

**Manipur University, Canchipur**  
**Syllabus for**  
**GFC (Environmental Studies)**

Total marks:100

Pass marks: 35

**UNIT I: Introduction and Natural Resources:**

(Multidisciplinary nature of the environmental studies, man and Earth's resources, natural resources and associated problems- forest resources, water resources, mineral resources, food resources, energy resources, land resources-the role of an individual in the conservation of natural resources).

**UNIT II: Ecosystems:**

(The concept of an ecosystem, structure and functions of an ecosystem, producers, consumers and decomposers, energy flow in the ecosystem- water cycle, carbon cycle, oxygen cycle, nitrogen cycle, energy cycle and integration of cycles in Nature-ecological succession, food chains, food webs and ecological pyramids, characteristic features of forest ecosystem, grassland ecosystem, desert ecosystem, aquatic ecosystems- ponds, streams, lakes, rivers, oceans, estuaries(deltas).

**UNIT III: Biodiversity:**

(Introduction-definition, genetic species and ecosystem diversities-biogeographical classification of India, value of biodiversity-consumptive, productive, 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-common plant and animal species-the conservation of biodiversity--*In-Situ* and *Ex-Situ* conservation of biodiversity).

**UNIT IV: Environmental Pollution:**

(Definition, causes, effects and control measures of air pollution, water pollution, soil pollution, marine pollution, noise pollution, thermal pollution, nuclear hazards, solid waste managements—causes, effects and control measures of urban and industrial wastes—role of

an individual in the prevention of pollution, pollution case studies, disaster management—floods, earthquakes, cyclones and landslides).

### **UNIT V: Social Issues and the Environment:**

(From sustainable to unsustainable development, urban problems related to energy, water conservation, rain water harvesting, watershed management, resettlement and rehabilitation of people—problems and concerns with case studies---environmental ethics—issues and possible solutions—climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust with case studies, Environmental Protection Acts, public awareness).

### **UNIT VI: Human Population and the Environment:**

(Population growth, variation among nations, population explosion, environment and human health—environmental health, climate and health, infectious diseases, water- related diseases, risks due to chemicals in food, value education, HIV/AIDS, the role of information technology in the environment and human health).