



YENEPOYA

(DEEMED TO BE UNIVERSITY)

Recognized under Sec 3(A) of the UGC Act 1956


Accredited by NAAC with 'A' Grade

Value Added Course

Environmental Science

EVS01

ATTESTED


Dr.Gangadhara Somayaji K.S.
Registrar
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Mangalore- 575 018, Karnataka



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**CENTRE FOR
ENVIRONMENTAL STUDIES**



Value Added Course On “Environmental Science”



**Environmental
Science**

ATTESTED

[Signature]
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NOTIFICATION – 24/32-ACM/2018 dtd. 03.09.2018

Sub: Revised syllabus for Environmental Studies

Ref: Resolution of the Academic Council at its meeting held on 11.08.2018
vide agenda – 25

The revised syllabus for Environmental Studies as proposed by the Faculty of Allied Health & Basic Sciences is approved by the Academic Council and Board of Management at their meetings held on 11.08.2018 and is hereby notified for Implementation

(Dr. G. Shree Kumar Menon)
REGISTRAR

To:

The Dean, Faculty of Allied Health & Basic Sciences

Copy to:

1. Assistant Director, Centre for Environmental Studies
2. Academic Section

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Centre for Environmental Science

SYLLABUS

Unit 1: Multidisciplinary nature of Environmental Studies **2 hrs**

- Multidisciplinary nature of Environmental Studies
- Concept of sustainability and sustainable development

Unit 2: Ecosystems **6 hrs**

- What is an ecosystem? Structure and function of an ecosystem; Energy flow in the ecosystem; Food chains, food webs and ecological succession. Case studies of the following ecosystems:
 - a. Forest ecosystem
 - b. Grassland ecosystem
 - c. Desert ecosystem
 - d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)
- History of ecosystem ecology
- Ecosystem services

Unit 3: Natural Resources: **8 hrs**

Renewable and Non renewable resources

- Land resources and land use change; Land degradation, soil erosion and desertification.
- Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations.
- Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state).

Energy resources: Renewable and non renewable energy sources, use of alternate energy sources, growing energy needs, case studies.

Unit 4: Biodiversity and its conservation **8 hrs**

- Levels of biological diversity: genetic, species and ecosystem diversity; Biogeographic zones of India; Biodiversity patterns and global biodiversity hotspots
- India as a mega-biodiversity nation; Endangered and endemic species of India
- Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.
- Ecosystem and biodiversity services: ecological, economic, social, ethical, aesthetic and informational value.
- Nature Reserves, tribal populations and rights, Human wildlife conflicts in Indian context

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Unit 5: Environmental Pollution

8 hrs

Definition

- Cause, effects and control measures of:-
 - a. Air pollution
 - b. Water pollution
 - c. Soil pollution
 - d. Light pollution
 - e. Noise pollution
 - f. Thermal pollution
 - g. Nuclear hazards
- Climate change, Green house effect, Global warming, Acid rain, Ozone layer depletion.
- Solid waste Management: control measures of urban and industrial wastes.
- Pollution case studies.

Unit 6: Environmental Policies & Practices

7 hrs

- Environmental Laws: Environment Protection Act.
- Air (Prevention and Control of Pollution) Act.
- Water (Prevention and control of Pollution) Act
- Wildlife Protection Act
- Forest Conservation Act
- International Agreements: Montreal protocol, Kyoto protocol, Convention on Biological Diversity (CBD)
- Environmental Impact Assessment
- Carbon footprint
- Sustainable Development Goals

Unit 7: Human communities and the environment

6 hrs

- Human Population growth – impacts on environment
- Resettlement and rehabilitation of project affected persons: case studies
- Disaster management – floods, earthquake, cyclone and landslides
- Environmental movements: Chipko, Silent Valley, Bishnois of Rajasthan
- Environmental ethics
- Consumerism and Environment


Environmental communication and public awareness, case studies.

Unit 8: Field work (Equal to 5 lecture hours)

5 hrs

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

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