



D.N.R. COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)

Approved by AICTE, New Delhi & Permanently Affiliated to JNTUK, Kakinada
Accredited by NBA (B. Tech - CSE, ECE & EEE) & NAAC with A++ Grade
Balusumudi, Bhimavaram-2, West Godavari District, Andhra Pradesh
Ph: 08816 221238 Email: dncet@gmail.com website: <https://dncet.org>

DEPARTMENT OF CIVIL ENGINEERING

Date: 03-05-2025

To

The Head of the Department
Basic Sciences & Humanities (BS&H)
DNR CET (A)
Bhimavaram

Subject: Submission of Ratified Copy – Environmental Science-Civil BoS 2-Reg

Respected Sir

We wish to inform you that the Civil Engineering Department's Board of Studies (BOS) meeting was held on **04-04-2025**, and the proceedings have been duly ratified.

As part of the agenda, the subject "**Environmental Science**" for **II Year I Semester (2-1)** with the subject code **BT24BS2106** was also ratified.

In this regard, we wish to bring to your notice that the ratified syllabus copy has been submitted to you directly for your reference

Thank you for your cooperation and support.

Enclosures:

1. BOS Minutes of Meeting-(Page 1)
2. Syllabus Copy of Environmental science

Yours sincerely,

Head of the Department
Civil Engineering
DNR College of Engg. & Tech.
BHIMAVARAM-534 202.

Invitation to Second BoS Meeting – Civil Engineering Department, DNR CET (A) ,Bhimavaram



DNR CIVIL <dncet.civil@gmail.com>

to srpalivela, Bhadradi, M, PYCE, vijayakumarpeeram@gmail.com

The Department of Civil Engineering, DNR College of Studies (BOS) meeting to discuss the curriculum and ac

The meeting is set for April 4, 2025, from 10:00 AM to and valuable insights for this discussion.

Agenda:

1. Discuss the detailed syllabus for B.Tech (DR24) S
2. Discuss the Academic Regulations of the B.Tech
3. Discuss B.Tech eligibility criteria for Honors & M
4. Discuss the detailed syllabus for M.Tech (DR24)
5. Discuss the Academic Regulations of the M.Tech
6. Any other item with the permission of the chair.

We look forward to your participation and valuable contributions.

With Regards

Dr.B.V.Ramana Murthy

Head of the Department

Civil Engineering

DNR CET(A), Bhimavaram, West Godavari, Andhra Pradesh

Contact No: 0281040823

Apr 2, 2025, 8:33 PM



from: **DNR CIVIL** <dncet.civil@gmail.com>

to: srpalivela@jntucek.ac.in,
Bhadradi Raghuram Kadali <brkadali@nitw.ac.in>,
M Pavan Kumar <pavanidea@gmail.com>,
"Dr P V Surya Prakash Principal, PYCE , Kakinada"
<princengg@pydah.edu.in>,
"vijayakumarpeeram@gmail.com"
<vijayakumarpeeram@gmail.com>

date: Apr 2, 2025, 8:33 PM

subject: Invitation to Second BoS Meeting – Civil Engineering
Department, DNR CET (A) ,Bhimavaram

mailed-by: gmail.com

Second Board of
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Invitation to Second BoS Meeting – Civil Engineering Department, DNRCI ,Bhimavaram



DNR CIVIL <dnr cet.civil@gmail.com>

to srpalivela, Bhadradi, M, PYCE, vijayakumarpeeram@gmail.com

The Department of Civil Engineering, DNR College of Engineering & Technology (Autonomous), Bhimavaram Studies (BOS) meeting to discuss the curriculum and academic regulations for B.Tech and M.Tech programs for

The meeting is set for April 4, 2025, from 10:00 AM to 11:00 AM and will be conducted online (ZOOM). We s and valuable insights for this discussion.

