



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CIVIL ENGINEERING

COURSE STRUCTURE AND SYLLABUS

For UG – R20

B. TECH - CIVIL ENGINEERING

(Applicable for batches admitted from 2020-2021)



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

KAKINADA - 533 003, Andhra Pradesh, India

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SRK INSTITUTE OF TECHNOLOGY
ENKEPADU, VIJAYAWADA-521 108.



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India
DEPARTMENT OF CIVIL ENGINEERING

COURSE STRUCTURE

I Year – I SEMESTER

S. No	CourseCode	Subjects	L	T	P	Credits
1	BSC1101	Mathematics – I (Calculus & Differential Equations)	3	0	0	3
2	HSMC1101	Communicative English	3	0	0	3
3	BSC1102	Engineering Physics	3	0	0	3
4	ESC1101	Engineering Drawing	1	0	4	3
5	ESC1102	Engineering Geology (Integrated) (Theory & Lab)	2	0	2	3
6	HSMC1102	English Communication Skills Laboratory	0	0	3	1.5
7	BSC1103	Engineering Physics Lab	0	0	3	1.5
8	ESC1103	Basics of Civil Engg. Work Shop (Lab)	0	0	3	1.5
Total Credits			19.5			

I Year – II SEMESTER

S. No	Course Code	Subjects	L	T	P	Credits
1	BSC1201	Mathematics – II (Linear Algebra & Numerical Methods)	3	0	0	3
2	BSC1202	Engineering Chemistry	3	0	0	3
3	ESC1201	Engineering Mechanics	3	0	0	3
4	ESC1202	Programming for Problem Solving Using C	3	0	0	3
5	ESC1203	Building Materials and Concrete Technology	3	0	0	3
6	BSC1203	Engineering Chemistry Lab	0	0	3	1.5
7	ESC1204	Programming for problem Solving Using C Lab	0	0	3	1.5
8	ESC1205	Building Planning and Computer Aided Building Drawing	0	0	3	1.5
9	MC1201	Environmental Science (M. C)	2	0	0	0
Total Credits			19.5			

*Breakup of credits for Engineering Graphics/Engineering Workshop shall be 1-0-4 (as per AICTE model curriculum)

Universities/Institutions may swap a few courses between 1st and 2nd semesters to balance the workload of teaching and laboratory schedule.



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DEPARTMENT OF CIVIL ENGINEERING

I Year - II Semester	L	T	P	C
	2	0	0	0
ENVIRONMENTAL SCIENCE (MC1201)				

Learning Objectives:

The objectives of the course are to impart:

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- An understanding of the environmental impact of developmental activities.
- Awareness on the social issues, environmental legislation and global treaties.

UNIT-I:

Multidisciplinary nature of Environmental Studies: Definition, Scope and Importance – Sustainability: Stockholm and Rio Summit–Global Environmental Challenges: Global warming and climate change, acid rains, ozone layer depletion, population growth and explosion, effects; Role of information technology in environment and human health.

Ecosystems: 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, characteristic features, structure and function of Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems.

UNIT-II:

Natural Resources: Natural resources and associated problems.

Forest resources: Use and over – exploitation, deforestation – 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.

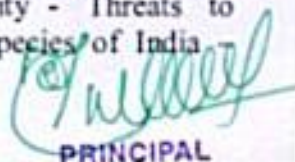
Food resources: World food problems, changes caused by non-agriculture activities-effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity.

Energy resources: Growing energy needs, renewable and non-renewable energy sources use of alternate energy sources.

Land resources: Land as a resource, land degradation, Wasteland reclamation, man induced landslides, soil erosion and desertification; Role of an individual in conservation of natural resources; Equitable use of resources for sustainable lifestyles.

UNIT-III:

Biodiversity and its conservation: Definition: genetic, species and ecosystem diversity-classification - Value of biodiversity: consumptive use, productive use, social-Biodiversity at national and local levels. India as a mega-diversity nation - Hot-spots of biodiversity - Threats to biodiversity: habitat loss, man-wildlife conflicts. - Endangered and endemic species of India - Conservation of biodiversity: conservation of biodiversity.


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DEPARTMENT OF CIVIL ENGINEERING

I Year - II Semester	L	T	P	C
	2	0	0	0
ENVIRONMENTAL SCIENCE (MC1201)				

Learning Objectives:

The objectives of the course are to impart:

- Overall understanding of the natural resources.
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DEPARTMENT OF CIVIL ENGINEERING

UNIT-IV:

Environmental Pollution: Definition, Cause, effects and control measures of Air pollution, Water pollution, Soil pollution, Noise pollution, Nuclear hazards. Role of an individual in prevention of pollution. - Pollution case studies, Sustainable Life Studies. Impact of Fire Crackers on Men and his well being.

Solid Waste Management: Sources, Classification, effects and control measures of urban and industrial solid wastes. Consumerism and waste products, Biomedical, Hazardous and e – waste management.

UNIT-V:

Social Issues and the Environment: Urban problems related to energy -Water conservation, rain water harvesting - Resettlement and rehabilitation of people; its problems and concerns. Environmental ethics: Issues and possible solutions. Environmental Protection Act -Air (Prevention and Control of Pollution) Act. -Water (Prevention and control of Pollution) Act -Wildlife Protection Act -Forest Conservation Act-Issues involved in enforcement of environmental legislation. -Public awareness.

Environmental Management: Impact Assessment and its significance various stages of EIA, preparation of EMP and EIS, Environmental audit. Ecotourism, Green Campus – Green business and Green politics.

The student should Visit an Industry / Ecosystem and submit a report individually on any issues related to Environmental Studies course and make a power point presentation.

Text Books:

1. Environmental Studies, K. V. S. G. Murali Krishna, VGS Publishers, Vijayawada
2. Environmental Studies, R. Rajagopalan, 2nd Edition, 2011, Oxford University Press.
3. Environmental Studies, P. N. Palanisamy, P. Manikandan, A. Geetha, and K. Manjula Rani; Pearson Education, Chennai

Reference:

1. Text Book of Environmental Studies, Deeshita Dave & P. UdayaBhaskar, Cengage Learning.
2. A Textbook of Environmental Studies, Shaashi Chawla, TMH, New Delhi
3. Environmental Studies, Benny Joseph, Tata McGraw Hill Co, New Delhi
4. Perspectives in Environment Studies, Anubha Kaushik, C P Kaushik, New Age International Publishers, 2014

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Department of Science and Humanities
CLASS TIME TABLE



SRKIT / S&H / 10.1

Academic Year: 2022-23

Class: CE

Semester: II

w.e.f: 27-02-2023

Section I

Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25-01:15	01:15-02:00	2:00-2:45	2:45-3:30	03:30-04:15
Period	1	2	3	BREAK	4	5	LUNCH	6	7	8
MON	M-II	ES	PPSC		EC(T)			BPCABD LAB		
TUE	SS	M-II	BMCT		EM(T)			EC LAB		
WED	PPSC LAB				BMCT	EC		M-II	PPSC(T)	
THU	M-II	EC	SS		BMCT(T)			M-II	EM	PPSC
FRI	EM	EC	CP		BMCT	ES		M-II(T)		SPORTS
SAT	EM	SS	M-II		PPSC	ES		BMCT	EM	EC

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-II (R201201)	Mr.B.V.Rama Krishnarao
2	Engineering Chemistry (R201202)	Dr. B.Sowjanya
3	Engineering Mechanics (R201203)	Ms.P.Bhagya Lakshmi
4	Programming for Problem Solving Using C (R201204)	Mr. B. Purna Chandra
5	Building Materials and Concrete Technology (R201205)	Dr.T.V.Satyunnarayana
6	Environmental Science (R201228)	Ms.G.K.Deepthi
7	Chemistry Laboratory (R201231)	Dr. B.Sowjanya / Dr.T.V.Nagalakshmi
8	Programming Engineering for problem Solving Using C Laboratory(R201232)	Ms.T.Vijaya Sree
9	Building Planning and Computer Aided Building Drawing(R201252)	Ms. E. Usha Sree
10	Soft Skills	Ms. Farzeena Khanum

Hot 27/2/23

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA-533003, Andhra Pradesh, India
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE STRUCTURE AND SYLLABUS

For

B.TECH – ELECTRICAL AND ELECTRONICS ENGINEERING

(Applicable for batches admitted from 2020-2021)



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

III B.Tech – I Semester

Sl. No	Course Components	Subjects	L	T	P	Credits
1	PCC	Power Systems-II	3	0	0	3
2	PCC	Power Electronics	3	0	0	3
3	PCC	Control Systems	3	0	0	3
4	OEC	Open Elective- I/ Job Oriented Elective-I	3	0	0	3
5	PEC	Professional Elective - I	3	0	0	3
6	PCC	Control Systems Lab	0	0	3	1.5
7	PCC	Power Electronics Lab	0	0	3	1.5
8	SC	Soft Skill Course:Employability Skills	2	0	0	2
9	MC	Environmental Science	2	0	0	0
10	PROJ	Summer Internship 2 Months (Mandatory) after second year (to be evaluated during V semester)	0	0	0	1.5
Total Credits			21.5			
		Minors Course*	4	0	0	4
		Honors Course*	4	0	0	4

III B.Tech – II Semester

Sl. No	Course Components	Subjects	L	T	P	Credits
1	PCC	Microprocessors and Microcontrollers	3	0	0	3
2	PCC	Electrical Measurements and Instrumentation	3	0	0	3
3	PCC	Power System Analysis	3	0	0	3
4	PEC	Professional Elective - II	3	0	0	3
5	OEC	Open Elective –II/ Job Oriented Elective-II	3	0	0	3
6	PCC	Electrical Measurements and Instrumentation Lab	0	0	3	1.5
7	PCC	Microprocessors and Microcontrollers Lab	0	0	3	1.5
8	PCC	Power Systems and Simulation Lab	0	0	3	1.5
9	SC	Skill Advanced Course: Machine Learning with Python	2	0	0	2
10	MC	Research Methodology	2	0	0	0
Total Credits			21.5			
		Minors Course*	4	0	0	4
		Honors Course*	4	0	0	4

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

II B.Tech – I Semester

Sl. No	Course Components	Subjects	L	T	P	Credits
1	BSC	Mathematics-IV	3	0	0	3
2	PCC	Electronic Devices and Circuits	3	0	0	3
3	PCC	Electrical Circuit Analysis -II	3	0	0	3
4	PCC	DC Machines and Transformers	3	0	0	3
5	PCC	Electro Magnetic Fields	3	0	0	3
6	PCC	Electrical Circuits Lab	0	0	3	1.5
7	PCC	DC Machines and Transformers Lab	0	0	3	1.5
8	PCC	Electronic Devices and Circuits lab	0	0	3	1.5
9	SC	Skill oriented course - Design of Electrical Circuits using Engineering Software Tools	0	0	4	2
10	MC	Professional Ethics & Human Values	2	0	0	0
Total Credits			21.5			

II B.Tech – II Semester

Sl. No	Course Components	Subjects	L	T	P	Credits
1	ESC	Python Programming	3	0	0	3
2	PCC	Digital Electronics	3	0	0	3
3	PCC	Power System-I	3	0	0	3
4	PCC	Induction and Synchronous Machines	3	0	0	3
5	HSMC	Managerial Economics & Financial Analysis	3	0	0	3
6	ESC	Python Programming Lab	0	0	3	1.5
7	PCC	Induction and Synchronous Machines Lab	0	0	3	1.5
8	PCC	Digital Electronics Lab	0	0	3	1.5
9	SC	Skill oriented course- IoT Applications of Electrical Engineering Lab	0	0	4	2
Total Credits			21.5			
		Minors Course*	4	0	0	4
		Honors Course*	4	0	0	4

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

III Year -I SEMESTER		L	T	P	C
		2	0	0	0
ENVIRONMENTAL SCIENCE					

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UNIT I

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UNIT III

Biodiversity and its conservation: Definition: genetic, species and ecosystem diversity- classification -

Value of biodiversity: consumptive use, productive use, social-Biodiversity at national and local levels.

India as a mega-diversity nation - Hot-spots of biodiversity - Threats to biodiversity: habitat loss, man-wildlife conflicts. - Endangered and endemic species of India – Conservation of biodiversity:

conservation of biodiversity.

UNIT IV

Environmental Pollution: Definition, Cause, effects and control measures of Air pollution, Water pollution, Soil pollution, Noise pollution, Nuclear hazards. Role of an individual in prevention of

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Solid Waste Management: Sources, Classification, effects and control measures of urban and industrial solid wastes. Consumerism and waste products, Biomedical, Hazardous and e - waste management.

UNIT V

Social Issues and the Environment: Urban problems related to energy -Water conservation, rain water harvesting-Resettlement and rehabilitation of people; its problems and concerns. Environmental ethics: Issues and possible solutions. Environmental Protection Act -Air (Prevention and Control of Pollution) Act. -Water (Prevention and control of Pollution) Act - Wildlife Protection Act -Forest Conservation Act-Issues involved in enforcement of environmental legislation. -Public awareness. Environmental Management: Impact Assessment and its significance various stages of EIA, preparation of EMP and EIS, Environmental audit. Ecotourism, Green Campus - Green business and Green politics.

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2. A Textbook of Environmental Studies, Shaashi Chawla, TMH, New Delhi
3. Environmental Studies, Benny Joseph, Tata McGraw Hill Co, New Delhi
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

II Year I Semester	L	T	P	C
	2	0	0	0
PROFESSIONAL ETHICS & HUMAN VALUES				

Preamble:

This course is a mandatory course introduced to impart the Ethics and Human Values to the students in engineering education.

Course Objectives:

- To create an awareness on Engineering Ethics and Human Values.
- To instill Moral and Social Values and Loyalty
- To appreciate the rights of others
- To create awareness on assessment of safety and risk

UNIT -I**Human Values:**

Morals, Values and Ethics-Integrity-Work Ethic-Service learning - Civic Virtue - Respect for others -Living Peacefully -Caring -Sharing -Honesty -Courage-Cooperation-Commitment -Empathy -Self Confidence Character -Spirituality.

Learning outcomes:

1. Learn about morals, values & work ethics.
2. Learn to respect others and develop civic virtue.
3. Develop commitment
4. Learn how to live peacefully

UNIT -II**Engineering Ethics:**

Senses of 'Engineering Ethics-Variety of moral issued -Types of inquiry -Moral dilemmas -Moral autonomy -Kohlberg's theory-Gilligan's Theory-Consensus and controversy -Models of professional roles-Theories about right action-Self-interest -Customs and religion -Uses of Ethical theories -Valuing time -Cooperation -Commitment.

Learning outcomes:

1. Learn about the ethical responsibilities of the engineers.
2. Create awareness about the customs and religions.
3. Learn time management
4. Learn about the different professional roles.

UNIT -III**Engineering as Social Experimentation:**

Engineering As Social Experimentation -Framing the problem -Determining the facts -Codes of Ethics -Clarifying Concepts -Application issues -Common Ground -General Principles -Utilitarian thinking respect for persons.

Learning outcomes:

1. Demonstrate knowledge to become a social experimenter.
2. Provide depth knowledge on framing of the problem and determining the facts.
3. Provide depth knowledge on codes of ethics.
4. Develop utilitarian thinking

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UNIT -IV**Engineers Responsibility for Safety and Risk:**

Safety and risk –Assessment of safety and risk –Risk benefit analysis and reducing risk-
 Safety and the Engineer-Designing for the safety-Intellectual Property rights (IPR).

Learning outcomes:

1. Create awareness about safety, risk & risk benefit analysis.
2. Engineer's design practices for providing safety.
3. Provide knowledge on intellectual property rights.

UNIT- V**Global Issues:**

Globalization –Cross-culture issues-Environmental Ethics –Computer Ethics –Computers as the instrument of Unethical behavior –Computers as the object of Unethical acts – Autonomous Computers-Computer codes of Ethics –Weapons Development -Ethics and Research –Analyzing Ethical Problems in research.

Learning outcomes:

1. Develop knowledge about global issues.
2. Create awareness on computer and environmental ethics
3. Analyze ethical problems in research.
4. Give a picture on weapons development.

Course outcomes:

Students will be able to:

- Identify and analyze an ethical issue in the subject matter under investigation or in a relevant field
- Identify the multiple ethical interests at stake in a real-world situation or practice
- Articulate what makes a particular course of action ethically defensible
- Assess their own ethical values and the social context of problems
- Identify ethical concerns in research and intellectual contexts, including academic integrity, use and citation of sources, the objective presentation of data, and the treatment of human subjects
- Demonstrate knowledge of ethical values in non-classroom activities, such as service learning, internships, and field work
- Integrate, synthesize, and apply knowledge of ethical dilemmas and resolutions in academic settings, including focused and interdisciplinary research.

