Estd. 1962
NAAC 'A' Grade

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दुरध्वनी (ईपीएबीएक्स) २६०९००० (अभ्यास मंडळे विभाग– २६०९०९४)
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SU/BOS/6060 **Date:- 19/06/2019**

To,

The Principal,
All Affiliated Colleges/Institutes,
Shivaji University,
Kolhapur

Subject: Regarding syllabi of **Environmental Studies for all under graduate degree Programme Part – II** of all faculties.

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the University authorities have accepted and granted approval to the syllabi of **Environmental Studies for all under graduate degree programme Part – II** of all faculties.

The concerned syllabi shall be implemented from the academic year 2019-20 (i.e. from June, 2019) onwards. All these syllabi are also made available on University website www.unishivaji.ac.in.

You are therefore requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Yours faithfully,

Dy Registrar

Copy to:

1)	I/c Dean, All Faculty	6)	B.Sc. Section
2)	Chairman, Ad-hoc Board of Environmental Studies	7)	Computer Centre
3)	Appointment Section	8)	P.G.Admission
4)	Affilation Section	9)	P.G.Seminar.
5)	Eligibility Section		.....

SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A' Grade

Syllabus of Environmental Studies

As a Compulsory Paper for all

Undergraduate Programme

(To be implemented form academic year 2019)

Shivaji University, Kolhapur
Syllabus of Environmental Studies
as a Compulsory Paper for all Undergraduate Courses
2019-20

Unit 1. Nature of Environmental Studies : (3 lectures)

Definition, scope and importance.
Multidisciplinary nature of environmental studies
Need for public awareness.
Concept of sustainability. Sustainable development and it's goals with Indian context.

Unit 2. Ecosystems : (9 lectures)

Concept of an ecosystem.
Structure and function of an ecosystem.
Producers, consumers and decomposers.
Energy flow in the ecosystem.
Ecological succession.
Food chains, food webs and ecological pyramids.
Introduction, types, characteristics features, structure and function of the following ecosystem :-
a) Forest ecosystem, b) Grassland ecosystem, c) Desert ecosystem,
d)Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)
Degradation of the ecosystems and it's impacts.

Unit 3. Natural Resources and Associated Problems : (8 lectures)

a) Forest resources: Use and over-exploitation, deforestation, dams and their effects on forests and tribal people.
b) Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.
c) Mineral resources: Usage and exploitation. Environmental effects of extracting and using mineral resources.
d) Food resources: World food problem, changes caused by agriculture ,effect of modern agriculture, fertilizer-pesticide problems.
e) Energy resources: Growing energy needs, renewable and non- renewable energy resources, use of alternate energy sources. Solar energy , Biomass energy, Nuclear energy,
f) Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification. Consumerism ,ecological foot prints, carbon foot prints, carbon credits.

Role of an individuals in conservation of natural resources. Equitable use of resources for sustainable lifestyles.

Unit 4. Biodiversity and its conservation : (8 lectures)

Introduction- Definition: genetic, species and ecosystem diversity.
Bio-geographical classification of India.
Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values.
India as a mega- diversity nation.
Western Ghat as a biodiversity region. Hot-spots of biodiversity.
Threats to biodiversity: habitat loss, poaching of wildlife, man- wildlife conflicts,
Endangered and endemic species of India, Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. Convention on Biological Diversity.

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.
Global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust.
Solid waste Management: Causes, effects and control measures of urban and industrial wastes. Solid waste management control rules.
Role of an individual in prevention of pollution.

Unit 6. Social Issues and the Environment : (9 lectures)

Human population growth, impact on environment. Human Health and welfare.
Environmental ethics: Role of Indian religious traditions and culture in conservation of the environment.
Environmental movements- Chipko Movement, Appiko Movement, Silent Valley.
Resettlement and rehabilitation of people; its problems and concerns.
Water conservation, rain water harvesting, watershed management. water conservation by Dr.Rajendra Singh, Anna Hazare etc.
Disaster management: floods, earthquake, cyclone, tsunami and landslides.
Wasteland reclamation.
Environmental communication and public awareness, case studies.

Unit 7. Environmental Protection- Policies and practises : (5 lectures)

Environmental Protection Act.
Air (Prevention and Control of Pollution) Act.
Water (Prevention and control of Pollution) Act
Wildlife Protection Act
Forest Conservation Act
National and International conventions and agreements on environment.

Unit 8. Field Work : (10 lectures)

Visit to a local area to document environmental assets-

River/forest/grassland/hill/mountain.

or

Visit to a local polluted site – Urban/Rural/Industrial/Agricultural

or

Study of common plants, insects, birds.

or

Study of simple ecosystems - ponds, river, hill slopes, etc.

(Field work is equal to 10 lecture hours)

References :

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21) Trivedi R.K. Handbook of Environmental Laws, Rules, Guidelines, Compliances and Standards, vol. I anfd II, Environmental Media (R)
22) Trivedi R.K. and P.K. Gokel, Intriduction to air pollution, Tecgbi-Science Publications (TB)
23) Wagner K.D.,1998, Environmental management, W.B. Saunders Co.Philadelphia, USA 499p.
24) Paryavaran shastra – Gholap T.N.
25) Paryavaran Sahastra – Gharapure

M) Magazine (R) Reference (TB) Textbook