Agenda:

1. Discuss the detailed syllabus for B.Tech (DR24) Second Year, First & Second Semesters.
2. Discuss the Academic Regulations of the B.Tech (DR24) Second Year.
3. Discuss B.Tech eligibility criteria for Honors & Minors.
4. Discuss the detailed syllabus for M.Tech (DR24) Second Year, First & Second Semesters.
5. Discuss the Academic Regulations of the M.Tech (DR24) Second Year.
6. Any other item with the permission of the chair.

We look forward to your participation and valuable contributions.

With Regards

Dr.B.V.Ramana Murthy

Head of the Department

Civil Engineering

DNRCET(A), Bhimavaram, West Godavari, Andhra Pradesh

Contact No: 9381949823



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DEPARTMENT OF CIVIL ENGINEERING





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B.Tech II Year I Semester - Civil Engineering

S.No.	Category	Title	Subject Code	L	T	P	Credits
1	BS	Numerical Techniques and Statistical Methods	BT24BS2101	3	0	0	3
2	HSMC	Universal human values – Understanding harmony and Ethical human conduct	BT24HS2101	2	1	0	3
3	Engineering Science	Surveying	BT24CE2101	3	0	0	3
4	Professional Core	Strength of Materials	BT24CE2102	3	0	0	3
5	Professional Core	Fluid Mechanics	BT24CE2103	3	0	0	3
6	Professional Core	Surveying Field work Lab	BT24CE2104	0	0	3	1.5
7	Professional Core	Strength of Materials Lab	BT24CE2105	0	0	3	1.5
8	Skill Enhancement Course	Building Planning and Drawing	BT24CE2106	0	1	2	2
9	Audit Course	Environmental Science	BT24BS2106	2	0	0	-
Total				16	2	8	20

B.Tech. II Year II Semester- Civil Engineering

S.No.	Category	Title	Subject Code	L	T	P	Credits
1	Management Course-I	Managerial Economics and Financial Analysis	BT24HS2201	2	0	0	2



Dr Pavan Kumar M

Principal PYCE Ka...

DR.P.VIJAYAKUM...

Raghuram



Dr Pavan Kumar M

Raghuram

Principal PYCE Ka...



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II Year I Semester

L	T	P	C
2	0	0	--

ENVIRONMENTAL SCIENCE

Course Objectives:

1. To make the students to get awareness on environment
2. To understand the importance of protecting natural resources, ecosystems for future generations and pollution causes due to the day-to-day activities of human life
3. To save earth from the inventions by the engineers.

Course Outcomes:

COs	Statements	Blooms
CO1	Grasp multi-disciplinary nature of environmental studies and various renewable and non-renewable resources.	12
CO2	Understand Ecosystems and biogeochemical cycles and ecological pyramids.	12
CO3	Understand various causes of pollution and solid waste management and	12



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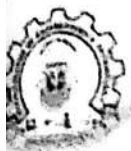
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DEPARTMENT OF CIVIL ENGINEERING

BOARD OF STUDIES MEMBERS

A.Y:2025-26

S.No.	Category	Name	Position	Signature
	Chairman	Dr.B.V.Ramana Murthy	Head of the Department Civil Engineering DNRCT(A),Bhimavaram-2	
	Expert Nominated by the Vice-Chancellor (University Nominee)	Dr.P.SubbaRao	Professor Dept. of Civil Engineering UCEK,JNTUK,Kakinada-533003, Andhra Pradesh	
	Subject Experts from outside Parent Universities	Dr.Bhadradi.Raghu Ram Kadali	Assistant Professor Gr-1 Dept.of Civil Engineering NIT Warangal	
		Dr.Surya Prakash	Professor & Principal Dept.of Civil Engineering Pydah College of Engineering Kakinada	
	Representative from the Industry Expert	Dr.M.Pavan Kumar	Head Designs Ignite contractors & engineers near carshed junction, Madhurawada Visakahpatnam-530048	
	College Alumni	Dr.P.VijayKumar	Corporate Chief Engineer Ramoji film City, Hyderabad, Telangana.	
	Faculty	Mr.K L A V Harnadh	Member Secretary, Civil Engineering Department DNRCT(A), Bhimavaram-2	
		Dr.M.L.Kumar	Assistant Professor, Civil Engineering Department DNRCT(A), Bhimavaram-2	
		Mr.P.Chakradhar prasad	Assistant Professor, Civil Engineering Department DNRCT(A), Bhimavaram-2	
		Mr.CH.Vinay Chandra sekhar	Assistant Professor, Civil Engineering Department	