Text Books:

- 1) "Engineering Ethics includes Human Values" by M.Govindarajan, S.Natarajan and, V.S.Senthil Kumar-PHI Learning Pvt. Ltd-2009
- 2) "Engineering Ethics" by Harris, Pritchard and Rabins, CENGAGE Learning, India Edition, 2009.
- 3) "Ethics in Engineering" by Mike W. Martin and Roland Schinzinger –Tata McGraw-Hill-2003.
- 4) "Professional Ethics and Morals" by Prof.A.R.Aryasri, DharanikotaSuyodhana-Maruthi Publications.
- 5) "Professional Ethics and Human Values" by A.Alavudeen, R.KalilRahman and M. Jayakumaran, Laxmi Publications.
- 6) "Professional Ethics and Human Values" by Prof.D.R.Kiran-"Indian Culture, Values and Professional Ethics" by PSR Murthy-BS Publication


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 Enikepadu, Vijayawada 521108
 Department of Electrical and Electronics
 Engineering

SRKIT / EEE / 10.1

CLASS TIME TABLE

Academic Year: 2022-23

Class: III/IV B.TECH EEE

Semester: I

Time Table w.e.f : (01/08/2022)

Time	9:00 to 9:50	9:50 to 10:40	10:45 to 11:35	11:35 to 12:25	L U N C H	1:10 to 2:00	2:00 to 2:45	2:50 to 3:35	3:35 to 4:20
Period	1	2	3	4		5	6	7	8
MON	PE	CS	JAVA	UEE		PS-II(T)	←-----CS / PE Lab-----→		
TUE	UEE	PE	ES	CS		JAVA(T)	PS-II	Employ Skills	Counseling
WED	PS-II	JAVA	PE	Employ Skills		UEE(T)	ES	CS	Sports
THU	JAVA	ES	UEE	PE(T)		PS-II	←-----PE / CS Lab-----→		
FRI	CS	UEE	Employ Skills	JAVA		PE	CS(T)	ES	PS-II
SAT	UEE	CS	Employ Skills	PS-II		JAVA	PE	Library	

Faculty:

- Power Systems-II : Mr. N. E.Keerthi Chandra
- Oops through JAVA : Mr.K.Satyanarana
- Power Electronics : Mr. S.Nageswara Rao
- Utilization of Electrical Engineering : Ms. T. Maha Lakshmi
- Control Systems : Mr. K. Narendra Babu
- Employability Skills : Mr.V.Yellamanda
- Environmental Science : Dr.N.Sridevi
- Control Systems Lab : Mr. K.Satyanarayana /Mr.T.Venkateswara Rao
- Power Electronics Lab : Mr. S.Nageswara Rao /Ms. T. Maha Lakshmi


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HoD/ Date 28/7/22

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 Engineering

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CLASS TIME TABLE

Academic Year: 2022-23

Class: II/IV B.TECH EEE

Semester: I

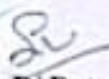
Time Table w.e.f : (05/09/2022)

Time	9:00 to 9:50	9:50 to 10:40	10:45 to 11:35	11: 35 to 12:25	L U N C H	1:10 to 2:00	2:00 to 2:45	2:50 to 3:35	3:35 to 4:20
Period	1	2	3	4		5	6	7	8
MON	ECA-II	EMF	DCMT	M-IV		DCMT	EDC	M-IV(T)	Library
TUE	←-----DCMT/DEC lab-----→			PEHV		EMF(T)	EDC	ECA-II	M-IV
WED	DCMT(T)	EMF	M-IV	ECA-II		EDC	←-----DEC/DCMT lab-----→		
THU	DCMT	EMF	ECA-II	EDC		M-IV	EDC(T)	PEHV	Sports
FRI	M-IV	ECA-II(T)	DCMT	EDC		EMF	←-----EC/EDC lab-----→		
SAT	←-----EDC/EC lab-----→			DCMT		EMF	Counseling	ECA-II	PEHV

Faculty:

DC Machines & Transformers	: Mr. S.Nageswara Rao
Electrical Circuit Analysis-II	: Mr. K.Satyanarayana
Electromagnetic Fields	: Ms.B.Indraja
Electronic Devices & Circuits	: Mr.B.Ravi
Mathematics-IV	: Ms. V.Prasanthi
Professional Ethics & Human Values	:Ms T.Sowjanya
DEC Lab	: Mr. K.Satyanarayana /Ms.B.Indraja
DC Machines & Transformers Lab	: Mr. K.Narendra Babu / Mr N. E.Keerthi Chandra
Electronic Devices & Circuits Lab	: Mr.B.Ravi
Electrical Circuits Lab	: Mr. S.Nageswara Rao /Ms. T. Maha Lakshmi


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 HoD/ Date 11/9/22



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE STRUCTURE AND SYLLABUS

For

B. TECH ELECTRICAL AND ELECTRONICS ENGINEERING

(Applicable for batches admitted from 2020-2021)



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

KAKINADA - 533 003, Andhra Pradesh, India

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SRK INSTITUTE OF TECHNOLOGY
ENIKEPADU, VIJAYAWADA-521 105.



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA-533003, Andhra Pradesh, India
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

I B.Tech – I SEMESTER

Sl. No	Course Components	Subjects	L	T	P	Credits
1	HSMC	Communicative English	3	0	0	3
2	BSC	Mathematics-I (Calculus and Differential Equations)	3	0	0	3
3	BSC	Mathematics-II (Linear Algebra and Numerical Methods)	3	0	0	3
4	ESC	Programming for Problem Solving Using C	3	0	0	3
5	ESC	Engineering Drawing & Design	1	0	4	3
6	HSMC	English Communication Skills Laboratory	0	0	3	1.5
7	BSC	Electrical Engineering Workshop	0	1	3	1.5
8	ESC	Programming for Problem Solving Using C Lab	0	0	3	1.5
Total Credits						19.5

I B.Tech – II SEMESTER

Sl. No	Course Components	Subjects	L	T	P	Credits
1	BSC	Mathematics-III (Vector Calculus, Transforms and PDE)	3	0	0	3
2	BSC	Applied Physics	3	0	0	3
3	ESC	Data Structures Through C	3	0	0	3
4	ESC	Electrical Circuit Analysis-I	3	0	0	3
5	ESC	Basic Civil and Mechanical Engineering	3	0	0	3
6	BSC	Applied Physics Lab	0	0	3	1.5
7	ESC	Basic Civil and Mechanical Engineering Lab	0	0	3	1.5
8	ESC	Data Structures through C Lab	0	0	3	1.5
9	Mandatory Course	Constitution of India	2	0	0	0
Total Credits						19.5

(Signature)



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

I Year II Semester	L	T	P	C
	2	0	0	0
CONSTITUTION OF INDIA				

Preamble:**Course Objectives:**

- To Enable the student to understand the importance of constitution
- To understand the structure of executive, legislature and judiciary
- To understand philosophy of fundamental rights and duties
- To understand the autonomous nature of constitutional bodies like Supreme Court and high court controller and auditor general of India and election commission of India.
- To understand the central and state relation financial and administrative.

UNIT-I

Introduction to Indian Constitution: Constitution meaning of the term, Indian Constitution - Sources and constitutional history, Features - Citizenship, Preamble, Fundamental Rights and Duties, Directive Principles of State Policy.

Learning outcomes:

After completion of this unit student will

- Understand the concept of Indian constitution
- Apply the knowledge on directive principle of state policy
- Analyze the History, features of Indian constitution
- Evaluate Preamble Fundamental Rights and Duties

UNIT-II

Union Government and its Administration Structure of the Indian Union: Federalism, Centre-State relationship, President: Role, power and position, PM and Council of ministers, Cabinet and Central Secretariat, Lok Sabha, Rajya Sabha, The Supreme Court and High Court: Powers and Functions;

Learning outcomes: -After completion of this unit student will

- Understand the structure of Indian government
- Differentiate between the state and central government
- Explain the role of President and Prime Minister
- Know the Structure of supreme court and High court

UNIT-III

State Government and its Administration Governor - Role and Position - CM and Council of ministers, State Secretariat: Organization, Structure and Functions

Learning outcomes: -After completion of this unit student will

- Understand the structure of state government
- Analyze the role Governor and Chief Minister
- Explain the role of state Secretariat
- Differentiate between structure and functions of state secretariat



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

UNIT-IV

A. Local Administration - District's Administration Head - Role and Importance, Municipalities - Mayor and role of Elected Representative - CEO of Municipal Corporation Pachayati Raj: Functions PRI: Zila Panchayat, Elected officials and their roles, CEO Zila Panchayat: Block level Organizational Hierarchy - (Different departments), Village level - Role of Elected and Appointed officials - Importance of grass root democracy

Learning outcomes: -After completion of this unit student will

- Understand the local Administration
- Compare and contrast district administration role and importance
- Analyze the role of Myer and elected representatives of Municipalities
- Evaluate Zilla panchayat block level organization

UNIT-V

Election Commission: Election Commission- Role of Chief Election Commissioner and Election Commissionerate State Election Commission, Functions of Commissions for the welfare of SC/ST/OBC and women

Learning outcomes: -After completion of this unit student will

- Know the role of Election Commission apply knowledge
- Contrast and compare the role of Chief Election commissioner and Commissionerate
- Analyze role of state election commission
- Evaluate various commissions of viz SC/ST/OBC and women

References:

1. Durga Das Basu, Introduction to the Constitution of India, 12th edition Prentice – Hall of India Pvt. Ltd. New Delhi 2011.
2. Subash Kashyap, Indian Constitution, 2nd edition, National Book Trust, 2011.
3. J.A. Siwach, Dynamics of Indian Government & Politics, 2nd edition, Sterling Pub Private Ltd., 1990.
4. D.C. Gupta, Indian Government and Politics, 8th edition, Vikas Publishing House Pvt Ltd., 2015.
5. H.M.Sreevai, Constitutional Law of India, 4th edition in 3 volumes (Universal Law Publication), 2015.
6. J.C. Johari, Indian Government and Politics Hans, 13th edition, Shoban Lal & Co. 2012.
7. J. Raj Indian Government and Politics, 1st edition, SAGE Texts Publication, 2008.
8. M.V. Pylee, Indian Constitution Durga Das Basu, Human Rights in Constitutional Law, 3rd edition, Lexis Nexis Publications, 2008.
9. Noorani, A.G., (South Asia Human Rights Documentation Centre), Challenges to Civil Right), Challenges to Civil Rights Guarantees in India, Oxford University Press 2012

E-resources:

1. nptel.ac.in/courses/109104074/8
2. nptel.ac.in/courses/109104045/
3. nptel.ac.in/courses/101104065/
4. www.hss.iitb.ac.in/en/lecture-details
5. www.iitb.ac.in/en/event/2nd-lecture-institute-lecture-series-indian-constitution



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KAKINADA – 533 003, Andhra Pradesh, India
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Course Outcomes:

At the end of the semester/course, the student will be able to have a clear knowledge on the following:

- Understand historical background of the constitution making and its importance for building a democratic India.
- Understand the functioning of three wings of the government i.e., executive, legislative and judiciary.
- Understand the value of the fundamental rights and duties for becoming good citizen of India.
- Analyze the decentralization of power between central, state and local self-government.
- Apply the knowledge in strengthening of the constitutional institutions like CAG, Election Commission and UPSC for sustaining democracy.
 1. Know the sources, features and principles of Indian Constitution.
 2. Learn about Union Government, State government and its administration.
 3. Get acquainted with Local administration and Pachayati Raj.
 4. Be aware of basic concepts and developments of Human Rights.
 5. Gain knowledge on roles and functioning of Election Commission

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Department of Science and Humanities
CLASS TIME TABLE



SRKIT / S&H / 10.1

Academic Year: 2022-23

Class: EEE

Semester: II

w.e.f: 27-02-2023

Section I											
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25 - 01:15	01:15 - 02:00	2:00-2:45	2:45-3:30	03:30-04:15	
Period	1	2	3	BREAK	4	5	LUNCH	6	7	8	
MON	BCME	COI	M-III		M-III	BCM E(T)		AP LAB			
TUE	SS	DS	BCME		ECA-I(T)			M-III	AP	DS(T)	
WED	DS LAB				BCME	AP		M-III(T)		ECA-I	
THU	DS	ECA-I	SS		BMEC	DS		M-III	AP(T)		
FRI	AP	DS	M-III		DS	COI		BCME LAB			
SAT	M-III	SS	ECA-I		AP	COI		ECA-I	SPORTS	BMEC	

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-III (R201206)	Ms.N.Gayathri Devi
2	Applied Physics (R201207)	Dr.J.Ashok
3	Electrical Circuit Analysis-I (R201209)	Ms. M. Naga Jayasree
4	Constitution of India (R201229)	Ms.V.Navatha
5	Data Structure Through C	Ms.T.Vijaya Sree
6	Basic Civil And Mechanical Engineering	Mr. Ch.Rajesh / Mr. R. Kiran Kumar
7	Applied Physics Laboratory (R201233)	Dr.J.Ashok / Ms.M.V.Elizabeth
8	Basic Civil And Mechanical Engineering Lab(R201232)	Mr. P. Tarun / Mr. Ch. Rajesh
9	Data Structure Through C Lab(R201252)	Ms.T.Vijaya Sree
10	Soft Skills	Ms. Farzeena Khanum

HOD
27/2/23


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India
DEPARTMENT OF MECHANICAL ENGINEERING

COURSE STRUCTURE

For UG - R20

B. TECH - MECHANICAL ENGINEERING

(Applicable for batches admitted from 2020-2021)



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DEPARTMENT OF MECHANICAL ENGINEERING

II YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	BSC-5	Vector Calculus, Fourier Transforms and PDE(M-III)	3	0	0	3
2	PCC-1	Mechanics of Solids	3	0	0	3
3	PCC-2	Fluid Mechanics & Hydraulic Machines	3	0	0	3
4	PCC-3	Production Technology	3	0	0	3
5	PCC-4	Kinematics of Machinery	3	0	0	3
6	PCC-L1	Computer Aided Engineering Drawing Practice	0	0	3	1.5
7	PCC-L2	Fluid Mechanics & Hydraulic Machines Lab	0	0	3	1.5
8	PCC-L3	Production Technology Lab	0	0	3	1.5
9	SOC-1	Drafting and Modeling Lab	0	0	4	2
10	MC-3	Essence of Indian Traditional Knowledge	2	0	0	0
Total Credits						21.5

II YEAR II SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	ESC-6	Material Science & Metallurgy	3	0	0	3
2	BSC-6	Complex Variables and Statistical Methods	3	0	0	3
3	PCC-5	Dynamics of Machinery	3	0	0	3
4	PCC-6	Thermal Engineering-I	3	0	0	3
5	HSC-2	Industrial Engineering and Management	3	0	0	3
6	ESC-L4	Mechanics of Solids and Metallurgy Lab	0	0	3	1.5
7	PCC-L6	Machine Drawing Practice	0	0	3	1.5
8	PCC-L7	Theory of Machines Lab	0	0	3	1.5
9	SOC-2	Python Programming Lab	1	0	2	2
Total Credits						21.5
Honors/Minor courses			4	0	0	4

* At the end of II Year II Semester, students must complete summer internship spanning between 1 to 2 months (Minimum of 6 weeks), @ Industries/ Higher Learning Institutions/ APSSDC.

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DEPARTMENT OF MECHANICAL ENGINEERING

II Year - I Semester		L	T	P	C
		2	0	0	0
ESSENCE OF INDIAN TRADITIONAL KNOWLEDGE					

Course Objectives:

To facilitate the students with the concepts of Indian traditional knowledge and to make them understand the Importance of roots of knowledge system

- The course aim of the importing basic principle of third process reasoning and inference sustainability is at the course of Indian traditional knowledge system
- To understand the legal framework and traditional knowledge and biological diversity act 2002 and geographical indication act 2003
- The courses focus on traditional knowledge and intellectual property mechanism of traditional knowledge and protection
- To know the student traditional knowledge in different sector

Course Outcomes:

After completion of the course, students will be able to:

- Understand the concept of Traditional knowledge and its importance
- Know the need and importance of protecting traditional knowledge
- Know the various enactments related to the protection of traditional knowledge
- Understand the concepts of Intellectual property to protect the traditional knowledge

UNIT I

Introduction to traditional knowledge: Define traditional knowledge, nature and characteristics, scope and importance, kinds of traditional knowledge, the physical and social contexts in which traditional knowledge develop, the historical impact of social change on traditional knowledge systems. Indigenous Knowledge (IK), characteristics, traditional knowledge vis-à-vis indigenous knowledge, traditional knowledge Vs western knowledge traditional knowledge vis-à-vis formal knowledge

UNIT II

Protection of traditional knowledge: the need for protecting traditional knowledge Significance of TK Protection, value of TK in global economy, Role of Government to harness TK.

