

ENVIRONMENTAL STUDIES

B.P.S. M. VISHWAVIDYALA KHANPUR KALAN
(SONIPAT)

SEMESTER-I

B.A/B.Sc. Ist
EVS-101

Marks: 40

Unit 1: Introduction to environmental studies

- Multidisciplinary nature of environmental studies;
- Scope and importance; Concept of sustainability and sustainable development.

Unit 2: Ecosystems

Defenition, Structure and function of ecosystem; Energy flow in an ecosystem: food chains, food webs and ecological succession.

Study of the following ecosystems :

- a) Forest ecosystem
- b) Grassland ecosystem
- c) Desert ecosystem
- d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

Unit 3 : Natural Resources : Renewable and Non-renewable resources

- Land resources and land use change; Land degradation, soil erosion and desertification.
- Deforestation: Causes and impacts due to mining and dam building on environment, forests, biodiversity and tribal populations.
- Water : Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state).
- Energy resources : Renewable and non renewable energy resources, use of alternate energy resources, growing energy needs, case studies.

Unit 4: Human Communities and the Environment

- Human population growth : Impacts on environment, human health and welfare.

- Resettlement and rehabilitation of project affected persons; case studies
- Disaster management : floods, earthquake, cyclones and landslide

Field Work

- Visit to an area to document environmental assets : river/ forest/ flora/fauna, etc.
- Visit to a local polluted site- Urban/Rural/Industrial area

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Unit 1 : Biodiversity and Conservation

• Levels of biological diversity : genetic, species and ecosystem diversity;

→ Biogeographic zones of India ; Biodiversity patterns and global biodiversity hot spots

India as a mega-biodiversity nation; Endangered and endemic species of India

① Threats to biodiversity : Habitat loss, poaching of wildlife, biological invasions; Conservation of biodiversity : In-situ and Ex-situ conservation of biodiversity.

• Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.

Unit 2 : Environmental Pollution

• Environmental pollution : types, causes, effects and controls; Air, water, soil and noise pollution

• Nuclear hazards and human health risks

• Solid waste management : Control measures of urban and industrial waste.

• Pollution case studies.

Unit 3 : Environmental Policies & Practices

• Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture.

• Environment Legislation: Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act;

② International agreements: Montreal and Kyoto protocols and Convention on Biological Diversity (CBD).

③ Nature reserves, tribal populations and rights, and human wildlife conflicts in Indian context.

④ प्राकृतिक संरक्षण, आदिवासी आबादी और उनके अधिकार

Unit 4 : Human Communities and the Environment

⑤ Environmental movements : Chipko, Silent valley, Bishnois of Rajasthan.

⑥ Environmental ethics: Role of Indian and other religions and cultures in environmental conservation.

• Environmental communication and public awareness , case studies (e.g., CNG vehicles in Delhi)

Field Work:

- Study of common plants, insects, birds and basic principles of identification.
- Study of simple ecosystems-pond, river etc.