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DEPARTMENT OF CIVIL ENGINEERING

		DNRCET(A), Bhimavaram-2	
	Mrs.V.S.Divya teja	Assistant Professor, Civil Engineering Department DNRCET(A), Bhimavaram-2	
	Mr.M.Venkata Krishna	Assistant Professor, Civil Engineering Department DNRCET(A), Bhimavaram-2	
	Mr.M.Yesuratnam	Assistant Professor, Civil Engineering Department DNRCET(A), Bhimavaram-2	
	Mr.P.V.V.Satya Kishore	Assistant Professor, Civil Engineering Department DNRCET(A), Bhimavaram-2	
	Mr.Md.Wasim Akram	Assistant Professor, Civil Engineering Department DNRCET(A), Bhimavaram-2	

Dr.B.V.Ramana Murthy
Head of the Department
& Chairman, BOS

Head of the Department
Civil Engineering
DNR College of Engg. & Tech.
BHIMAVARAM-534 202.



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DEPARTMENT OF CIVIL ENGINEERING

Second BOS Meeting (A.Y. 2025-26)

Venue: Board Room, DNRCT (A)

Date & Time: 04-04-2025 & 10.20 AM-12.20PM

Mode of conducting meeting: Zoom (online platform)

Meeting link:

<https://us06web.zoom.us/j/2664871556?pwd=pFKnG7HYNLabpf3yYPHq0tnDoHPNdj.1&omn=88569248416>

Agenda:

1. To Discuss the detailed syllabus for B.Tech (DR24) Second Year, First & Second Semesters.
2. To Discuss the Academic Regulations of the B.Tech (DR24) Second Year.
3. To Discuss B.Tech eligibility criteria for Honors & Minors.
4. To Discuss the detailed syllabus for M.Tech (DR24) Second Year, First & Second Semesters.
5. To Discuss the Academic Regulations of the M.Tech (DR24) Second Year.
6. Any other item with the permission of the chair.

Minutes of meeting with the following Resolutions

Dr.B.V.Ramana Murthy, Head of the Department & Chairman, BOS Civil Engineering, welcomed and introduced the eminent members of BOS Meeting. The chairman of BOS placed the agenda for the deliberation of the members. The BOS members expressed their appreciation for novel structure of curriculum and content of the course. The following deliberations were made as per the items of circular agenda.

1. Discussed the detailed syllabus for B.Tech (DR24) Second Year, First & Second Semesters

- i) The title of the subjects, along with their respective credits and categories, for the B.Tech Second Year - First and Second Semesters have been listed and the detailed syllabus of each subject have been discussed.
- ii) Some modifications have been suggested in the **Strength of Materials lab** (II year – I semester) and **Structural Analysis** course (II year – II semester)
- iii) **Environmental Science (Audit Course)**: The detailed syllabus of this course has been discussed for approval in the Civil Engineering Board of Studies (BoS) meeting.



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Electrical and electronic Engineering (DR24-IIInd Year Course Structure