UNIT III

Legal framework and TK: A: The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, Plant Varieties Protection and Farmers Rights Act, 2001 (PPVFR Act); B: The Biological Diversity Act 2002 and Rules 2004, the protection of traditional knowledge bill, 2016. Geographical indications act 2003.

UNIT IV

Traditional knowledge and intellectual property: Systems of traditional knowledge protection, Legal concepts for the protection of traditional knowledge, Certain non-IPR mechanisms of traditional knowledge protection, Patents and traditional knowledge, Strategies to increase protection of traditional knowledge, global legal FORA for increasing protection of Indian Traditional Knowledge.

DEPARTMENT OF MECHANICAL ENGINEERING
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DEPARTMENT OF MECHANICAL ENGINEERING

UNIT V

Traditional knowledge in different sectors: Traditional knowledge and engineering, Traditional medicine system, TK and biotechnology, TK in agriculture, Traditional societies depend on it for their food and healthcare needs, Importance of conservation and sustainable development of environment, Management of biodiversity, Food security of the country and protection of TK.

REFERENCE BOOKS:

1. Traditional Knowledge System in India, by Amit Jha, 2009.
2. Traditional Knowledge System and Technology in India by Basanta Kumar Mohanta and Vipin Kumar Singh, PratibhaPrakashan 2012.
3. Traditional Knowledge System in India by Amit Jha Atlantic publishers, 2002
4. "Knowledge Traditions and Practices of India" Kapil Kapoor, Michel Danino

e-Resources:

- 1) <https://www.youtube.com/watch?v=LZP1StpYEPM>
- 2) <http://nptel.ac.in/courses/121106003/>


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 Accredited by NAAC with 'A' grade
CLASS TIMETABLE

SRKIT / ME / 10.1

Academic Year: 2022-23

Class: II

Semester: I

Class Incharge: Mr. D. Rognatha Rao

W.E.F. 05/09/2022

Section I										
Time	9:00 to 9:50	9:50 to 10:40	10:45 to 11:35	11:35 to 12:25	LUNCH	1:10 to 2:00	2:00 to 2:45	2:50 to 3:35	3:35 to 4:20	
Period	1	2	3	4		5	6	7	8	
MON	M-III	KOM (T)	FMHM	PT		EITK	CAEDP			
TUE	CAEDP			FMHM		M-III (T)	*CSP	MOS	KOM	
WED	FMHM	D&M Lab				KOM	MOS (T)	PT	M-III	
THU	KOM	M-III	FMHM (T)	MOS		PT	PT Lab			
FRI	MOS	PT	KOM	M-III		FMHM	FMHM Lab			
SAT	KOM	FMHM	EITK	MOS		PT (T)	M-III	Counselling	MOS	

Vector Calculus, Fourier Transforms and PDE (M-III)	Mr. K. Basava Raju
Mechanics of Solids	Mr. D. Rognatha Rao
Fluid Mechanics & Hydraulic Machines	Mr. P. Tarun Naga Venkatesh
Production Technology	Ms. P. Bhagya Lakshmi
Kinematics of Machinery	Mr. V. Bala Chinalingam
Computer Aided Engineering Drawing Practice	Dr. A. Stanly Kumar / Mr. M. Hari Krishna
Fluid Mechanics & Hydraulic Machines Lab	Mr. V. BalaChinalingam / Mr. P. Tarun Naga Venkatesh
Production Technology Lab	Mr. U. Tanoj / Mr. R. Murali
Drafting and Modeling Lab	Ms. Y. Durga Bhavani / Mr. P. Muthayya
Essence of Indian Traditional Knowledge	Mr. M. Hari Krishna

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DEPARTMENT OF MECHANICAL ENGINEERING

III B.TECH I SEMESTER

S No	Code	Course Title	Hours			Credits
			L	T	P	
1	PCC-7	Thermal Engineering-II	3	0	0	3
2	PCC-8	Design of Machine Members-I	3	0	0	3
3	PCC-9	Machining, Machine Tools & Metrology	3	0	0	3
4	OE-1	1. Sustainable Energy Technologies 2. Operations Research 3. Nano Technology 4. Thermal Management of Electronic systems	3	0	0	3
5	PE-1	1. Finite Element Methods 2. Industrial Robotics 3. Advanced Materials 4. Renewable Energy Sources 5. Mechanics of Composites 6. MOOCs (NPTEL/ Swayam) Course (12 Week duration)	3	0	0	3
6	PCC-L6	Machine Tools Lab	0	0	3	1.5
7	PCC-L7	Thermal Engineering Lab	0	0	3	1.5
8	SOC-3	Advanced Communication Skills Lab	1	0	2	2
9	MC-4	Professional Ethics and Human Values	2	0	0	0
Evaluation of Summer Internship which is completed at the end of II B.Tech II Semester						1.5
			Total credits			21.5
Honors/Minor courses			4	0	0	4

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Academic Year: 2022-23

Class: III

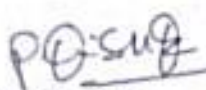
Semester: I

Class Incharge: Ms. Y. Durga Bhavani

W.E.F. 01/08/2022

Section I									
Time	9:00 to 9:50	9:50 to 10:40	10:45 to 11:35	11:35 to 12:25	LUNCH	1:10 to 2:00	2:00 to 2:45	2:50 to 3:35	3:35 to 4:20
Period	1	2	3	4		5	6	7	8
MON	DMM-I	MMT	DS	TE-II		MMT (T)	AM	PEHV	AM
TUE	MMT	TE-II	DMM-I	*CSP		AM	MT Lab / TE Lab		
WED	TE-II	DMM-I	AM	DS (T)		MMT	TE Lab / MT Lab		
THU	DS	ACS Lab				TE-II (T)	PEHV	DS	Library / Sports
FRI	PEHV	DS	TE-II	DMM-I		DMM-I	MMT	DMM-I (T)	Counselling
SAT	DS	MMT	DMM-I	TE-II		DS	AM (T)	PEHV*	MMT

Thermal Engineering – II	Ms. Y. Durga Bhavani
Design of Machine Members – I	Ms. P. Bhagya Lakshmi
Machining, Machine Tools & Metrology	Mr. Ananta Bhaskarano
Advanced Materials (PE-I)	Dr. P. Kishore Kumar
Data Structures (OE-I)	Dr. A. Stanly Kumar
Professional Ethics and Human Values	Mr. P. Tarun Naga Venkatesh
Machine Tools Lab	Ms. P. Bhagya Lakshmi/ Ms. D. Haritha Brahma
Thermal Engineering Lab	Mr. P. Tarun Naga Venkatesh / Ms. Y. Durga Bhavani
Advanced Communication Skills Lab (ACS)	Mr. V. Yellamanda


 HOD - ME



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DEPARTMENT OF MECHANICAL ENGINEERING

III Year - I Semester		L	T	P	C
		2	0	0	0
PROFESSIONAL ETHICS AND HUMAN VALUES					

Course objective:

- 1) To understand the concepts of human values.
- 2) To gain knowledge about the principles of engineering ethics.
- 3) To interpret engineering as social experimentation.
- 4) To understand engineers' responsibility for safety and risk.
- 5) To gain knowledge about the engineers' rights and responsibilities.

UNIT- I:

HUMAN VALUES: Morals, Values and Ethics – Integrity – Work Ethics – Service Learning – Civic Virtue – Respect for others – Living Peacefully – Caring – Sharing –Honesty –Courage – Value time – Co-operation – Commitment – Empathy –Self-confidence – Spirituality- Character.

UNIT- II:**ENGINEERING ETHICS:**

The History of Ethics-Purposes for Engineering Ethics-Engineering Ethics-Consensus and Controversy –Professional and Professionalism –Professional Roles to be played by an Engineer – Self Interest, Customs and Religion-Uses of Ethical Theories-Professional Ethics-Types of Inquiry – Engineering and Ethics-Kohlberg's Theory – Gilligan's Argument –Heinz's Dilemma.

UNIT- III:**ENGINEERING AS SOCIAL EXPERIMENTATION:**

Comparison with Standard Experiments – Knowledge gained –Conscientiousness – Relevant Information – Learning from the Past – Engineers as Managers, Consultants, and Leaders – Accountability – Role of Codes – Codes and Experimental Nature of Engineering.

UNIT- IV:**ENGINEERS' RESPONSIBILITY FOR SAFETY AND RISK:**

Safety and Risk, Concept of Safety – Types of Risks – Voluntary v/s Involuntary Risk- Short term v/s Long term Consequences- Expected Probability- Reversible Effects- Threshold Levels for Risk- Delayed v/s Immediate Risk- Safety and the Engineer – Designing for Safety – Risk-Benefit Analysis-Accidents.

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KAKINADA-533003, Andhra Pradesh, India
DEPARTMENT OF MECHANICAL ENGINEERING

UNIT- V:**ENGINEERS' RESPONSIBILITIES AND RIGHTS:**

Collegiality-Techniques for Achieving Collegiality -Two Senses of Loyalty-obligations of Loyalty-misguided Loyalty - professionalism and Loyalty-Professional Rights -Professional Responsibilities - confidential and proprietary information-Conflict of Interest-solving conflict problems - Self-interest, Customs and Religion- Ethical egoism-Collective bargaining-Confidentiality-Acceptance of Bribes/Gifts-when is a Gift and a Bribe-examples of Gifts v/s Bribes-problem solving-interests in other companies-Occupational Crimes-industrial espionage-price fixing-endangering lives-Whistle Blowing-types of whistle blowing-when should it be attempted-preventing whistle blowing.

TEXT BOOKS:

- 1) Engineering Ethics and Human Values by M.Govindarajan, S.Natarajan and V.S.SenthilKumar- PHI Learning Pvt. Ltd-2009.
- 2) Professional Ethics and Morals by Prof.A.R.Aryasri, Dharanikota, Suyodhana-Maruthi Publications.

REFERENCE BOOKS:

- 1) Professional Ethics and Human Values by A.Alavudeen, R.Kalil Rahman and M.Jayakumaran-Laxmi Publications.
- 2) Professional Ethics and Human Values by Prof. D. R. Kiran, TMH.
- 3) Indian Culture, Values and Professional Ethics by P.S.R. Murthy-BS Publication.
- 4) Ethics in Engineering by Mike W. Martin and Roland Schinzinger- Tata McGraw-Hill - 2003.
- 5) Engineering Ethics by Harris, Pritchard and Robins, CENGAGE Learning, Indian Edition, 2009.

Course outcomes: At the end of the course, student will be able to

- CO1: Judge the concepts of human values.
 CO2: Justify knowledge about the principles of engineering ethics.
 CO3: Interpret engineering as social experimentation.
 CO4: Realize engineers' responsibility for safety and risk.
 CO5: Learn about the engineers' rights and responsibilities.

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DEPARTMENT OF MECHANICAL ENGINEERING

III B.TECH II SEMESTER

S.No	Code	Course Title	Hours			Credits
			L	T	P	
1	PCC-10	Heat Transfer	3	0	0	3
2	PCC-11	Design of Machine Members-II	3	0	0	3
3	PCC-12	Introduction to Artificial Intelligence and Machine Learning	3	0	0	3
4	PE-2	1. Automobile Engineering 2. Smart Manufacturing 3. Advanced Mechanics of Solids 4. Statistical Quality Control 5. Industrial Hydraulics and Pneumatics 6. MOOCs (NPTEL/ Swayam) Course (12 Week duration)	3	0	0	3
5	OE-2	1. Industrial Robotics 2. Essentials of Mechanical Engineering 3. Advanced Materials 4. Introduction to Automobile Engineering	3	0	0	3
6	PCC-L8	Heat Transfer Lab	0	0	3	1.5
7	PCC-L9	CAE&CAM Lab	0	0	3	1.5
8	PCC-L10	Measurements & Metrology Lab	0	0	3	1.5
9	SOC-4	Artificial Intelligence and Machine Learning Lab	0	0	4	2
10	MC - 5	Research Methodology and IPR	2	0	0	0
Honors/Minor courses			Total credits			21.5
			4	0	0	4

* At the end of III Year II Semester, students shall complete summer internship spanning between 1 to 2 months at Industries/ Higher Learning Institutions/ APSSDC.

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 (ISO 9001:2015 Certified Institution)
 Accredited by NAAC with 'A' grade
CLASS TIMETABLE

SRKIT / ME / 10.1

Academic Year: 2022-23

Class: III

Semester: II

Class Incharge: Ms. Y. Durga Bhavani

W.E.F. 09/01/2023

Section I										
Time	9:00 to 9:50	9:50 to 10:40	10:45 to 11:35	11:35 to 12:25	LUNCH	1:10 to 2:00	2:00 to 2:45	2:50 to 3:35	3:35 to 4:20	
Period	1	2	3	4		5	6	7	8	
MON	RM&IPR	AE	HT (T)	AE		DM	HT Lab / M&M Lab			
TUE	DM	AIML Lab				HT	AIML (T)	DMM-II	Library / Sports	
WED	AIML	DM	HT	DMM-II		RM&IPR	M&M Lab / HT Lab			
THU	DMM-II	HT	AE	AIML		RM&IPR	DM (T)	Counselling	AIML	
FRI	HT	AE	DMM-II	DM		DMM-II (T)	CAE & CAM Lab			
SAT	AE	DMM-II	DM	HT		AIML	DMM-II	AIML	AE (T)	

Heat Transfer	Ms. Y. Durga Bhavani
Design of Machine Members - II	Mr. R. Karun Kumar
Introduction to Artificial Intelligence and Machine Learning	Dr. A. Stanly Kumar
Automobile Engineering	Mr. V. Bala Chinalingam
Disaster Management	Ms. E. Usha sree
Research Methodology and IPR	Dr. P. Kishore Kumar
Heat Transfer Lab	Ms. Y. Durga Bhavani Mr. P. Tarun Naga Venkatesh Mr. M. Hari Krishna
CAE & CAM Lab	Mr. D. Rognatha Rao Ms. P. Bhagya Lakshmi Mr. P. Muthayya
Measurements & Metrology Lab	Ms. P. Bhagya Lakshmi Mr. V. Bala Chinalingam Mr. Ananta Bhaskararao
Artificial Intelligence and Machine Learning Lab	Dr. D. Anusha Dr. A. Stanly Kumar Ms. D. Haritha Brahma

PQ-SUB
HOD - ME

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DEPARTMENT OF MECHANICAL ENGINEERING

III Year - II SEMESTER		L	T	P	C
	RESEARCH METHODOLOGY	2	0	0	0

Course objectives:

- To understand the objectives and characteristics of a research problem.
- To analyze research related information and to follow research ethics
- To understand the types of intellectual property rights.
- To learn about the scope of patent rights.
- To understand the new developments in IPR.

UNIT - I

Research problem: Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations

UNIT - II

Literature study: Effective literature studies approaches, analysis Plagiarism, Research ethics, Technical writing: Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a review committee

UNIT - III

Nature of Intellectual Property: Patents, Designs, Trade and Copyright.
Process of Patenting and Development: technological research, innovation, patenting, development. International Scenario: International cooperation on Intellectual Property. Procedure for grants of patents, Patenting under PCT.

UNIT - IV

Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications.

UNIT - V

New Developments in IPR: Administration of Patent System. New developments in IPR; IPR of Biological Systems, Computer Software etc, Traditional knowledge Case Studies, IPR and IITs.

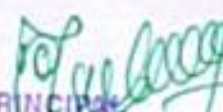
Course Outcomes:

At the end of the course, student will be able to

- Understand objectives and characteristics of a research problem
- Analyze research related information and to follow research ethics.
- Understand the types of intellectual property rights.
- Learn about the scope of IPR.
- Understand the new developments in IPR.

Text Books:

1. Stuart Melville and Wayne Goddard, "Research methodology: an introduction for science & engineering students"
2. Wayne Goddard and Stuart Melville, "Research Methodology: An Introduction"
3. Ranjit Kumar, 2nd Edition, "Research Methodology: A Step by Step Guide for beginners"


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DEPARTMENT OF MECHANICAL ENGINEERING

References Books:

1. Halbert, "Resisting Intellectual Property", Taylor & Francis Ltd, 2007.
2. Mayall, "Industrial Design", McGraw Hill, 1992.
3. Niebel, "Product Design", McGraw Hill, 1974.
4. Asimov, "Introduction to Design", Prentice Hall, 1962.
5. Robert P. Merges, Peter S. Menell, Mark A. Lemley, " Intellectual Property in New Technological Age", 2016.
6. T. Ramappa, "Intellectual Property Rights Under WTO", S. Chand, 2008

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DEPARTMENT OF MECHANICAL ENGINEERING

COURSE STRUCTURE

For UG - R20

B. TECH - MECHANICAL ENGINEERING

(Applicable for batches admitted from 2020-2021)



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DEPARTMENT OF MECHANICAL ENGINEERING


COURSE STRUCTURE

I Year – I SEMESTER

Sl.No	Course Code	Subjects	L	T	P	Credits
1	BSC-1	Calculus & Differential Equations (M-I)	3	0	0	3
2	BSC-2	Engineering Physics	3	0	0	3
3	ESC-1	Programming for Problem Solving	3	0	0	3
4	HSC-1	Communicative English	3	0	0	3
5	ESC-2	Engineering Drawing	2	0	2	3
6	BSC-L1	Engineering Physics Lab	0	0	3	1.5
7	ESC-L1	Programming for Problem Solving Using C Laboratory	0	0	3	1.5
8	HSC-L1	English Communication Skills Laboratory	0	0	3	1.5
9	MC -1	Environmental Science	2	0	0	0
Total Credits						19.5

I Year – II SEMESTER

SLNo	Course Code	Subjects	L	T	P	Credits
1	BSC-3	Linear Algebra & Numerical Methods (M-II)	3	0	0	3
2	BSC-4	Engineering Chemistry	3	0	0	3
3	ESC-3	Engineering Mechanics	3	0	0	3
4	ESC-4	Basic Electrical & Electronics Engineering	3	0	0	3
5	ESC-5	Thermodynamics	3	0	0	3
6	ESC-L2	Workshop Practice Lab	0	0	3	1.5
7	BSC-L2	Engineering Chemistry Laboratory	0	0	3	1.5
8	ESC-L3	Basic Electrical & Electronics Engineering Lab	0	0	3	1.5
9	MC-2	Constitution of India	2	0	0	0
Total Credits						19.5


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DEPARTMENT OF MECHANICAL ENGINEERING

I Year - I Semester	L	T	P	C
	2	0	0	0
ENVIRONMENTAL SCIENCE				

Learning Objectives:

The objectives of the course are to impart:

- Overall understanding of the natural resources.
- Basic understanding of the ecosystem and its diversity.
- Acquaintance on various environmental challenges induced due to unplanned anthropogenic activities.
- An understanding of the environmental impact of developmental activities.
- Awareness on the social issues, environmental legislation and global treaties.

UNIT-I:

Multidisciplinary nature of Environmental Studies: Definition, Scope and Importance – Sustainability: Stockholm and Rio Summit–Global Environmental Challenges: Global warming and climate change, acid rains, ozone layer depletion, population growth and explosion, effects; Role of information technology in environment and human health.

Ecosystems: 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, characteristic features, structure and function of Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems.

UNIT-II:

Natural Resources: Natural resources and associated problems.

Forest resources: Use and over – exploitation, deforestation – 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. Food resources: World food problems, changes caused by non-agriculture activities-effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity.

Energy resources: Growing energy needs, renewable and non-renewable energy sources use of alternate energy sources.

Land resources: Land as a resource, land degradation, Wasteland reclamation, man induced landslides, soil erosion and desertification; Role of an individual in conservation of natural resources; Equitable use of resources for sustainable lifestyles.

UNIT-III:

Biodiversity and its conservation: Definition: genetic, species and ecosystem diversity-classification - Value of biodiversity: consumptive use, productive use, social-Biodiversity at national and local levels. India as a mega-diversity nation - Hot-spots of biodiversity - Threats to biodiversity: habitat loss, man- wildlife conflicts. - Endangered and endemic species of India – Conservation of biodiversity: conservation of biodiversity.


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DEPARTMENT OF MECHANICAL ENGINEERING

UNIT – IV Environmental Pollution: Definition, Cause, effects and control measures of Air pollution, Water pollution, Soil pollution, Noise pollution, Nuclear hazards. Role of an individual in prevention of pollution. - Pollution case studies, Sustainable Life Studies. Impact of Fire Crackers on Men and his well being.

Solid Waste Management: Sources, Classification, effects and control measures of urban and industrial solid wastes. Consumerism and waste products, Biomedical, Hazardous and e – waste management.

UNIT – V Social Issues and the Environment: Urban problems related to energy -Water conservation, rain water harvesting - Resettlement and rehabilitation of people; its problems and concerns.

Environmental ethics: Issues and possible solutions. Environmental Protection Act -Air (Prevention and Control of Pollution) Act. -Water (Prevention and control of Pollution) Act -Wildlife Protection Act - Forest Conservation Act-Issues involved in enforcement of environmental legislation. -Public awareness.**Environmental Management:** Impact Assessment and its significance various stages of EIA, preparation of EMP and EIS, Environmental audit. Ecotourism, Green Campus – Green business and Green politics. The student should Visit an Industry / Ecosystem and submit a report individually on any issues related to Environmental Studies course and make a power point presentation.

Text Books:

1. Environmental Studies, K. V. S. G. Murali Krishna, VGS Publishers, Vijayawada
2. Environmental Studies, R. Rajagopalan, 2nd Edition, 2011, Oxford University Press.
3. Environmental Studies, P. N. Palanisamy, P. Manikandan, A. Geetha, and K. Manjula Rani; Pearson Education, Chennai

Reference:

1. Text Book of Environmental Studies, Deeshita Dave & P. UdayaBhaskar, Cengage Learning.
2. A Textbook of Environmental Studies, Shaashi Chawla, TMH, New Delhi
3. Environmental Studies, Benny Joseph, Tata McGraw Hill Co, New Delhi
4. Perspectives in Environment Studies, Anubha Kaushik, C P Kaushik, New Age International Publishers, 2014


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KAKINADA – 533 003, Andhra Pradesh, India
DEPARTMENT OF MECHANICAL ENGINEERING

I Year - II Semester	L	T	P	C
	2	0	0	0
CONSTITUTION OF INDIA				

Course Objectives:

- To Enable the student to understand the importance of constitution
- To understand the structure of executive, legislature and judiciary
- To understand philosophy of fundamental rights and duties
- To understand the autonomous nature of constitutional bodies like Supreme Court and high court controller and auditor general of India and election commission of India.
- To understand the central and state relation financial and administrative.

UNIT-I

Introduction to Indian Constitution: Constitution meaning of the term, Indian Constitution - Sources and constitutional history, Features - Citizenship, Preamble, Fundamental Rights and Duties, Directive Principles of State Policy.

Learning outcomes:

After completion of this unit student will

- Understand the concept of Indian constitution
- Apply the knowledge on directive principle of state policy
- Analyze the History, features of Indian constitution
- Evaluate Preamble Fundamental Rights and Duties

UNIT-II

Union Government and its Administration Structure of the Indian Union: Federalism, Centre- State relationship, President: Role, power and position, PM and Council of ministers, Cabinet and Central Secretariat, Lok Sabha, Rajya Sabha, The Supreme Court and High Court: Powers and Functions; **Learning outcomes:**-After completion of this unit student will

- Understand the structure of Indian government
- Differentiate between the state and central government
- Explain the role of President and Prime Minister
- Know the Structure of supreme court and High court

UNIT-III

State Government and its Administration Governor - Role and Position - CM and Council of ministers, State Secretariat: Organisation, Structure and Functions
Learning outcomes:-After completion of this unit student will

- Understand the structure of state government
- Analyze the role Governor and Chief Minister
- Explain the role of state Secretariat
- Differentiate between structure and functions of state secretariat

UNIT-IV

A. Local Administration - District's Administration Head - Role and Importance, Municipalities - Mayor and role of Elected Representative - CEO of Municipal Corporation
 Pachayati Raj: Functions PRI: Zila Panchayat, Elected officials and their roles, CEO Zila Panchayat: Block level Organizational Hierarchy - (Different departments), Village level
 - Role of Elected and Appointed officials - Importance of grass root democracy

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Learning outcomes:-After completion of this unit student will

- Understand the local Administration
- Compare and contrast district administration role and importance
- Analyze the role of Myer and elected representatives of Municipalities
- Evaluate Zillapanchayat block level organisation

UNIT-V

Election Commission: Election Commission- Role of Chief Election Commissioner and Election Commissionerate State Election Commission:, Functions of Commissions for the welfare of SC/ST/OBC and women

Learning outcomes:-After completion of this unit student will

- Know the role of Election Commission apply knowledge
- Contrast and compare the role of Chief Election commissioner and Commissionerate
- Analyze role of state election commission
- Evaluate various commissions of viz SC/ST/OBC and women

References:

1. Durga Das Basu, Introduction to the Constitution of India, Prentice – Hall of India Pvt.Ltd., New Delhi
2. SubashKashyap, Indian Constitution, National Book Trust
3. J.A. Siwach, Dynamics of Indian Government & Politics
4. D.C. Gupta, Indian Government and Politics
5. H.M.Sreevai, Constitutional Law of India, 4th edition in 3 volumes (Universal Law Publication)
6. J.C. Johari, Indian Government and Politics Hans
7. J. Raj Indian Government and Politics
8. M.V. Pylee, Indian Constitution Durga Das Basu, Human Rights in Constitutional Law, Prentice –Hall of India Pvt. Ltd., New Delhi
9. Noorani, A.G., (South Asia Human Rights Documentation Centre), Challenges to Civil Right), Challenges to Civil Rights Guarantees in India, Oxford University Press 2012

E-resources:

1. nptel.ac.in/courses/109104074/8
2. nptel.ac.in/courses/109104045/
3. nptel.ac.in/courses/101104065/
4. www.hss.iitb.ac.in/en/lecture-details
5. www.iitb.ac.in/en/event/2nd-lecture-institute-lecture-series-indian-constitution

Course Outcomes:

At the end of the semester/course, the student will be able to have a clear knowledge on the following:

- Understand historical background of the constitution making and its importance for building a democratic India.
 - Understand the functioning of three wings of the government i.e., executive, legislative and judiciary.
 - Understand the value of the fundamental rights and duties for becoming good citizen of India.
 - Analyze the decentralization of power between central, state and local self-government.
 - Apply the knowledge in strengthening of the constitutional institutions like CAG, Election Commission and UPSC for sustaining democracy.
1. Know the sources, features and principles of Indian Constitution.
 2. Learn about Union Government, State government and its administration.
 3. Get acquainted with Local administration and Pachayati Raj.
 4. Be aware of basic concepts and developments of Human Rights.

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DEPARTMENT OF MECHANICAL ENGINEERING

5. Gain knowledge on roles and functioning of Election Commission.

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 Department of Science and Humanities
 Accredited by NAAC with "A" Grade
CLASS TIME TABLE



Academic Year: 2022-23

Class: ME

Semester: I

w.e.f: 17-10-2022

Section I											
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25 - 01:15	01:15 - 02:00	2:00-2:45	2:45-3:30	03:30-04:15	
Period	1	2	3	BREAK	4	5	LUNCH	6	7	8	
MON	ENG LAB				CP	M-I		AP	ENG	M-I(T)	
TUE	CP LAB				ENG	M-I		AP	ES	CP(T)	
WED	M-I	CP			ENG(T)	AP		ED			
THU	ED				ED	M-I		M-I	AP	CP (T)	
FRI	AP	CP	ENG		M-I (T)			AP LAB			
SAT	M-I	ENG	M-I		AP (T)			CP	ES	ENG(T)	

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-I (R201101)	Ms.S.Kalpana
2	Communicative English (R201102)	Ms.N.Gayathri
3	Engineering Physics (R201103)	Dr.J.Ashok / Ms.B.Naga Jyothirmai
4	Engineering Drawing (R201104)	Mr.R.Kiran Kumar / Mr.D.Rognatha / Mr. U.Tanoj
5	Programming For Problem Solving Using C (R201110)	Mr.B.S.S.Telesh
6	Environmental Science (R201114)	Ms.G.K.Deepti/Mr.V.Saida Reddy
7	English Communication Skills Laboratory (R201106)	Ms.N.Gayathri / Ms.V.Navatha
8	Engineering Physics Lab(R201107)	Dr.J.Ashok / Ms.M.V.Elizabeth
9	Programming For Problem Solving Using C Lab(R201113)	Mr.B.S.S.Telesh

HoD

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17/10/22

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Department of Science and Humanities
CLASS TIME TABLE



SRKIT / S&H / 10.1

Academic Year: 2022-23

Class: ME

Semester: II

w.e.f: 27-02-2023

Section I										
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25-01:15	01:15-02:00	2:00-2:45	2:45-3:30	03:30-04:15
Period	1	2	3	BREAK	4	5	LUNCH	6	7	8
MON	M-II	COI	TD		EC(T)	WPLAB				
TUE	SS	M-II	BEEE		EM(T)	EC LAB				
WED	BEEELAB				TD	EC		M-II	BEEE(T)	
THU	M-II	EC	SS		TD(T)			M-II	EM	BEEE
FRI	EM	EC	TD		BEEE	COI		MII(T)		SPORTS
SAT	EM	SS	M-II		BEEE	COI		TD	EM	EC

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-II (R201201)	Mr.B.V.Rama Krishnarao
2	Engineering Chemistry (R201202)	Dr. B.Sowjanya
3	Engineering Mechanics (R201210)	Ms.P.Bhagya Lakshmi
4	Basic Electrical and Electronics Engineering(R201211)	Mr.S. NageswaraRao
5	Constitution of India (R201229)	Ms.V.Navatha
6	Thermodynamics (R201254)	Mr. P.Tarun
7	Workshop Practice Laboratory (R201235)	Mr. R. Kiran Kumar
8	Engineering Chemistry Laboratory (R201231)	Dr. B.Sowjanya / Dr.T.V.Nagalakshmi
9	Basic Electrical & Electronics Engineering Laboratory (R201236)	Mr. G.Sree Harsha
10	Soft Skills	Ms. Farzeena Khanum

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE STRUCTURE AND SYLLABUS

For UG – R20

B. TECH - ELECTRONICS AND COMMUNICATION ENGINEERING

(Applicable for batches admitted from 2020-2021)



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KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE STRUCTURE

I Year – I SEMESTER

S. No.	Category	Subjects	L	T	P	Credits
1	HS	Communicative English	3	0	0	3
2	BS	Mathematics –I(Calculus)	3	0	0	3
3	BS	Applied Chemistry	3	0	0	3
4	ES	Programming for Problem Solving Using C	3	0	0	3
5	BS	Engineering Drawing	2	0	2	3
6	LC	English Communication Skills Laboratory	0	0	3	1.5
7	LC	Applied Chemistry Lab	0	0	3	1.5
8	LC	Programming for Problem Solving Using C Lab	0	0	3	1.5
Total Credits						19.5

I Year – II SEMESTER

S. No	Category	Subjects	L	T	P	Credits
1	BS	Mathematics –II (Linear Algebra and Numerical Methods)	3	0	0	3
2	BS	Applied Physics	3	0	0	3
3	ES	Object Oriented Programming through Java	2	0	2	3
4	ES	Network Analysis	3	0	0	3
5	ES	Basic Electrical Engineering	3	0	0	3
6	LC	Electronic workshop Lab	0	0	3	1.5
7	LC	Basic Electrical Engineering Lab	0	0	3	1.5
8	LC	Applied Physics Lab	0	0	3	1.5
9	MC	Environmental Science	3	0	0	0.0
Total Credits						19.5



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KAKINADA – 533 003, Andhra Pradesh, India
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

I Year - II Semester	L	T	P	C
	3	0	0	0
ENVIRONMENTAL SCIENCE				

Course Objective:

Engineering drawing being the principal method of communication for engineers, the objective is to introduce the students, the techniques of constructing the various types of polygons, curves and scales. The objective is also to visualize and represent the 3D objects in 2D planes with proper dimensioning, scaling etc.

Unit I

Objective: To introduce the students to use drawing instruments and to draw polygons, Engg. Curves.

Polygons: Constructing regular polygons by general methods, inscribing and describing polygons on circles.

Curves: Parabola, Ellipse and Hyperbola by general and special methods, cycloids, involutes, tangents & normals for the curves.

Scales: Plain scales, diagonal scales and vernier scales

Unit II

Objective: To introduce the students to use orthographic projections, projections of points & simple lines. To make the students draw the projections of the lines inclined to both the planes.

Orthographic Projections: Reference plane, importance of reference lines, projections of points in various quadrants, projections of lines, line parallel to both the planes, line parallel to one plane and inclined to other plane.

Projections of straight lines inclined to both the planes, determination of true lengths, angle of inclination and traces.

Unit III

Objective: The objective is to make the students draw the projections of the plane inclined to both the planes.

Projections of planes: regular planes perpendicular/parallel to one reference plane and inclined to the other reference plane; inclined to both the reference planes.

Unit IV

Objective: The objective is to make the students draw the projections of the various types of solids in different positions inclined to one of the planes.

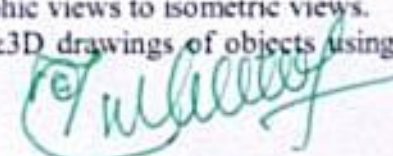
Projections of Solids – Prisms, Pyramids, Cones and Cylinders with the axis inclined to both the planes.

Unit V

Objective: The objective is to represent the object in 3D view through isometric views. The student will be able to represent and convert the isometric view to orthographic view and vice versa.

Conversion of isometric views to orthographic views; Conversion of orthographic views to isometric views.
 Computer Aided Design, Drawing practice using Auto CAD, Creating 2D&3D drawings of objects using Auto CAD

Note: In the End Examination there will be no question from CAD.


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

TEXT BOOKS:

1. Engineering Drawing by N.D. Butt, Chariot Publications
2. Engineering Drawing by Agarwal & Agarwal, Tata McGraw Hill Publishers

REFERENCE BOOKS:

1. Engineering Drawing by K.L.Narayana& P. Kannaiah, Scitech Publishers
2. Engineering Graphics for Degree by K.C. John, PHI Publishers
3. Engineering Graphics by PI Varghese, McGrawHill Publishers
4. Engineering Drawing + AutoCad – K Venugopal, V. Prabhuraja, New Age

Course Outcome: The student will learn how to visualize 2D & 3D objects.

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SRK INSTITUTE OF TECHNOLOGY
 Enikepadu, Vijayawada 521108
 Department of Science and Humanities
CLASS TIME TABLE



SRKIT / S&H / 10.1

Academic Year: 2022-23

Class: ECE-A

Semester: II

w.e.f: 27-02-2023

Section A											
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25-01:15	01:15 - 02:00	2:00-2:45	2:45-3:30	03:30-04:15	
Period	1	2	3	BREAK	4	5	LUNCH	6	7	8	
MON	OOPS	BEE	AP		NA(T)			M-II	Lib/Coun	SS	
TUE	BEE	NA	OOPS		ES	AP(T)		---EWLAB/BEE LAB---			
WED	---AP LAB---				M-II(T)	ES		AP			
THU	AP	M-II	BEE		OOPS(T)	ES		M-II	NA		
FRI	---EWLAB/BEE LAB---				OOPS	M-II		NA	BEE	SPORTS	
SAT	M-II	NA	OOPS		BEE(T)			AP	SS	AP	

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-II (R201201)	Mr.B.V.Rama Krishna Rao/Mr.G.Phanindra
2	Applied Physics (R201207)	Dr.J.Ashok
3	Object Oriented Programming through Java(R201212)	Mr.Ch.Siva Rajesh
4	Network Analysis (R201213)	Ms. T. Manogna
5	Environmental Science (R201230)	Ms.G.K.Deepthi
6	Basic Electrical Engineering (R201214)	Ms.V.Siva kumari
7	Electronic workshop Laboratory (R201237)	Mr.P. Ratna Bhaskar
8	Applied Physics Laboratory (R201233)	Dr.J.Ashok / Ms.M.V.Elizabeth
9	Basic Electrical Engineering Laboratory (R201238)	Ms.V.Siva kumari
10	Soft Skills	Mr.Yellamanda Vusa/Ms.K.Kusuma Kanthi

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 ENIKEPADU, VIJAYAWADA-521 108.



SRK INSTITUTE OF TECHNOLOGY
Enikepadu, Vijayawada 521108
Department of Science and Humanities
CLASS TIME TABLE



SRKIT / S&H / 10.1

Academic Year: 2022-23

Class: ECE-B

Semester:II

w.e.f: 27-02-2023

Section B											
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25 - 01:15	01:15-02:00	2:00-2:45	2:45-3:30	03:30-04:15	
Period	1	2	3	BREAK	4	5	LUNCH	6	7	8	
MON	BEE	NA	M-II		OOPS(T)			---AP LAB---			
TUE	M-II	AP	NA		BEE	ES		OOPS	SS		
WED	---EWLAB/BEE LAB---				NA	AP		SS	BEE	ES	
THU	M-II	OOPS	M-II		BEE(T)			NA	AP(T)		
FRI	AP	OOPS	BEE		M-II(T)			ES	SS	SPORTS	
SAT	---EWLAB/BEE LAB---				AP	M-II		OOPS	NA(T)		

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-II (R201201)	Ms.V.Srividhya
2	Applied Physics (R201207)	Dr.J.Ashok
3	Object Oriented Programming through Java(R201212)	Mr.Ch.Siva Rajesh
4	Network Analysis (R201213)	Ms. T. Manogna
5	Environmental Science (R201230)	Ms.G.K.Deepthi/Mr.V.Saida Reddy
6	Basic Electrical Engineering (R201214)	Mr. G. Sri Harsha
7	Electronic workshop Laboratory (R201237)	Ms.V.Sri Lakshmi
8	Applied Physics Laboratory (R201233)	Dr.J.Ashok / Ms.M.V.Elizabeth
9	Basic Electrical Engineering Laboratory (R201238)	Mr. G. Sri Harsha
10	Soft Skills	Ms. Farzeena Khanum/K.Kusuma Kanthi

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27/2/23

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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India**

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE STRUCTURE AND SYLLABUS

For UG – R20

B. TECH - ELECTRONICS AND COMMUNICATION ENGINEERING

(Applicable for batches admitted from 2020-2021)



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

KAKINADA - 533 003, ANDHRA PRADESH, INDIA

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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India**

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE STRUCTURE

I Year – I SEMESTER

S. No.	Category	Subjects	L	T	P	Credits
1	HS	Communicative English	3	0	0	3
2	BS	Mathematics –I(Calculus)	3	0	0	3
3	BS	Applied Chemistry	3	0	0	3
4	ES	Programming for Problem Solving Using C	3	0	0	3
5	BS	Engineering Drawing	2	0	2	3
6	LC	English Communication Skills Laboratory	0	0	3	1.5
7	LC	Applied Chemistry Lab	0	0	3	1.5
8	LC	Programming for Problem Solving Using C Lab	0	0	3	1.5
Total Credits						19.5

I Year – II SEMESTER

S. No	Category	Subjects	L	T	P	Credits
1	BS	Mathematics –II (Linear Algebra and Numerical Methods)	3	0	0	3
2	BS	Applied Physics	3	0	0	3
3	ES	Object Oriented Programming through Java	2	0	2	3
4	ES	Network Analysis	3	0	0	3
5	ES	Basic Electrical Engineering	3	0	0	3
6	LC	Electronic workshop Lab	0	0	3	1.5
7	LC	Basic Electrical Engineering Lab	0	0	3	1.5
8	LC	Applied Physics Lab	0	0	3	1.5
9	MC	Environmental Science	3	0	0	0.0
Total Credits						19.5


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY:: KAKINADA
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

II Year –I Semester

S. No	Category	Name of the Subject	L	T	P	Credits
1	PC	Electronic Devices and Circuits	3	1	0	3
2	PC	Switching Theory and Logic Design	3	1	0	3
3	PC	Signals and Systems	3	1	0	3
4	BS	Mathematics-III (Transforms and Vector Calculus)	3	1	0	3
5	BS	Random Variables and Stochastic Processes	3	1	0	3
6	LC	OOPS through Java Lab	0	0	2	1.5
7	LC	Electronic Devices and Circuits -Lab	0	0	2	1.5
8	LC	Switching Theory and Logic Design-Lab	0	0	2	1.5
9	SC	Python Programming	0	0	4	2
Total Credits						21.5

II Year – II Semester

S. No	Category	Name of the subject	L	T	P	Credits
1	PC	Electronic Circuit Analysis	3	1	0	3
2	PC	Digital IC Design	3	1	0	3
3	PC	Analog Communications	3	0	0	3
4	ES	Linear control Systems	3	1	0	3
5	HS	Management and Organizational Behavior	3	0	0	3
6	LC	Electronic Circuit Analysis Lab	0	0	3	1.5
7	LC	Analog Communications Lab	0	0	3	1.5
8	LC	Digital IC Design Lab	0	0	3	1.5
9	SC	Soft Skills	0	0	4	2
10	MC	Constitution of India	3	0	0	0
Total Credits						21.5
Honors/Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)						4

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

III Year - I Semester

S. No	Category	Name of the subject	L	T	P	Credits
1	PC	Analog ICs and Applications	3	0	0	3
2	PC	Electromagnetic Waves and Transmission Lines	3	0	0	3
3	PC	Digital Communications	3	0	0	3
4	OE1	Open Elective Course/Job oriented elective-1	2	0	2	3
5	PE1	Professional Elective courses -1	3	0	0	3
6	LC	Analog ICs and Applications LAB	0	0	3	1.5
7	LC	Digital Communications Lab	0	0	3	1.5
8	SC	Data Structures using Java Lab	0	0	4	2
9	MC	Indian Traditional Knowledge	2	0	0	0
Summer Internship 2 Months (Mandatory) after second year (to be evaluated during V semester)			0	0	0	1.5
Total credits						21.5
Honors/Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)						4

PE1:

1. Antenna and Wave Propagation
2. Electronic Measurements and Instrumentation
3. Computer Architecture & Organization

OE1:

Candidate should select the subject from list of subjects offered by other departments

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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY:: KAKINADA**
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**III Year -II Semester**

S. No	Category	Name of the subject	L	T	P	Credits
1	PC	Microprocessor and Microcontrollers	3	1	0	3
2	PC	VLSI Design	3	0	0	3
3	PC	Digital Signal Processing	3	0	0	3
4	PE2	Professional Elective courses - 2	3	0	0	3
5	OE 2	Open Elective Course/Job oriented elective -2	2	0	2	3
6	LC	Microprocessor and Microcontrollers - Lab	0	0	3	1.5
7	LC	VLSI Design Lab	0	0	3	1.5
8	LC	Digital Signal Processing Lab	0	0	3	1.5
9	SC	ARM based/ Aurdino based Programming	1	0	2	2
10	MC	Research Methodology	2	0	0	0
Total credits						21.5
Honors/Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)						4

Industrial/Research Internship (Mandatory) 2 Months during summer vacation**PE2:**

1. Microwave Engineering
2. Mobile & Cellular Communication
3. Embedded Systems
4. CMOS Analog IC Design

OE2:

Candidate should select the subject from list of subjects offered by other departments

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
IV Year –I Semester

S. No	Category	Name of the subject	L	T	P	Credits
1	PE	Professional Elective courses -3	3	0	0	3
2	PE	Professional Elective courses -4	3	0	0	3
3	PE	Professional Elective courses -5	3	0	0	3
4	OE	Open Elective Courses/ Job oriented elective -3	2	0	2	3
5	OE	Open Elective Courses/ Job oriented elective -4	2	0	2	3
6	HS	*Humanities and Social Science Elective	3	0	0	3
7	SC	Designer tools (HFSS, Microwave Studio CST, Cadence Virtuoso, Synopsys, Mentor Graphics, Xilinx.)	1	0	2	2
Industrial/Research Internship 2 Months (Mandatory) after third year (to be evaluated during VII semester)			0	0	0	3
Total credits						23
Honors/Minor courses (The hours distribution can be 3-0-2 or 3-1-0 also)						4

<u>PE3:</u> 1. Optical Communication 2. Digital Image Processing 3. Low Power VLSI Design	<u>PE5:</u> 1. Radar engineering 2. Pattern recognition & Machine Learning 3. Internet of Things
<u>PE4:</u> 1. Satellite Communications 2. Soft Computing Techniques 3. Digital IC Design using CMOS	

IV Year – II Semester

S. No.	Category	Code	Course Title	Hours per week			Credits
1	Major Project	PROJ	Project work, seminar and internship in industry	-	-	-	12
INTERNSHIP (6 MONTHS)							
Total credits						12	

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SRK INSTITUTE OF TECHNOLOGY
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 Department of Science and Humanities
CLASS TIME TABLE



SRKIT / S&H / 10.1

Academic Year: 2022-23

Class: ECE-A

Semester: II

w.e.f: 27-02-2023

Section A											
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25-01:15	01:15 - 02:00	2:00-2:45	2:45-3:30	03:30-04:15	
Period	1	2	3	BREAK	4	5	LUNCH	6	7	8	
MON	OOPS	BEE	AP		NA(T)			M-II	Lib/Coun	SS	
TUE	BEE	NA	OOPS		ES AP(T)			—EWLAB/BEE LAB—			
WED	—AP LAB—				M-II(T)			ES	AP		
THU	AP	M-II	BEE		OOPS(T)			ES	M-II	NA	
FRI	—EWLAB/BEE LAB—				OOPS	M-II		NA	BEE	SPORTS	
SAT	M-II	NA	OOPS		BEE(T)			AP	SS	AP	

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-II (R201201)	Mr.B.V.Rama Krishna Rao/Mr.G.Phanindra
2	Applied Physics (R201207)	Dr.J.Ashok
3	Object Oriented Programming through Java(R201212)	Mr.Ch.Siva Rajesh
4	Network Analysis (R201213)	Ms. T. Manogna
5	Environmental Science (R201230)	Ms.G.K.Deepti
6	Basic Electrical Engineering (R201214)	Ms.V.Siva kumari
7	Electronic workshop Laboratory (R201237)	Mr.P. Ratna Bhaskar
8	Applied Physics Laboratory (R201233)	Dr.J.Ashok / Ms.M.V.Elizabeth
9	Basic Electrical Engineering Laboratory (R201238)	Ms.V.Siva kumari
10	Soft Skills	Mr.Yellamanda Vusa/Ms.K.Kusuma Kanthi

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SRK INSTITUTE OF TECHNOLOGY
 Enikepadu, Vijayawada 521108
 Department of Science and Humanities
CLASS TIME TABLE



SRKIT / S&H / 10.1

Academic Year: 2022-23

Class: ECE-B

Semester: II

w.e.f: 27-02-2023

Section B											
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25 - 01:15	01:15-02:00	2:00-2:45	2:45-3:30	03:30-04:15	
Period	1	2	3	BREAK	4	5	LUNCH	6	7	8	
MON	BEE	NA	M-II		OOPS(T)			—AP LAB—			
TUE	M-II	AP	NA		BEE	ES		OOPS	SS		
WED	—EWLAB/BEE LAB—				NA	AP		SS	BEE	ES	
THU	M-II	OOPS	M-II		BEE(T)			NA	AP(T)		
FRI	AP	OOPS	BEE		M-II(T)			ES	SS	SPORTS	
SAT	—EWLAB/BEE LAB—				AP	M-II		OOPS	NA(T)		

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-II (R201201)	Ms.V.Srividhya
2	Applied Physics (R201207)	Dr.J.Ashok
3	Object Oriented Programming through Java(R201212)	Mr.Ch.Siva Rajesh
4	Network Analysis (R201213)	Ms. T. Manogna
5	Environmental Science (R201230)	Ms.G.K.Deepti/Mr.V.Saida Reddy
6	Basic Electrical Engineering (R201214)	Mr. G. Sri Harsha
7	Electronic workshop Laboratory (R201237)	Ms.V.Sri Lakshmi
8	Applied Physics Laboratory (R201233)	Dr.J.Ashok / Ms.M.V.Elizabeth
9	Basic Electrical Engineering Laboratory (R201238)	Mr. G. Sri Harsha
10	Soft Skills	Ms. Farzeena Khanum/K.Kusuma Kanthi

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SRK INSTITUTE OF TECHNOLOGY
 Enikepadu, Vijayawada 521108
 Department of Electronics and Communication
 Engineering
CLASS TIME TABLE



SRKIT / ECE / 10.1

Academic Year: 2022-23 Class: II/IV B.Tech. ECE - I & II Semester: II w.e.f: 31/01/2023

Section I

Time	9:00 to 9:50	9:50 to 10:40	10:45 to 11:35	11: 35 to 12:25	L U N C H	1:10 to 2:00	2:00 to 2:45	2:50 to 3:35	3:35 to 4:20
Period	1	2	3	4		5	6	7	8
MON	AC/DICD LAB					LCS	MOB	DICD	AC
TUE	AC	LCS	ECA	LCS		MOB	DICD	AC	MOB
WED	ECA/SS LAB					ECA	LCS	MOB	ECA
THU	ECA	COI	LCS	ECA		ECA/SS LAB			
FRI	MOB	DICD	AC	DICD		DICD/AC LAB			
SAT	AC	ECA	DICD	LCS		AC	DICD	SPORTS	COI

Section II

Time	9:00 to 9:50	9:50 to 10:40	10:45 to 11:35	11: 35 to 12:25	L U N C H	1:10 to 2:00	2:00 to 2:45	2:50 to 3:35	3:35 to 4:20
Period	1	2	3	4		5	6	7	8
MON	LCS	ECA	LCS	ECA		DICD	AC	SPORTS	COI
TUE	ECA	DICD	AC	MOB		ECA/SS LAB			
WED	MOB	DICD	AC	DICD		AC/DICD LAB			
THU	AC/DICD LAB					AC	DICD	AC	MOB
FRI	SS/ECA LAB					LCS	COI	ECA	LCS
SAT	DICD	LCS	MOB	ECA		ECA	LCS	MOB	AC

Faculty:

Electronic Circuit Analysis	: Ms. K. Naga Lavanya
Digital IC Design	: Mr.P.Koteswara Rao
Analog Communications	: Ms.N.Kalavathi
Linear Control Systems	: Ms.A.V.P.Sarvari
Management and Organizational Behavior	: Ms.T.Sowjanya
Soft Skills	: Ms.V.Navatha
Electronic Circuit Analysis Lab	: Ms. K. Naga Lavanya / Mr. B. Ravi
Analog Communications Lab	: Ms.N.Kalavathi / Mr. P.Ratna Bhaskar
Digital IC Design Lab	: Mr.P.Koteswara Rao / Ms. Ch. Jnana Gayath
Constitution of India	: Ms.V.Navata

HOD/Date

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 NIKEPADU, VIJAYAWADA-521 103.



