marks: 50

Paper setter is required to set nine questions in all. Question no. 1 is compulsory and is based on the entire syllabus consisting of seven short answer type questions each of one marks. The remaining eight questions are to be set uniformly having two questions from each unit. The students are required to attempt five questions in all selecting one question from each unit and Question No. 1 is compulsory.

Unit 1: Natural Resources:

Renewable and non-renewable resources: Natural resources and associated problems. Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people. Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems. Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies. Food resources : World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, waterlogging, salinity, case studies. Energy resources : Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies. Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification, Role of an individual in conservation of natural resources, Equitable use of resources for sustainable lifestyles.

Unit 2: Social Issues and the Environment

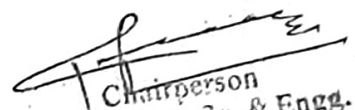
From Unsustainable to Sustainable development, Urban problems related to energy, Water conservation, rainwater harvesting, watershed management, Resettlement and rehabilitation of people; its problems and concerns, Case Studies, Environmental ethics: Issues and possible solutions, Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies, Wasteland reclamation, Consumerism and waste products, Environment Protection Act, Air (Prevention and Control of Pollution) Act, Water (Prevention and Control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act, Issues involved in enforcement of environmental legislation, Public awareness.

Unit 3: Human Population and the Environment

Population growth, variation among nations, Population explosion – Family Welfare Programme, Environment and human health., Human Rights, Value Education, HIV/AIDS, Women and Child Welfare, Role of Information Technology in Environment and human health, Case Studies.

Unit 4: Field work

Visit a local area to document environmental assets river/forest/grassland/hill/mountain, Visit a local polluted site-Urban/Rural/Industrial/Agricultural, Study of common plants, insects, and birds, Study of simple ecosystems-pond, river, hill slopes, etc.


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