B.Tech. – II Year I Semester

S.No	Category	Coursecode	Title	L	T	P	C
1	BS	BT24BS2102	Complex Variables & NumericalMethods	3	0	0	3
2	HSMC	BT24HS2101	Universal human values – understandingharmonyand Ethicalhuman conduct	2	1	0	3
3	EngineeringScience	BT24EE2101	ElectromagneticFieldTheory	3	0	0	3
4	ProfessionalCore	BT24EE2102	ElectricalCircuitAnalysis-II	3	0	0	3
5	ProfessionalCore	BT24EE2103	DCMachines&Transformers	3	0	0	3
6	ProfessionalCore	BT24EE2104	ElectricalCircuitAnalysis-II AndSimulationLab	0	0	3	1.5
7	ProfessionalCore	BT24EE2105	DCMachines&Transformers Lab	0	0	3	1.5
8	SkillEnhancement Course	BT24CS2106	DataStructures Lab	0	1	2	2
9	Audit Course	BT24BS2106	EnvironmentalScience	2	0	0	-
Total				15	2	10	20

B.Tech. - II Year II Semester

S.No	Category	Coursecode	Title	L	T	P	C
1	ManagementCourse-I	BT24HS2201	ManagerialEconomics& FinancialAnalysis	2	0	0	2
2	Engineering Science/BasicScience	BT24EC2207	AnalogCircuits	3	0	0	3
3	ProfessionalCore	BT24EE2201	PowerSystems-I	3	0	0	3
4	ProfessionalCore	BT24EE2202	Inductionand SynchronousMachines	3	0	0	3
5	ProfessionalCore	BT24EE2203	ControlSystems	3	0	0	3
6	ProfessionalCore	BT24EE2204	Induction andSynchronous Machines Lab	0	0	3	1.5
7	ProfessionalCore	BT24EE2205	ControlSystemsLab	0	0	3	1.5
8	SkillEnhancement course	BT24CS2207	PythonProgrammingLab	0	1	2	2
9	Engineering Science	BT24HS2203	DesignThinking &Innovation	1	0	2	2
Total				15	1	10	21



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Electronics and Communication Engineering (DR24-IIInd Year Course Structure)

B.Tech. – II Year I Semester

S.No	Course Code	Title	L	T	P	Credits
1	BT24BS2104	Probability theory and stochastic process	3	0	0	3
2	BT24HS2101	Universal Human Values– Understanding Harmony and Ethical Human Conduct	2	1	0	3
3	BT23EC2101	Signals and Systems	3	0	0	3
4	BT23EC2102	Electronic Devices and Circuits	3	0	0	3
5	BT23EC2103	Switching Theory and Logic Design	3	0	0	3
6	BT23EC2104	Electronic Devices and Circuits Lab	0	0	3	1.5
7	BT23EC2105	Switching Theory and Logic Design Lab	0	0	3	1.5
8	BT24CS2108	Data Structures using Python	0	1	2	2
9	BT24BS2106	Environmental Science	2	0	0	-
Total			16	2	08	20

B.Tech. - II Year II Semester

S.No	Course Code	Title	L	T	P	Credits
1	BT24HS2201	Managerial Economics and Financial Analysis	2	0	0	2
2	BT24EC2201	Linear Control Systems	3	0	0	3
3	BT24EC2202	Electromagnetic Waves and Transmission Lines	3	0	0	3
4	BT24EC2203	Electronic Circuit Analysis	3	0	0	3
5	BT24EC2204	Analog Communications	3	0	0	3
6	BT24EC2205	Signals and Systems Lab	0	0	3	1.5
7	BT24EC2206	Electronic Circuit Analysis lab	0	0	3	1.5
8	BT24BS2205	Soft Skills	0	1	2	2
9	BT24HS2203	Design Thinking & Innovation	1	0	2	2
Total			15	1	10	21
Mandatory Community Service Project Internship of 08weeks duration during summer Vacation						



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Mechanical Engineering (DR24-IIInd Year Course Structure) B.Tech II Year I Semester

S.No.	Category	Title	L	T	P	Credits
1	BT24BS2103	Numerical Methods and Transform Techniques	3	0	0	3
2	BT24HS2101	Universal Human Values– Understanding Harmony& Ethical Human Conduct	2	1	0	3
3	BT24ME2101	Thermodynamics	2	0	0	2
4	BT24ME2102	Mechanics of Solids	3	0	0	3
5	BT24ME2103	Material Science and Metallurgy	3	0	0	3
6	BT24ME2104	Mechanics of Solids and Materials Science Lab	0	0	3	1.5
7	BT24ME2105	Computer-aided Machine Drawing	0	0	3	1.5
8	BT24CS2107	Python programming Lab	0	0	2	1.0
9	BT24EC2106	Embedded Systems and IoT	0	1	2	2
10	BT24BS2106	Environmental Science	2	0	0	-
Total			15	2	10	20