SRK INSTITUTE OF TECHNOLOGY
 Enikepadu, Vijayawada 521108
 Department of Electronics and Communication
 Engineering
CLASS TIME TABLE



Academic Year: 2022-23 Class: III/IV B.Tech. ECE A & B Semester: I w.e.f: 15/07/2022

Section A

Time	9:00 to 9:50	9:50 to 10:40	10:45 to 11:35	11:35 to 12:25	L U N C H	1:10 to 2:00	2:00 to 2:45	2:50 to 3:35	3:35 to 4:20
Period	1	2	3	4		5	6	7	8
MON	COA	DC	EMTL	AICA		DS LAB			
TUE	AICA	EMTL	EMI	DC		COA	EMI	SPORTS	
WED	EMTL	COA	EMI	AICA		AICA/DC LAB			
THU	EMTL	EMI	DC	AICA		AICA	EMI	DC	EMTL
FRI	DC/AICA LAB					EMI	COA	SPORTS	
SAT	ITK	DC	COA	ITK		DC	EMTL	AICA	COA

Section B

Time	9:00 to 9:50	9:50 to 10:40	10:45 to 11:35	11:35 to 12:25	L U N C H	1:10 to 2:00	2:00 to 2:45	2:50 to 3:35	3:35 to 4:20
Period	1	2	3	4		5	6	7	8
MON	EMTL	AICA	EMI	DC		EMI	COA	SPORTS	
TUE	DC	COA	AICA	EMTL		AICA/DC LAB			
WED	EMI	AICA	EMTL	DC		COA	ITK	EMTL	EMI
THU	DS LAB					DC	EMTL	COA	AICA
FRI	ITK	DC	EMI	COA		EMTL	AICA	DC	EMI
SAT	DC/AICA LAB					AICA	COA	SPORTS	

Faculty:

Analog ICs and Applications
 Electromagnetic Waves and Transmission Lines
 Digital Communications
 Computer Organization & Architecture (OE1)
 Electronic Measurements and Instrumentation (PE1)
 Indian Traditional Knowledge
 Analog ICs and Applications LAB

 Digital Communications Lab
 Data Structures using Java Lab

: Ms. V. Sri Lakshmi
 : Ms. K.N. Lavanya
 : Ms. N. Kalavathi
 : Ms. A.V.P. Sarvari
 : Ms. T.Manogna
 : Ms. V. Navatha
 : Ms. V. Sri Lakshmi / Ms. T. Manogna
 Ms. K. N Lavanya
 : Ms. N. Kalavathi / Mr. Ch. J. Gayathri
 : Mr.Ch.Siva Rajesh / Ms. S.L.V.S. Jyothi

S. Sri Gowri
 HOD/Date
 14/7/22



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

I Year - II Semester		L	T	P	C
		3	0	0	0
ENVIRONMENTAL SCIENCE					

Course Objective:

Engineering drawing being the principal method of communication for engineers, the objective is to introduce the students, the techniques of constructing the various types of polygons, curves and scales. The objective is also to visualize and represent the 3D objects in 2D planes with proper dimensioning, scaling etc.

Unit I

Objective: To introduce the students to use drawing instruments and to draw polygons, Engg. Curves.

Polygons: Constructing regular polygons by general methods, inscribing and describing polygons on circles.

Curves: Parabola, Ellipse and Hyperbola by general and special methods, cycloids, involutes, tangents & normals for the curves.

Scales: Plain scales, diagonal scales and vernier scales

Unit II

Objective: To introduce the students to use orthographic projections, projections of points & simple lines. To make the students draw the projections of the lines inclined to both the planes.

Orthographic Projections: Reference plane, importance of reference lines, projections of points in various quadrants, projections of lines, line parallel to both the planes, line parallel to one plane and inclined to other plane.

Projections of straight lines inclined to both the planes, determination of true lengths, angle of inclination and traces.

Unit III

Objective: The objective is to make the students draw the projections of the plane inclined to both the planes.

Projections of planes: regular planes perpendicular/parallel to one reference plane and inclined to the other reference plane; inclined to both the reference planes.

Unit IV

Objective: The objective is to make the students draw the projections of the various types of solids in different positions inclined to one of the planes.

Projections of Solids – Prisms, Pyramids, Cones and Cylinders with the axis inclined to both the planes.

Unit V

Objective: The objective is to represent the object in 3D view through isometric views. The student will be able to represent and convert the isometric view to orthographic view and vice versa.

Conversion of isometric views to orthographic views; Conversion of orthographic views to isometric views.
 Computer Aided Design, Drawing practice using Auto CAD, Creating 2D&3D drawings of objects using Auto CAD

Note: In the End Examination there will be no question from CAD.

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TEXT BOOKS:

1. Engineering Drawing by N.D. Butt, Chariot Publications
2. Engineering Drawing by Agarwal & Agarwal, Tata McGraw Hill Publishers

REFERENCE BOOKS:

1. Engineering Drawing by K.L.Narayana& P. Kannaiah, Scitech Publishers
2. Engineering Graphics for Degree by K.C. John, PHI Publishers
3. Engineering Graphics by PI Varghese, McGrawHill Publishers
4. Engineering Drawing + AutoCad – K Venugopal, V. Prabhu Raja, New Age

Course Outcome: The student will learn how to visualize 2D & 3D objects.

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KAKINADA 533 003, Andhra Pradesh, India
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

II Year - II Semester	L	T	P	C
	3	0	0	0
CONSTITUTION OF INDIA (MC)				

Course Objectives:

- To Enable the student to understand the importance of constitution
- To understand the structure of executive, legislature and judiciary
- To understand philosophy of fundamental rights and duties
- To understand the autonomous nature of constitutional bodies like Supreme Court and high court controller and auditor general of India and election commission of India.
- To understand the central and state relation financial and administrative.

UNIT-I

Introduction to Indian Constitution: Constitution meaning of the term, Indian Constitution - Sources and constitutional history, Features - Citizenship, Preamble, Fundamental Rights and Duties, Directive Principles of State Policy.

Learning outcomes:

After completion of this unit student will

- Understand the concept of Indian constitution
- Apply the knowledge on directive principle of state policy
- Analyze the History, features of Indian constitution
- Evaluate Preamble Fundamental Rights and Duties

UNIT-II

Union Government and its Administration Structure of the Indian Union: Federalism, Centre- State relationship, President: Role, power and position, PM and Council of ministers, Cabinet and Central Secretariat, Lok Sabha, Rajya Sabha, The Supreme Court and High Court: Powers and Functions;

Learning outcomes:-After completion of this unit student will

- Understand the structure of Indian government
- Differentiate between the state and central government
- Explain the role of President and Prime Minister
- Know the Structure of supreme court and High court

UNIT-III

State Government and its Administration Governor - Role and Position - CM and Council of ministers, State Secretariat: Organisation, Structure and Functions

Learning outcomes:-After completion of this unit student will

- Understand the structure of state government
- Analyze the role Governor and Chief Minister
- Explain the role of state Secretariat
- Differentiate between structure and functions of state secretariat

UNIT-IV

A. Local Administration - District's Administration Head - Role and Importance, Municipalities - Mayor and role of Elected Representative - CEO of Municipal Corporation Panchayati Raj: Functions

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KAKINADA – 533 003, Andhra Pradesh, India
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

II Year - II Semester		L	T	P	C
		3	0	0	3
MANAGEMENT AND ORGANISATIONAL BEHAVIOUR					

Course Objectives:

- To familiarize with the process of management, principles, leadership styles and basic concepts on Organization.
- To provide conceptual knowledge on functional management that is on Human resource management and Marketing management.
- To provide basic insight into select contemporary management practices and Strategic Management.
- To learn theories of motivation and also deals with individual behavior, their personality and perception of individuals.
- To understand about organizations groups that affect the climate of an entire organizations which helps employees in stress management.

Unit - I

Introduction: Management and organizational concepts of management and organization- Nature and Importance of Management, Functions of Management, System approach to Management- Taylor's Scientific Management Theory, Fayol's Principles of Management, Leadership Styles, Social responsibilities of Management. Designing Organizational Structures: Basic concepts related to Organization - Departmentation and Decentralization, MBO, Process and concepts.

Unit - II

Functional Management: Human Resource Management (HRM) Concepts of HRM, Basic functions of HR Manager: Manpower planning, Recruitment, Selection, Training and Development, Wage and Salary Administration Performance Appraisal, Grievance Handling and Welfare Administration, Job Evaluation and Merit Rating.- **Marketing Management:** Concepts of Marketing, Marketing mix elements and marketing strategies.

Unit - III

Strategic Management: Strategic Management and Contemporary Strategic Issues: Mission, Goals, Objectives, Policy, Strategy, Programmes, Elements of Corporate Planning Process, Environmental Scanning, Value Chain Analysis, SWOT Analysis, Steps in Strategy Formulation and implementation, Generic Strategy alternatives. Bench Marking and Balanced Score Card as Contemporary Business Strategies.

Unit - IV

Individual Behavior: Perception – Perceptual process – Impression management – Personality development – Socialization – Attitude – Process – Formation – Positive attitude – Change – Learning – Learning organizations – Reinforcement Motivation – Process – Motives – Theories of Motivation: Maslow's Theory of Human Needs, Douglas McGregor's Theory X and Theory Y, Herzberg's Two-Factor Theory of Motivation

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Unit - V

Group Dynamics: Types of Groups, Stages of Group Development, Group Behaviour and Group Performance Factors, Organizational conflicts: Reasons for Conflicts, Consequences of Conflicts in Organization, Types of Conflicts, Strategies for Managing Conflicts, Organizational Climate and Culture, Stress, Causes and effects, coping strategies of stress.

Reference Books:

1. Subba Rao P., *Organizational Behaviour*, Himalaya Publishing House, Mumbai.
2. Fred Luthans *Organizational Behaviour*, TMH, New Delhi.
3. Robins, Stephen P., *Fundamentals of Management*, Pearson, India.
4. Kotler Philip & Keller Kevin Lane: *Marketing Management* 12/e, PHI, 2007
5. Koontz & Wehrich: *Essentials of Management*, 6/e, TMH, 2007
6. Kanishka Bedi, *Production and Operations Management*, Oxford University Press, 2007.

Course Outcomes:

- After completion of the Course the student will acquire the knowledge on management functions, global leadership and organizational structure.
- Will familiarize with the concepts of functional management that is HR and Marketing of new product developments.
- The learner is able to think in strategically through contemporary management practices.
- The learner can develop positive attitude through personality development and can equip with motivational theories.
- The student can attain the group performance and grievance handling in managing the organizational culture.

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III Year - I Semester	L	T	P	C
	2	0	0	0
INDIAN TRADITIONAL KNOWLEDGE				

Course Objectives:

To facilitate the students with the concepts of Indian traditional knowledge and to make them understand the Importance of roots of knowledge system

- The course aim of the importing basic principle of third process reasoning and inference sustainability is at the course of Indian traditional knowledge system
- To understand the legal framework and traditional knowledge and biological diversity act 2002 and geographical indication act 2003
- The courses focus on traditional knowledge and intellectual property mechanism of traditional knowledge and protection
- To know the student traditional knowledge in different sector

Course Outcomes:

After completion of the course, students will be able to:

- Understand the concept of Traditional knowledge and its importance
- Know the need and importance of protecting traditional knowledge
- Know the various enactments related to the protection of traditional knowledge
- Understand the concepts of Intellectual property to protect the traditional knowledge

UNIT I

Introduction to traditional knowledge: Define traditional knowledge, nature and characteristics, scope and importance, kinds of traditional knowledge, the physical and social contexts in which traditional knowledge develop, the historical impact of social change on traditional knowledge systems. Indigenous Knowledge (IK), characteristics, traditional knowledge vis-à-vis indigenous knowledge, traditional knowledge Vs western knowledge traditional knowledge vis-à-vis formal knowledge

UNIT II

Protection of traditional knowledge: the need for protecting traditional knowledge Significance of TK Protection, value of TK in global economy, Role of Government to harness TK.

UNIT III

Legal framework and TK: A: The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, Plant Varieties Protection and Farmers Rights Act, 2001 (PPVFR Act); B: The Biological Diversity Act 2002 and Rules 2004, the protection of traditional knowledge bill, 2016. Geographical indications act 2003.

UNIT IV

Traditional knowledge and intellectual property: Systems of traditional knowledge protection, Legal concepts for the protection of traditional knowledge, Certain non IPR mechanisms of traditional knowledge protection, Patents and traditional knowledge, Strategies to increase protection of traditional knowledge, global legal FORA for increasing protection of Indian Traditional Knowledge.



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UNIT V

Traditional knowledge in different sectors: Traditional knowledge and engineering, Traditional medicine system, TK and biotechnology, TK in agriculture, Traditional societies depend on it for their food and healthcare needs, Importance of conservation and sustainable development of environment, Management of biodiversity, Food security of the country and protection of TK.

REFERENCE BOOKS:

1. Traditional Knowledge System in India, by Amit Jha, 2009.
2. Traditional Knowledge System and Technology in India by Basanta Kumar Mohanta and Vipin Kumar Singh, PratibhaPrakashan2012.
3. Traditional Knowledge System in India by Amit Jha Atlantic publishers,2002
4. "Knowledge Traditions and Practices of India" Kapil Kapoor, MichelDanino

e-Resources:

- 1) <https://www.youtube.com/watch?v=LZP1StpYEPM>
- 2) <http://nptel.ac.in/courses/121106003/>

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

COURSE STRUCTURE AND SYLLABUS

For UG -R20

B. TECH - COMPUTER SCIENCE & ENGINEERING

(Applicable for batches admitted from 2020-2021)



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COURSE STRUCTURE

I Year – I SEMESTER

S. No	Course Code	Courses	L	T	P	Credits
1	HS	Communicative English	3	0	0	3
2	BS	Mathematics - I (Calculus And Differential Equations)	3	0	0	3
3	BS	Applied Physics	3	0	0	3
4	ES	Programming for Problem Solving using C	3	0	0	3
5	ES	Computer Engineering Workshop	1	0	4	3
6	HS	English Communication Skills Laboratory	0	0	3	1.5
7	BS	Applied Physics Lab	0	0	3	1.5
8	ES	Programming for Problem Solving using C Lab	0	0	3	1.5
Total Credits			19.5			

I Year – II SEMESTER

S. No	Course Code	Courses	L	T	P	Credits
1	BS	Mathematics – II (Linear Algebra And Numerical Methods)	3	0	0	3
2	BS	Applied Chemistry	3	0	0	3
3	ES	Computer Organization	3	0	0	3
4	ES	Python Programming	3	0	0	3
5	ES	Data Structures	3	0	0	3
6	BS	Applied Chemistry Lab	0	0	3	1.5
7	ES	Python Programming Lab	0	0	3	1.5
8	ES	Data Structures Lab	0	0	3	1.5
9	MC	Environment Science	2	0	0	0
Total Credits			19.5			


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I Year - I Semester	L	T	P	C
	2	0	0	0
ENVIRONMENTAL SCIENCE (MC1101)				

Course Objectives:

The objectives of the course are to impart:

- Overall understanding of the natural resources.
- Basic understanding of the ecosystem and its diversity.
- Acquaintance on various environmental challenges induced due to unplanned anthropogenic activities.
- An understanding of the environmental impact of developmental activities.
- Awareness on the social issues, environmental legislation and global treaties.

