OBJECTIVE

To appreciate the importance of environment by assessing its impact on the human world; envision the surrounding environment, its functions and its value; assess the damage caused to the environment and in turn to the human health due to pollution from various sources; sustainable use of natural resources for better current and future lives; and highlight the involvement of society, government and other agencies for regulated use and conservation of environment.

UNIT – I INTRODUCTION


UNIT – II ECOSYSTEMS AND BIODIVERSITY

Ecosystem – structure and function – producers, consumers and decomposers – energy flow – ecological succession – food chains, food webs and ecological pyramids – Introduction, types, characteristic features, structure and function of the (a) forest ecosystem (b) grassland ecosystem (c) desert ecosystem (d) aquatic ecosystems. Introduction to biodiversity 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 – threats: habitat loss, poaching of wildlife, man-wildlife conflicts – endangered and endemic species of India – conservation: In-situ and ex-situ.

Field study of common plants, insects, birds Field study of simple ecosystems – pond, river, hill slopes, etc.

UNIT – III ENVIRONMENTAL POLLUTION

Definition – causes, effects and control measures of: (a) Air pollution (b) Water pollution (c) Soil pollution (d) Marine pollution (e) Noise pollution (f) Thermal pollution (g) Nuclear hazards – soil waste management: causes, effects and control measures of municipal solid wastes – role of an individual in prevention of pollution – pollution case studies – disaster management: floods, earthquake, cyclone and landslides.
Field study of local polluted site – Urban / Rural / Industrial / Agricultural.

UNIT – IV  NATURAL RESOURCES

Forest resources: Use and over-exploitation, deforestation, case studies- timber extraction, mining, dams and their effects on forests 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, water logging, 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.

Field study of local area to document environmental assets – river / forest /grassland / hill / mountain.

UNIT – V  SOCIAL ISSUES AND THE ENVIRONMENT


TOTAL: 45

TEXT BOOKS:

REFERENCES: