



Department of Environmental Sciences

Board of Studies – First meeting on 20-10-2022 at 03:00 pm

AGENDA

Item-1: Welcoming the distinguished Members of the Board of Studies for the BOS meeting by the Head of the Department.


Item-2: Review /Approval of the academic regulation for the B. Tech Program.

Item-3: Review /Approval of the course structure of B. Tech Program.

Item-4: Review/Approval of the detailed syllabus of **Environmental Sciences**.

Item-5: Any other suggestions to the department.

Item-6: Vote of Thanks.


Md. Naseeruddin

Chairman of BoS and HoD of H&S Dept.



Board of Studies Members - Environmental Sciences

S.No	Name	Designation	Position
1	Mr. Md. Naseeruddin	HoD, H&S Department	Chairman
2	Dr. T. VIJAYA LAKSHMI	Assoc.Prof., of CEN, IST, JNTUH	University Nominee
3	Dr. U. Umesh kumar	Senior Professor and HOD, Osmania University	Subject Expert
4	Mr. B. Rahul	Assoc. Prof, SIET	Specialized Faculty-1
5	Mrs. G. Sujatha	Asst. Prof, SIET	Specialized Faculty-2
6	Dr. A. Hymavathi	Assoc. Prof., SIET	Faculty
7	Mr. Sohail Nizamuddin	Asst. Prof, SIET	Faculty


Dr. S. Sai Satyanaryana Reddy
B.E., M.E., Ph.D.
PRINCIPAL
SREYAS INSTITUTE OF ENGG. AND TECH.,
#9-39, Beside Indu Aranya, Bandlaguda,
Nagole, Thattianaram, Hyd-68.



Suggestions/Remedies/Any other points

Suggestions made by T. VIJAYA LAKSHMI, University Nominee and Dr. U. UMESH KUMAR,
Subject Expert

1. The committee members approved R-22 academic regulation for the B.Tech program.
2. Agreed with course structure of B.Tech Programs- Environmental Sciences.
3. After a detailed discussion on JNTUH's R-22 syllabus, it is decided to follow the same syllabus of Environmental Sciences with a few changes mentioned below.
4. Suggested to combine unit 1 and unit 2 and to make it a single unit.
5. Suggested to combine the topic of Global Environmental Issues in unit 4.
6. Suggested to focus on Green Building concept and the goals of sustainable development.



SREYAS INSTITUTE OF ENGINEERING AND TECHNOLOGY

Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad
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Department of Environmental Sciences

BoS – Members Attended on 20-10-2022

S.No	Name	Designation	Position	Signature
1	Mr. Md. Naseeruddin	HoD, H&S Department	Chairman	
2	Dr. T. VIJAYA LAKSHMI	Assoc.Prof., of CEN, IST, JNTUH	University Nominee	
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ENVIRONMENTAL SCIENCE

B.Tech. I Year I Sem.

L	T	P	C
3	0	0	0

Course Objectives:

- Understanding the importance of ecological balance for sustainable development.
- Understanding the impacts of developmental activities and mitigation measures.
- Understanding the environmental policies and regulations

Course Outcomes:

- Based on this course, the Engineering graduate will understand /evaluate / develop technologies on the basis of ecological principles and environmental regulations which in turn helps in sustainable development

UNIT - I

Ecosystems: Definition, Scope, and Importance of ecosystem. Classification, structure, and function of an ecosystem, Food chains, food webs, and ecological pyramids. Flow of energy, Biogeochemical cycles, Bioaccumulation, Biomagnification, ecosystem value, services and carrying capacity, Field visits.

UNIT - II

Natural Resources: Classification of Resources: Living and Non-Living resources, **water resources:** use and over utilization of surface and ground water, floods and droughts, Dams: benefits and problems. **Mineral resources:** use and exploitation, environmental effects of extracting and using mineral resources, **Land resources:** Forest resources, **Energy resources:** growing energy needs, renewable and non-renewable energy sources, use of alternate energy source, case studies.

UNIT - III

Biodiversity and Biotic Resources: Introduction, Definition, genetic, species and ecosystem diversity. Value of biodiversity; consumptive use, productive use, social, ethical, aesthetic and optional values. India as a mega diversity nation, Hot spots of biodiversity. Field visit. Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts; conservation of biodiversity: In-Situ and Ex-situ conservation. National Biodiversity act.

UNIT - IV

Environmental Pollution and Control Technologies: Environmental Pollution: Classification of pollution, **Air Pollution:** Primary and secondary pollutants, Automobile and Industrial pollution, Ambient air quality standards. **Water pollution:** Sources and types of pollution, drinking water quality standards. **Soil Pollution:** Sources and types, Impacts of modern agriculture, degradation of soil. **Noise Pollution:** Sources and Health hazards, standards, **Solid waste:** Municipal Solid Waste management, composition and characteristics of e-Waste and its management. **Pollution control technologies:** Wastewater Treatment methods: Primary, secondary and Tertiary. Overview of air pollution control technologies, Concepts of bioremediation. **Global Environmental Issues and Global Efforts:** Climate change and impacts on human environment. Ozone depletion and Ozone depleting substances (ODS). Deforestation and desertification. International conventions / Protocols: Earth summit, Kyoto protocol, and Montréal Protocol. NAPCC-Gol Initiatives.

UNIT - V

Environmental Policy, Legislation & EIA: Environmental Protection act, Legal aspects Air Act-1981, Water Act, Forest Act, Wild life Act, Municipal solid waste management and handling rules, biomedical waste management and handling rules, hazardous waste management and handling rules. EIA: EIA structure, methods of baseline data acquisition. Overview on Impacts of air, water,

DB

biological and Socio-economical aspects. Strategies for risk assessment, Concepts of Environmental Management Plan (EMP). **Towards Sustainable Future:** Concept of Sustainable Development Goals, Population and its explosion, Crazy Consumerism, Environmental Education, Urban Sprawl, Human health, Environmental Ethics, Concept of Green Building, Ecological Foot Print, Life Cycle assessment (LCA), Low carbon life style.

TEXT BOOKS:

- 1 Textbook of Environmental Studies for Undergraduate Courses by Erach Bharucha for University Grants Commission.
- 2 Environmental Studies by R. Rajagopalan, Oxford University Press.

REFERENCE BOOKS:

1. Environmental Science: towards a sustainable future by Richard T. Wright. 2008 PHI Learning Private Ltd. New Delhi.
2. Environmental Engineering and science by Gilbert M. Masters and Wendell P. Ela. 2008 PHI Learning Pvt. Ltd.
3. Environmental Science by Daniel B. Botkin & Edward A. Keller, Wiley INDIA edition.
4. Environmental Studies by Anubha Kaushik, 4th Edition, New age international publishers.
5. Text book of Environmental Science and Technology - Dr. M. Anji Reddy 2007, BS Publications.
6. Introduction to Environmental Science by Y. Anjaneyulu, BS. Publications.

