Shiksha Mandal's
Bajaj College of Science, Wardha
Syllabus for Environmental Studies for Undergraduate courses

B.Sc. II Semester IV

Maximum Marks:	100 Marks
Part A: Short answer pattern:	25 Marks
Part B: Essay type with built-in choice:	50 Marks
Part C: Field Work:	25 Marks

Unit 1: The Multidisciplinary nature of environmental studies (2 Lectures)

Definition, scope and importance. Need for public awareness.

Unit 2: Natural Resources (8 Lectures)

Renewable and Non-renewable Resources. (Forest, Water, Minerals, Energy, Land). Role of an individual in conservation of natural resources. Equitable use of resources for sustainable lifestyles.

Unit 3: Ecosystems (6 Lectures)

Concept of an Ecosystem. Structure and Function of 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 Ecosystem.

Unit 4: Biodiversity and its conservation (8 Lectures)

Introduction: 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 mega-diversity nation. Hotspots of Biodiversity. Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts.

Unit 5: Environmental Pollution (8 Lectures)

Definition, causes, 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. Pole of an individual in prevention of pollution. Disaster Management: Floods, earthquake, cyclone and landslides.

Unit 6: Social Issues and the Environment (7 Lectures)

From Unsustainable to Sustainable development. Urban problems related to energy. Water conservation, rain water 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 7: Human Population and the Environment (6 Lectures)

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.

Unit 8: Field Work

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