UNIT I

Multidisciplinary nature of Environmental Studies: Definition, Scope and Importance – Sustainability: Stockholm and Rio Summit–Global Environmental Challenges: Global warming and climate change, acid rains, ozone layer depletion, population growth and explosion, effects. Role of information technology in environment and human health.

Ecosystems: 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, characteristic features, structure and function of Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems.

UNIT II

Natural Resources: Natural resources and associated problems.

Forest resources: Use and over – exploitation, deforestation – 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.

Food resources: World food problems, changes caused by non-agriculture activities-effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity.

Energy resources: Growing energy needs, renewable and non-renewable energy sources use of alternate energy sources.

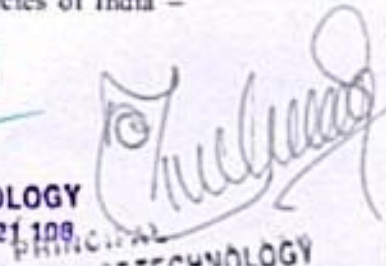
Land resources: Land as a resource, land degradation, Wasteland reclamation, man induced landslides, soil erosion and desertification; Role of an individual in conservation of natural resources; Equitable use of resources for sustainable lifestyles.

UNIT III

Biodiversity and its conservation: Definition: genetic, species and ecosystem diversity-classification - Value of biodiversity: consumptive use, productive use, social-Biodiversity at national and local levels. India as a mega-diversity nation - Hot-spots of biodiversity - Threats to biodiversity: habitat loss, man-wildlife conflicts. - Endangered and endemic species of India – Conservation of biodiversity: conservation of biodiversity.


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UNIT IV

Environmental Pollution: Definition, Cause, effects and control measures of Air pollution, Water pollution, Soil pollution, Noise pollution, Nuclear hazards. Role of an individual in prevention of pollution. - Pollution case studies, Sustainable Life Studies. Impact of Fire Crackers on Men and his well being.

Solid Waste Management: Sources, Classification, effects and control measures of urban and industrial solid wastes. Consumerism and waste products, Biomedical, Hazardous and e – waste management.

UNIT V

Social Issues and the Environment: Urban problems related to energy -Water conservation, rain water harvesting-Resettlement and rehabilitation of people; its problems and concerns.

Environmental ethics: Issues and possible solutions. Environmental Protection Act -Air (Prevention and Control of Pollution) Act. -Water (Prevention and control of Pollution) Act - Wildlife Protection Act -Forest Conservation Act-Issues involved in enforcement of environmental legislation. -Public awareness.

Environmental Management: Impact Assessment and its significance various stages of EIA, preparation of EMP and EIS, Environmental audit. Ecotourism, Green Campus – Green business and Green politics.

The student should Visit an Industry / Ecosystem and submit a report individually on any issues related to Environmental Studies course and make a power point presentation.

Text Books:

- 1) Environmental Studies, K. V. S. G. Murali Krishna, VGS Publishers, Vijayawada
- 2) Environmental Studies, R. Rajagopalan, 2nd Edition, 2011, Oxford University Press.
- 3) Environmental Studies, P. N. Palanisamy, P. Manikandan, A. Geetha, and K. Manjula Rani; Pearson Education, Chennai

Reference Books:



- 1) Text Book of Environmental Studies, Deeshita Dave & P. UdayaBhaskar, 3rded, Cengage Learning.
- 2) A Textbook of Environmental Studies, ShaashiChawla, TMH, New Delhi
- 3) Environmental Studies, Benny Joseph, Tata McGraw Hill Co, New Delhi
- 4) Perspectives in Environment Studies, AnubhaKaushik, C P Kaushik, New Age International Publishers, 2014

e-learning resources:

- <http://nptel.ac.in/courses.php>
- <http://jntuk-coecrd.in/>


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 SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA	SRK INSTITUTE OF TECHNOLOGY Enikepadu, Vijayawada 521108 Department of Science and Humanities CLASS TIME TABLE	 SRKIT / S&H / 10.2
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Academic Year: 2022-23

Class: CSE -A

Semester: II

w.e.f: 27-02-2023

Section A										
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25-01:15	01:15 - 02:00	2:00-2:45	2:45-3:30	03:30-04:15
Period	1	2	3	BREAK	4	5	LUNCH	6	7	8
MON	CO	T&P			AC	PP		M-II	CO	DS
TUE	-----DS LAB-----				T&P			M-II	AC	PP
WED	-----AC LAB-----				DS(T)			CO	PP	M-II
THU	DS	M-II			CO	PP		SS	AC(T)	
FRI	ES	M-II(T)			AC	DS		-----PP LAB-----		
SAT	AC	ES	M-II		CO(T)			DS	PP(T)	

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-II (R201201)	Dr.K. Krishna Rao / Mr. K. Basavaraju
2	Applied Chemistry (R201215)	Dr.T.V.Nagalakshmi
3	Computer Organization (R201216)	Mr.B. Ravi
4	Data Structures (R201218)	Ms.N.Sarada Kumari
5	Python Programming (R201225)	Ms. M.Ramana
6	Environmental Science (R201228)	Ms.G.K.Deepthi
7	Applied Chemistry Laboratory (R201239)	Dr.T.V.Nagalakshmi / Dr. B.Sowjanya
8	Data Structures Laboratory (R201241)	Ms.N.Sarada Kumari
9	Python Programming Laboratory (R201250)	Ms. . M.Ramana
10	Soft Skills	Ms.V.Navatha

HOD
27/2/23

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Department of Science and Humanities



CLASS TIME TABLE

SRKIT / S&H / 10.2

Academic Year: 2022-23

Class: CSE-B

Semester: II

w.e.f: 27-02-2023

Section B											
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25 - 01:15	01:15-02:00	2:00-2:45	2:45-3:30	03:30-04:15	
Period	1	2	3	BREAK	4	5	LUNCH	6	7	8	
MON	AC	CO	M-II		T&P	DS		PP	ES		
TUE	M-II	T&P			AC	PP		-----AC LAB-----			
WED	SS	AC	M-II		PP(T)	CO		DS(T)			
THU	-----PP LAB-----				CO	DS		M-II	AC(T)		
FRI	-----DS LAB-----				PP	M-II		M-II	CO	DS	
SAT	DS	AC	PP		CO(T)	ES		M-II(T)			

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-II (R201201)	Mr. K. Basavaraju
2	Applied Chemistry (R201215)	Dr. B.Sowjanya
3	Computer Organization (R201216)	Ms.S.V.L.S. Jyothi
4	Data Structures (R201218)	Ms.N.Sarada Kumari
5	Python Programming (R201225)	Ms.D.Nalini Kumari
6	Environmental Science (R201228)	Ms.G.K.Deepthi
7	Applied Chemistry Laboratory (R201239)	Dr. B.Sowjanya / Dr.T.V.Nagalakshmi
8	Data Structures Laboratory (R201241)	Ms.N.Sarada Kumari
9	Python Programming Laboratory (R201250)	Ms.D.Nalini Kumari
10	Soft Skills	Ms.V.Navatha

HOD

27/2/23

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

II Year - I SEMESTER

S. No	Course Code	Courses	L	T	P	Credits
1	BS	Mathematics III	3	0	0	3
2	CS	Object Oriented Programming through C++	3	0	0	3
3	CS	Operating Systems	3	0	0	3
4	CS	Software Engineering	3	0	0	3
5	CS	Mathematical Foundations of Computer Science	3	0	0	3
6	CS	Object Oriented Programming through C++ Lab	0	0	3	1.5
7	CS	Operating Systems Lab	0	0	3	1.5
8	CS	Software Engineering Lab	0	0	3	1.5
9	SO	Skill oriented Course - I 1) Applications of Python - Num Py 2) Web Application Development Using FullStack - Frontend Development -Module -I	0	0	4	2
10	MC	Constitution of India	2	0	0	0
Total Credits			21.5			

II Year - II SEMESTER

II Year - II SEMESTER						
S. No	Course Code	Courses	L	T	P	Credits
1	BS	Probability and Statistics	3	0	0	3
2	CS	Database Management Systems	3	0	0	3
3	CS	Formal Languages and Automata Theory	3	0	0	3
4	ES	Java Programming	3	0	0	3
5	HS	Managerial Economics and Financial Accountancy	3	0	0	3
6	CS	Database Management Systems Lab	0	0	2	1
7	CS	R Programming Lab	0	1	2	2
8	ES	Java Programming Lab	0	0	3	1.5
9	SO	Skill Oriented Course - II 1) Applications of Python-Pandas OR 2) Web Application Development Using Full Stack -Frontend Development -Module-II	0	0	4	2
Total Credits			21.5			
10	Minor	Operating Systems ⁵	3	0	2	4
11	Honors	Any course from the Pool, as per the opted track	4	0	0	4

S- Integrated Course



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I Year - II Semester		L	T	P	C
		2	0	0	0
CONSTITUTION OF INDIA (MC1201)					

Course Objectives:

- To Enable the student to understand the importance of constitution
- To understand the structure of executive, legislature and judiciary
- To understand philosophy of fundamental rights and duties
- To understand the autonomous nature of constitutional bodies like Supreme Court and high court controller and auditor general of India and election commission of India.
- To understand the central and state relation financial and administrative

Course Outcomes:

At the end of the course, the student will be able to have a clear knowledge on the following:

- Understand historical background of the constitution making and its importance for building a democratic India.
- Understand the functioning of three wings of the government i.e., executive, legislative and judiciary.
- Understand the value of the fundamental rights and duties for becoming good citizen of India.
- Analyze the decentralization of power between central, state and local self-government.
- Apply the knowledge in strengthening of the constitutional institutions like CAG, Election Commission and UPSC for sustaining democracy.
 1. Know the sources, features and principles of Indian Constitution.
 2. Learn about Union Government, State government and its administration.
 3. Get acquainted with Local administration and Panchayati Raj.
 4. Be aware of basic concepts and developments of Human Rights.
 5. Gain knowledge on roles and functioning of Election Commission

UNIT I

Introduction to Indian Constitution: Constitution meaning of the term, Indian Constitution - Sources and constitutional history, Features - Citizenship, Preamble, Fundamental Rights and Duties, Directive Principles of State Policy.

Learning outcomes: After completion of this unit student will

- Understand the concept of Indian constitution
- Apply the knowledge on directive principle of state policy
- Analyze the History, features of Indian constitution
- Evaluate Preamble Fundamental Rights and Duties

UNIT II

Union Government and its Administration Structure of the Indian Union: Federalism, Centre-State relationship, President: Role, power and position, PM and Council of ministers, Cabinet and Central Secretariat, Lok Sabha, Rajya Sabha, The Supreme Court and High Court: Powers and Functions;

Learning outcomes: After completion of this unit student will

- Understand the structure of Indian government
- Differentiate between the state and central government
- Explain the role of President and Prime Minister
- Know the Structure of supreme court and High court

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KAKINADA – 533 003, Andhra Pradesh, India

UNIT III

State Government and its Administration Governor, Role and Position, CM and Council of ministers, State Secretariat: Organisation, Structure and Functions

Learning outcomes: After completion of this unit student will

- Understand the structure of state government
- Analyze the role Governor, state Secretariat and Chief Minister
- Differentiate between structure and functions of state secretariat

UNIT IV

A. Local Administration, District's Administration Head, Role and Importance, Municipalities, Mayor and role of Elected Representative, CEO of Municipal Corporation PanchayatiRaj: Functions PRI: ZilaPanchayat, Elected officials and their roles, CEO ZilaPanchayat: Block level Organizational Hierarchy(Different departments), Village level, Role of Elected and Appointed officials, Importance of grass root democracy

Learning outcomes:-After completion of this unit student will

- Understand the local Administration
- Compare and contrast district administration role and importance
- Analyze the role of Myer and elected representatives of Municipalities
- Evaluate Zillapanchayat block level organisation

UNIT V

Election Commission: Election Commission, Role of Chief Election Commissioner and Election Commissionerate State Election Commission:, Functions of Commissions for the welfare of SC/ST/OBC and women

Learning outcomes: After completion of this unit student will

- Know the role of Election Commission apply knowledge
- Contrast and compare the role of Chief Election commissioner and Commissionerate
- Analyze role of state election commission
- Evaluate various commissions of viz SC/ST/OBC and women


References:

- 1) Durga Das Basu, Introduction to the Constitution of India, Prentice Hall of India Pvt. Ltd.
- 2) SubashKashyap, Indian Constitution, National Book Trust
- 3) J.A. Siwach, Dynamics of Indian Government & Politics
- 4) D.C. Gupta, Indian Government and Politics
- 5) H.M.Sreevai, Constitutional Law of India, 4th edition in 3 volumes (Universal Law Publication)
- 6) J.C. Johari, Indian Government and Politics Hans
- 7) J. Raj Indian Government and Politics
- 8) M.V. Pylee, Indian Constitution Durga Das Basu, Human Rights in Constitutional Law, Prentice – Hall of India Pvt. Ltd., New Delhi
- 9) Noorani, A.G., (South Asia Human Rights Documentation Centre), Challenges to Civil Rights Guarantees in India, Oxford University Press 2012

esources:

- 1) nptel.ac.in/courses/109104074/8
- 2) nptel.ac.in/courses/109104045/
- 3) nptel.ac.in/courses/101104065/
- 4) www.hss.iitb.ac.in/en/lecture-details
- 5) www.iitb.ac.in/en/event/2nd-lecture-institute-lecture-series-in-the-constitution

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	SRK INSTITUTE OF TECHNOLOGY Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)	SRKIT / CSE / 10.1
	Department of Computer Science and Engineering CLASS TIME TABLE	

Academic Year: 2022-2023

Class: II

Semester: I

Wef: 5-9-2022

Section A										
Time	9:00 To 9:50	9:50 To 10:40	10:45 To 11:35	11:35 To 12:20	LUNCH	1:10 To 2:00	2:00 To 2:45	2:50 To 3:35	3:35 To 4:20	
Period	1	2	3	4		5	6	7	8	
MON	MFCS	OS	C++	M-III		← OOP'S Thru C++ LAB →				
TUE	M-III	MFCS	SE	C++		COI	SE	OS	M-III	
WED	← SOC LAB →					MFCS	C++	M-III	SE	
THU	MFCS	OS	SE	M-III		← OS LAB →				
FRI	C++	SE	OS	MFCS		← SE LAB →				
SAT	SE	MFCS	C++	COI		OS	M-III	C++	OS	

SUBJECTS

FACULTY

Mathematics III	: N.Gayatri Devi
Object Oriented Programming through C++	: Dr.K.Chaitanya
Operating Systems	: G.M.Padmaja
Software Engineering	: D.Sailaja
Mathematical Foundations of Computer Science	: M.Srividya
Object Oriented Programming through C++ Lab	: Dr.K.Chaitanya/K.PurnaChandrasekhar/D.Sailaja
Operating Systems Lab	: G.M.Padmaja/D.Sailaja/ B.Kalikabai
Software Engineering Lab	: D.Sailaja/T.Vijayasree/K.PurnaChandraSekhar
Skill Oriented Course - I	: Dr.D.Anusha/P.Beersheba/D.BalaRamaKrishna
Constitution of India	: N.Gayatri
Class Teacher	: Dr.K.Chaitanya


 HOD-Date 5/9/2022


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 Department of Computer Science and Engineering
CLASS TIME TABLE

SRKIT / CSE / 10.1

Academic Year: 2022-2023

Class: II

Semester: I

Wef: 5-9-2022

Section B									
Time	9:00 To 9:50	9:50 To 10:40	10:45 To 11:35	11:35 To 12:20	LUNCH	1:10 To 2:00	2:00 To 2:45	2:50 To 3:35	3:35 To 4:20
Period	1	2	3	4		5	6	7	8
MON	C++	M-III	SE	MFCS		COI	SE	OS	M-III
TUE	OS	C++	M-III	MFCS		← OOP'S Thru C++ LAB →			
WED	MFCS	C++	OS	SE		← OS LAB →			
THU	SE	C++	MFCS	M-III		← SOC LAB →			
FRI	OS	MFCS	M-III	SE		C++	OS	COI	C++
SAT	M-III	OS	MFCS	SE		← SE LAB →			