B.Tech. II Year II Semester

S.No.	Category	Title	L	T	P	Credits
1	BT24ME2201	Industrial Management	2	0	0	2
2	BT24BS2201	Complex Variables, Probability and Statistics	3	0	0	3
3	BT24ME2202	Manufacturing processes	3	0	0	3
4	BT24ME2203	Fluid Mechanics & Hydraulic Machines	3	0	0	3
5	BT24ME2204	Theory of Machines	3	0	0	3
6	BT24ME2205	Fluid Mechanics & Hydraulic Machines Lab	0	0	3	1.5
7	BT24ME2206	Manufacturing processes Lab	0	0	3	1.5
8	BT24BS2205	Soft Skills	0	1	2	2
9	BT24ME2207	Design Thinking & Innovation	1	0	2	2
Total			15	1	10	21
Mandatory Community Service Project Internship of 08 weeks duration during summer Vacation						

B. Tech. IT (DR24 Regulation II Year COURSE STRUCTURE & SYLLABUS)

B. Tech.-II Year I Semester

S. No.	Course Code	Title	Category	L/D	T	P	Credits
1	BT24BS2105	Discrete Mathematics & Graph Theory	BS&H	3	0	0	3
2	BT24HS2101	Universal human values – understanding harmony and Ethical human conduct	BS&H	2	1	0	3
3	BT24EC2107	Digital Logic & Computer Organization	ES	3	0	0	3
4	BT24CS2101	Advanced Data Structures & Algorithm Analysis	PC	3	0	0	3
5	BT24CS2102	Object Oriented Programming Through Java	PC	3	0	0	3
6	BT24CS2103	Advanced Data Structures and Algorithm Analysis Lab	PC	0	0	3	1.5
7	BT24CS2104	Object Oriented Programming Through Java Lab	PC	0	0	3	1.5
8	BT24CS2105	Python Programming	PC	0	1	2	2
9	BT24BS2106	Environmental Science	MC	2	0	0	-
Total				16	2	8	20

B. Tech – II Year II Semester

S. No.	Course Code	Title	Category	L/D	T	P	Credits
1	BT24BS2204	Optimization Techniques	MC-I	2	0	0	2
2	BT24BS2202	Probability & Statistics	ES/BS	3	0	0	3
3	BT24CS2201	Operating Systems	PC	3	0	0	3
4	BT24CS2202	Database Management Systems	PC	3	0	0	3
5	BT24CS2203	Software Engineering	PC	3	0	0	3
6	BT24IT2201	Operating Systems & Software Engineering Lab	PC	0	0	3	1.5
7	BT24CS2205	Database Management Systems Lab	PC	0	0	3	1.5
8	BT24IT2202	Python with Django	SEC	0	1	2	2
9	BT24BS2203	Design Thinking & Innovation	BS&H	1	0	2	2
Total				15	1	10	21
10	Mandatory Community Service Project Internship of 08 weeks duration during summer vacation						

B. Tech. IT (DR24 Regulation II Year COURSE STRUCTURE & SYLLABUS)

B. Tech.-II Year I Semester

S. No.	Course Code	Title	Category	L/D	T	P	Credits
1	BT24BS2105	Discrete Mathematics & Graph Theory	BS&H	3	0	0	3
2	BT24HS2101	Universal human values – understanding harmony and Ethical human conduct	BS&H	2	1	0	3
3	BT24EC2107	Digital Logic & Computer Organization	ES	3	0	0	3
4	BT24CS2101	Advanced Data Structures & Algorithm Analysis	PC	3	0	0	3
5	BT24CS2102	Object Oriented Programming Through Java	PC	3	0	0	3
6	BT24CS2103	Advanced Data Structures and Algorithm Analysis Lab	PC	0	0	3	1.5
7	BT24CS2104	Object Oriented Programming Through Java Lab	PC	0	0	3	1.5
8	BT24CS2105	Python Programming	PC	0	1	2	2
9	BT24BS2106	Environmental Science	MC	2	0	0	-
Total				16	2	8	20

