

**Shiksha Mandal's
Bajaj College of Science, Wardha**

**Proposed Syllabus for Four Year Multidisciplinary UG
Program with DSC as Major
(Four Year B.Sc. Honors/Research Program)**

**Program: B.Sc.
(Academic Session 2023-24)
Syllabus**

VALUE EDUCATION COURSE (VEC)

ENVIRONMENTAL SCIENCE

Semester I and II courses

Syllabus under Autonomy

SEMESTER I
ENVIRONMENTAL SCIENCE – I (EVS-I)
[30L]
[Credits 2]

Course Description:

Course Objectives:

Course learning outcomes:

- Unit I: Multidisciplinary Nature of Environmental Studies and Natural Resources** [10 Hrs.]
- 1.1 Definition, scope, and importance. Need for public awareness.
 - 1.2 Renewable and Non-renewable Resources. (Forest, Water, Minerals, Energy, Land).
 - 1.3 Role of an individual in conservation of natural resources. Equitable use of resources for sustainable lifestyles.
- Unit II: Ecosystems** [10 Hrs.]
- 2.1 Concept of an Ecosystem. Structure and Function of Ecosystem. Producers, consumers, and decomposers.
 - 2.2 Energy flow in the ecosystem. Ecological succession. Food chains, food webs and ecological pyramids.
 - 2.3 Introduction, types, characteristic features, structure, and function of the following ecosystem: Forest Ecosystem, Grassland Ecosystem, Desert Ecosystem, Aquatic Ecosystem.
- Unit III: Biodiversity and its Conservation** [10 Hrs.]
- 3.1 Introduction: Genetic, Species and Ecosystem diversity. Biogeographical classification of India. Value of Biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values.
 - 3.2 Biodiversity at Global, National and Local levels. India as mega-diversity nation. Hotspots of Biodiversity.
 - 3.3 Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts.

Mode of Evaluation:

Continuous Internal Assessment (15 Marks)

(Poster presentation / Project/ Presentation/ Assignment/ Quiz)

End semester examination (35 Marks)

Total Mark: 50

SEMESTER II
ENVIRONMENTAL SCIENCE – II (EVS-II)
[30L]
[Credits 2]

Course Description:

Course Objectives:

Course learning outcomes:

Unit I: Environmental Pollution **[10 Hrs.]**

- 1.1 Definition, causes, effects and control measures of Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, Nuclear hazards.
- 1.2 Solid waste management: Causes, effects, and control measures of urban and industrial wastes.
- 1.3 Role of an individual in prevention of pollution. Disaster Management: Floods, earthquake, cyclone, and landslides.

Unit II: Social Issues and the Environment **[14 Hrs.]**

- 2.1 From Unsustainable to Sustainable development. Urban problems related to energy.
- 2.2 Water conservation, rainwater harvesting, watershed management. Resettlement and rehabilitation of people; its problems and concerns.
- 2.3 Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents, and holocaust (Case studies). Wasteland reclamation. Environment Protection Act. Air (Prevention and Control of Pollution) Act. Water (Prevention and Control of Pollution) Act. Wildlife Protection Act.

Unit III: Human Population and the Environment **[06 Hrs.]**

- 3.1 Population growth, variation among nations. Population explosion. Family welfare programme.
- 3.2 Environment and Human Health. Human Rights. Value Education. HIV/AIDS. Women and Child welfare.
- 3.3 Role of Information Technology in Environment and Human Health.

Mode of Evaluation:

Continuous Internal Assessment (15 Marks)

(Poster presentation / Project/ Presentation/ Assignment/ Quiz)

End semester examination (35 Marks)

Total Mark: 50

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