B. Tech – II Year II Semester

S. No.	Course Code	Title	Category	L/D	T	P	Credits
1	BT24BS2204	Optimization Techniques	MC-I	2	0	0	2
2	BT24BS2202	Probability & Statistics	ES/BS	3	0	0	3
3	BT24CS2201	Operating Systems	PC	3	0	0	3
4	BT24CS2202	Database Management Systems	PC	3	0	0	3
5	BT24CS2203	Software Engineering	PC	3	0	0	3
6	BT24IT2201	Operating Systems & Software Engineering Lab	PC	0	0	3	1.5
7	BT24CS2205	Database Management Systems Lab	PC	0	0	3	1.5
8	BT24IT2202	Python with Django	SEC	0	1	2	2
9	BT24BS2203	Design Thinking & Innovation	BS&H	1	0	2	2
Total				15	1	10	21
10	Mandatory Community Service Project Internship of 08 weeks duration during summer vacation						



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B.Tech. CSE (AIML) DR24 SUBJECT CODES

Tech.-II Year I Semester

S.No.	Course Code	Title	Category	L/D	T	P	Credits
1	BT24BS2105	Discrete Mathematics & Graph Theory	BS&H	3	0	0	3
2	BT24HS2101	Universal human values – understanding harmony and Ethical human conduct	BS&H	2	1	0	3
3	BT24ML2101	Artificial Intelligence	ES	3	0	0	3
4	BT24CS2101	Advanced Data Structures Algorithms Analysis	PC	3	0	0	3
5	BT24CS2102	Object Oriented Programming Through Java	PC	3	0	0	3
6	BT24CS2103	Advanced Data Structures And Algorithms Analysis Lab	PC	0	0	3	1.5
7	BT24CS2104	Object Oriented Programming Through Java Lab	PC	0	0	3	1.5
8	BT24CS2105	Python Programming Lab	SEC	0	1	2	2
9	BT24BS2106	Environmental Science	AC	2	0	0	-
Total				16	2	8	20

Tech.-II Year II Semester

S.No.	Course Code	Title	Category	L/D	T	P	Credits
1	BT24BS2204	Optimization Techniques	MC-I	2	0	0	2
2	BT24BS2202	Probability & Statistics	ES/BS	3	0	0	3
3	BT24ML2201	Machine Learning	PC	3	0	0	3
4	BT24CS2202	Database Management Systems	PC	3	0	0	3
5	BT24EC2208	Digital Logic & Computer Organization	PC	3	0	0	3
6	BT24ML2202	Machine Learning Lab	PC	0	0	3	1.5
7	BT24CS2205	Database Management Systems Lab	PC	0	0	3	1.5
8	BT24CS2206	Full Stack Development-I	SEC	0	1	2	2
9	BT24HS2203	Design Thinking & Innovation	BS&H	1	0	2	2
Total				15	1	10	21

10 Mandatory Community Service Project Internship of 08 weeks duration during summer vacation

ANNEXURE-II



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DEPARTMENT OF BASIC SCIENCES & HUMANITIES

Year/Semester	II.B.Tech-I Sem	L	T	P	C
Regulation Year	DR-24	2	0	0	-
Name of the Subject	Environmental science (BT24BS2106)				
Branch	Common For All Branches (CE, EEE, ME, ECE, CSE, IT, AIML, AIDS)				

Course Objectives:

- To make the students to get awareness on environment
- To understand the importance of protecting natural resources, ecosystems for future.
- To save earth from the inventions by the engineers.

Course Outcomes:

COs	STATEMENTS	Blooms Level
CO1	Grasp multidisciplinary nature of environmental studies and various renewable and non-renewable resources.	Remembered
CO2	Understand flow and bio-geo-chemical cycles and ecological pyramids.	Understand
CO3	Understand various causes of pollution and solid waste management and related preventive measures	Understand
CO4	Solid Waste Management: Causes, effects and control measures of urban and industrial Wastes.	Create
CO5	About the rainwater harvesting, watershed management, ozone layer depletion and waste land reclamation	Apply
CO6	Casus of population explosion, value education and welfare programmes	Analyze

UNIT – 1: Multidisciplinary Nature of Environmental Studies

Definition, Scope and Importance – Need for Public Awareness Natural Resources

:Renewable and non-renewable resources – Natural resources and associated problems – Forest resources – Use and over – exploitation, deforestation, case studies – Timber extraction – Mining, dams and other effects on forest and tribal people – Water resources – Use and over utilization of surface and ground water – Floods, drought, conflicts over water, dams – benefits and problems– Mineral resources :Use and exploitation, environmental effects of extracting and using mineral resources, case studies– Food resources :World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity ,case studies.–Energy resources:

UNIT – II: Ecosystems:

Concept to 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

ANNEXURE-II



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ecological pyramids-Introduction, types, characteristic features, structure and function of the following ecosystem:

- a) Forest ecosystem.
- b) Grassl and ecosystem
- c) Desert ecosystem
- d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

Biodiversity And Its Conservation: 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 - Biodiversity at global, National and local levels - India as a mega-diversity nation - 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.

UNIT - III: Environmental Pollution

Environmental Pollution: Definition, Cause, effects and control measures of:

- a) Air Pollution.
- b) Water pollution
- c) Soil pollution
- d) Marine pollution
- e) Noise pollution
- f) Thermal pollution
- g) Nuclear hazards

Solid Waste Management: Causes, effects and control measures of urban and industrial wastes - Role of an individual in prevention of pollution - Pollution case studies - Disaster management: floods, earth quake, cyclone and landslides.

UNIT - IV: Social Issues and the Environment

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 accident and holocaust. Case Studies - Wastel and

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reclamation. – Consumerism and waste products. – Environment Protection Act. – Air (Prevention and Control of Pollution) Act. – Water (Prevention and control of Pollution) Act – Wild life Protection Act – Forest Conservation Act – Issues involved in enforcement of environment legislation – Public awareness.

UNIT – V: Human Population And The Environment

Population growth, variation among nations. Population explosion – Family Welfare Programmes. – Environment and human health – Human Rights – Value Education – HIV/AIDS – Women and Child Welfare – Role of information Technology in Environment and human health – Case studies. Field Work: 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, and birds – river, hills slopes, etc..

Text Books:

- 1) Text book of Environmental Studies for Undergraduate Courses Erach Bharucha for University Grants Commission, Universities Press.
- 2) Palaniswamy, "Environmental Studies", Pearson education
- 3) S. Azeem Unnisa, "Environmental Studies" Academic Publishing Company
- 4) K. Raghavan Nambiar, "Text book of Environmental Studies for Undergraduate Courses as per UGC model syllabus", Scitech Publications (India), Pvt. Ltd.

Reference Books:

- Deeksha Dave and E. Sai Baba Reddy, "Text book of Environmental Science", Cengage Publications.
M. Anji Reddy, "Text book of Environmental Sciences and Technology", BSPublication.
J. P. Sharma, Comprehensive Environmental studies, Laxmi publication
J. Glynn Henry and Gary W. Heinke, "Environmental Sciences and Engineering", Prentice Hall of India Private limited
G. R. Chatwal, "A Text Book of Environmental Studies" Himalaya Publishing House
Gilbert M. Masters and Wendell P. Ela, "Introduction to Environmental Engineering and Science, Prentice Hall of India Private limited