SUBJECTS

FACULTY

- | | |
|--|--|
| Mathematics III | : B.V.Rama Krishna |
| Object Oriented Programming through C++ | : K.Jairam |
| Operating Systems | : G.M.Padmaja |
| Software Engineering | : T.Lavanya |
| Mathematical Foundations of Computer Science | : M.Srividya |
| Object Oriented Programming through C++ Lab | : Dr.K.Chaitanya/Dr.D.SaravanaPriya/ B.Kalikabai |
| Operating Systems Lab | : G.M.Padmaja/K.PurnaChandraSekhar/Dr.D.Anusha |
| Software Engineering Lab | : T.Lavanya/T.Vijayasree/P.Jayasri |
| Skill Oriented Course - I | : P.Beersheba/T.Vijayasree/D.Sailaja |
| Constitution of India | : N.Gayatri |
| Class Teacher | : G.M.Padmaja |

B. Lakshmi
 HOD

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

COURSE STRUCTURE AND SYLLABUS

For

B. Tech COMPUTER SCIENCE & ENGINEERING

(Applicable for batches admitted from 2019-2020)



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA

KAKINADA - 533 003, Andhra Pradesh, India



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KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
IV Year – I SEMESTER

S.No	Course Code	Courses	L	T	P	Credits
1	CS4101	Cryptography and Network Security	3	0	0	3
2	CS4102	UML & Design Patterns	3	0	0	3
3	CS4103	Machine Learning	3	0	0	3
4	OE4101	Open Elective -II (Inter Disciplinary)	3	0	0	3
5	PE4101	Professional Elective- III 1. Mobile Computing 2. Data Science 3. NoSQL Databases 4. Internet of Things 5. Software Project Management	3	0	0	3
6	PE4102	Professional Elective- IV 1. Web Services 2. Cloud Computing 3. Mean Stack Technologies 4. Ad-hoc and Sensor Networks 5. Cyber Security & Forensics	3	0	0	3
7	CS4104	UML Lab #	0	0	2	1
8	PR4101	Project- I	0	0	0	2
9	MC4101	IPR & Patents	3	0	0	0
Total			21	0	2	21
# Relevant theory to be taught in the lab						

IV Year – II SEMESTER

S.No	Course Code	Courses	L	T	P	Credits
1	HS4201	Management and Organizational Behavior	3	0	0	3
2	OE4201	Open Elective- III (Inter Disciplinary)	3	0	0	3
3	PE4201	Professional Elective-V 1. Deep Learning 2. Quantum Computing 3. DevOps 4. Blockchain Technologies 5. Big Data Analytics	3	0	0	3
4	PR4201	Project- II	0	0	0	7
Total			9	0	0	16



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KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

IV Year –I Semester	L	T	P	C
	3	0	0	0
IPR & PATENTS				

Course Objectives:

- To know the importance of Intellectual property rights, which plays a vital role in advanced Technical and Scientific disciplines
- Imparting IPR protections and regulations for further advancement, so that the students can familiarize with the latest developments

Course Outcomes:

- IPR Laws and patents pave the way for innovative ideas which are instrumental for inventions to seek Patents
- Student get an insight on Copyrights, Patents and Software patents which are instrumental for further advancements

UNIT I

Introduction to Intellectual Property Rights (IPR): Concept of Property - Introduction to IPR – International Instruments and IPR - WIPO - TRIPS – WTO -Laws Relating to IPR - IPR Tool Kit - Protection and Regulation - Copyrights and Neighboring Rights – Industrial Property – Patents - Agencies for IPR Registration – Traditional Knowledge –Emerging Areas of IPR - Layout Designs and Integrated Circuits – Use and Misuse of Intellectual Property Rights.

UNIT II

Copyrights and Neighboring Rights: Introduction to Copyrights – Principles of Copyright Protection – Law Relating to Copyrights - Subject Matters of Copyright – Copyright Ownership – Transfer and Duration – Right to Prepare Derivative Works –Rights of Distribution – Rights of Performers – Copyright Registration – Limitations – Infringement of Copyright – Relief and Remedy – Case Law - Semiconductor Chip Protection Act.

UNIT III

Patents: Introduction to Patents - Laws Relating to Patents in India – Patent Requirements – Product Patent and Process Patent - Patent Search - Patent Registration and Granting of Patent - Exclusive Rights – Limitations - Ownership and Transfer — Revocation of Patent – Patent Appellate Board - Infringement of Patent – Compulsory Licensing — Patent Cooperation Treaty – New developments in Patents – Software Protection and Computer related Innovations

UNIT IV

Trademarks: Introduction to Trademarks – Laws Relating to Trademarks – Functions of Trademark – Distinction between Trademark and Property Mark – Marks Covered under Trademark Law - Trade Mark Registration – Trade Mark Maintenance – Transfer of rights - Deceptive Similarities

Likelihood of Confusion - Dilution of Ownership – Trademarks Claims and Infringement – Remedies – Passing Off Action.

UNIT V

Trade Secrets & Cyber Law and Cyber Crime: Introduction to Trade Secrets – General Principles - Laws Relating to Trade Secrets – Maintaining Trade Secret – Physical Security – Employee Access Limitation – Employee Confidentiality Agreements – Breach of Contract –Law of



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 Department of Computer Science and Engineering
CLASS TIME TABLE

SRKIT / CSE / 10.1

Academic Year: 2022-2023

Class: IV

Semester: I

Wef: 04-7-2022

Section A									
Time	9:00 To 9:50	9:50 To 10:40	10:45 To 11:35	11:35 To 12:20		1:10 To 2:00	2:00 To 2:45	2:50 To 3:35	3:35 To 4:20
Period	1	2	3	4		5	6	7	8
MON	UMLDP	ML	CNS	ES		CC	SPM	IPR	UMLDP
TUE	← UML LAB →					SPM	CNS	ES	CC
WED	SPM	ES	CNS	CC		ML	UMLDP	SPM	Library/ Counseling
THU	CC	ML	ES	UMLDP		IPR	CNS	CC	SPM
FRI	ES	ML	CNS	UMLDP		← PROJECT-I →			
SAT	CC	UMLDP	ES	ML		SPM	CNS	IPR	ML

SUBJECTS

Cryptography and Network Security (CNS)
 UML & Design Patterns (UMLDP)
 Machine Learning (ML)
 Open Elective-II: Inter Disciplinary (ECE)
 Embedded Systems (ES)
 Professional Elective-III:
 Software Project Management (SPM)
 Professional Elective-IV:
 Cloud Computing (CC)

IPR&Patents

UML Lab

Project-I

Class Teacher & Library Incharge

FACULTY

D.V.Subba Rao
 Ch.Pavani
 Dr.D.Anusha
 SLVS Jyothi
 P.Jayasri
 Ch.Anupama
 T.Sowjanya
 Ch.Pavani/T.Lavanya/K.Jairam
 Dr.B.Asha Latha/ D.Balaram Krishna
 Dr.D.Anusha

B. Asha
 HOD /Date

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Department of Computer Science and Engineering
CLASS TIME TABLE

SRKIT / CSE / 10.1

Academic Year: 2022-2023

Class: IV

Semester: I

Wef: 04-7-2022

Section B									
Time	9:00 To 9:50	9:50 To 10:40	10:45 To 11:35	11:35 To 12:20	1:10 To 2:00	2:00 To 2:45	2:50 To 3:35	3:35 To 4:20	
Period	1	2	3	4	5	6	7	8	
MON	ES	CC	IPR	UMLDP	ML	CNS	CC	SPM	
TUE	SPM	ML	CNS	ES	CC	IPR	ML	UMLDP	
WED	← UML LAB →				SPM	CNS	ES	ML	
THU	ES	UMLDP	CNS	CC	← PROJECT-I →				
FRI	UMLDP	SPM	CC	ML	ES	UMLDP	CNS	Library/ Counseling	
SAT	SPM	IPR	CNS	CC	UMLDP	ML	SPM	ES	

SUBJECTS

FACULTY

- | | | |
|---|---|-----------------------------------|
| Cryptography and Network Security (CNS) | : | D.V.Subba Rao |
| UML & Design Patterns (UMLDP) | : | Ch.Pavani |
| Machine Learning (ML) | : | K.Jairam |
| Open Elective-II: Inter Disciplinary (ECE) | | |
| Embedded Systems (ES) | : | SLVS Jyothi |
| Professional Elective-III: | | |
| Software Project Management (SPM) | : | P.Beersheba |
| Professional Elective-IV: | | |
| Cloud Computing (CC) | : | T.Vijayasree |
| IPR&Patents | : | T.Sowjanya |
| UML Lab | : | Ch.Pavani/T.Lavanya/K.Jairam |
| Project-I | : | Dr.B.Asha Latha/D.Balaram Krishna |
| Class Teacher & Library Incharge | : | Ch.Pavani |

HOD Date 04/7/2022

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

COURSE STRUCTURE AND SYLLABUS

For UG -R20

B. TECH - COMPUTER SCIENCE & ENGINEERING

(Applicable for batches admitted from 2020-2021)



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KAKINADA - 533 003, Andhra Pradesh, India

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KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

COURSE STRUCTURE

I Year – I SEMESTER						
S. No	Course Code	Courses	L	T	P	Credits
1	HS	Communicative English	3	0	0	3
2	BS	Mathematics - I (Calculus And Differential Equations)	3	0	0	3
3	BS	Applied Physics	3	0	0	3
4	ES	Programming for Problem Solving using C	3	0	0	3
5	ES	Computer Engineering Workshop	1	0	4	3
6	HS	English Communication Skills Laboratory	0	0	3	1.5
7	BS	Applied Physics Lab	0	0	3	1.5
8	ES	Programming for Problem Solving using C Lab	0	0	3	1.5
Total Credits			19.5			

I Year – II SEMESTER						
S. No	Course Code	Courses	L	T	P	Credits
1	BS	Mathematics – II (Linear Algebra And Numerical Methods)	3	0	0	3
2	BS	Applied Chemistry	3	0	0	3
3	ES	Computer Organization	3	0	0	3
4	ES	Python Programming	3	0	0	3
5	ES	Data Structures	3	0	0	3
6	BS	Applied Chemistry Lab	0	0	3	1.5
7	ES	Python Programming Lab	0	0	3	1.5
8	ES	Data Structures Lab	0	0	3	1.5
9	MC	Environment Science	2	0	0	0



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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

I Year – II Semester		L	T	P	C
		2	0	0	0
ENVIRONMENT SCIENCE					

Course Objectives:

The objectives of the course are to impart:

- Overall understanding of the natural resources.
- Basic understanding of the ecosystem and its diversity.
- Acquaintance on various environmental challenges induced due to unplanned anthropogenic activities.
- An understanding of the environmental impact of developmental activities.
- Awareness on the social issues, environmental legislation and global treaties.

UNIT I

Multidisciplinary nature of Environmental Studies: Definition, Scope and Importance – Sustainability: Stockholm and Rio Summit–Global Environmental Challenges: Global warming and climate change, acid rains, ozone layer depletion, population growth and explosion, effects. Role of information technology in environment and human health.

Ecosystems: 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, characteristic features, structure and function of Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems.

UNIT II

Natural Resources: Natural resources and associated problems.

Forest resources: Use and over – exploitation, deforestation – 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.

Food resources: World food problems, changes caused by non-agriculture activities-effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity.

Energy resources: Growing energy needs, renewable and non-renewable energy sources use of alternate energy sources.

Land resources: Land as a resource, land degradation, Wasteland reclamation, man induced landslides, soil erosion and desertification; Role of an individual in conservation of natural resources; Equitable use of resources for sustainable lifestyles.

UNIT III

Biodiversity and its conservation: Definition: genetic, species and ecosystem diversity-classification - Value of biodiversity: consumptive use, productive use, social-Biodiversity at national and local levels. India as a mega-diversity nation - Hot-spots of biodiversity - Threats to biodiversity: habitat loss, man-wildlife conflicts. - Endangered and endemic species of India – Conservation of biodiversity: conservation of biodiversity.

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KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

UNIT IV

Environmental Pollution: Definition, Cause, effects and control measures of Air pollution, Water pollution, Soil pollution, Noise pollution, Nuclear hazards. Role of an individual in prevention of pollution. - Pollution case studies, Sustainable Life Studies. Impact of Fire Crackers on Men and his well being.

Solid Waste Management: Sources, Classification, effects and control measures of urban and industrial solid wastes. Consumerism and waste products, Biomedical, Hazardous and e – waste management.

UNIT V

Social Issues and the Environment: Urban problems related to energy -Water conservation, rain water harvesting-Resettlement and rehabilitation of people; its problems and concerns. Environmental ethics: Issues and possible solutions. Environmental Protection Act -Air (Prevention and Control of Pollution) Act. -Water (Prevention and control of Pollution) Act - Wildlife Protection Act -Forest Conservation Act-Issues involved in enforcement of environmental legislation. -Public awareness.

Environmental Management: Impact Assessment and its significance various stages of EIA, preparation of EMP and EIS, Environmental audit. Ecotourism, Green Campus – Green business and Green politics.

The student should Visit an Industry / Ecosystem and submit a report individually on any issues related to Environmental Studies course and make a power point presentation.

Text Books:

- 1) Environmental Studies, K. V. S. G. Murali Krishna, VGS Publishers, Vijayawada
- 2) Environmental Studies, R. Rajagopalan, 2nd Edition, 2011, Oxford University Press.
- 3) Environmental Studies, P. N. Palanisamy, P. Manikandan, A. Geetha, and K. Manjula Rani; Pearson Education, Chennai

Reference Books:

- 1) Text Book of Environmental Studies, Deeshita Dave & P. Udaya Bhaskar, Cengage Learning.
- 2) A Textbook of Environmental Studies, Shaashi Chawla, TMH, New Delhi
- 3) Environmental Studies, Benny Joseph, Tata McGraw Hill Co, New Delhi
- 4) Perspectives in Environment Studies, Anubha Kaushik, C P Kaushik, New Age International Publishers, 2014

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SRK INSTITUTE OF TECHNOLOGY
Enikepadu, Vijayawada 521108
Department of Science and Humanities



CLASS TIME TABLE

SRKIT / S&H / 10.2

Academic Year: 2022-23

Class: CSE -A

Semester: II

w.e.f: 27-02-2023

Section A										
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25-01:15	01:15 - 02:00	2:00-2:45	2:45-3:30	03:30-04:15
Period	1	2	3	BREAK	4	5	LUNCH	6	7	8
MON	CO	T&P			AC	PP		M-II	CO	DS
TUE	-----DS LAB-----				T&P	M-II		AC	PP	
WED	-----AC LAB-----				DS(T)	CO		PP	M-II	
THU	DS	M-II			CO	PP		SS	AC(T)	
FRI	ES	M-II(T)			AC	DS		-----PP LAB-----		
SAT	AC	ES	M-II		CO(T)			DS	PP(T)	



S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-II (R201201)	Dr.K. Krishna Rao / Mr. K. Basavaraju
2	Applied Chemistry (R201215)	Dr.T.V.Nagalakshmi
3	Computer Organization (R201216)	Mr.B. Ravi
4	Data Structures (R201218)	Ms.N.Sarada Kumari
5	Python Programming (R201225)	Ms. M.Ramana
6	Environmental Science (R201228)	Ms.G.K.Deepthi
7	Applied Chemistry Laboratory (R201239)	Dr.T.V.Nagalakshmi / Dr. B.Sowjanya
8	Data Structures Laboratory (R201241)	Ms.N.Sarada Kumari
9	Python Programming Laboratory (R201250)	Ms. . M.Ramana
10	Soft Skills	Ms.V.Navatha

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27/2/23

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 SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA	SRK INSTITUTE OF TECHNOLOGY Enikepadu, Vijayawada 521108 Department of Science and Humanities CLASS TIME TABLE	 SRKIT / S&H / 10.2
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Academic Year: 2022-23

Class: CSE-B

Semester: II

w.e.f: 27-02-2023

Section B											
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25 - 01:15	01:15-02:00	2:00-2:45	2:45-3:30	03:30-04:15	
Period	1	2	3	BREAK	4	5	LUNCH	6	7	8	
MON	AC	CO	M-II		T&P	DS		PP	ES		
TUE	M-II	T&P			AC	PP		-----AC LAB-----			
WED	SS	AC	M-II		PP(T)			CO	DS(T)		
THU	-----PP LAB-----				CO	DS		M-II	AC(T)		
FRI	-----DS LAB-----				PP	M-II		M-II	CO	DS	
SAT	DS	AC	PP		CO(T)			ES	M-II(T)		

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-II (R201201)	Mr. K. Basavaraju
2	Applied Chemistry (R201215)	Dr. B.Sowjanya
3	Computer Organization (R201216)	Ms.S.V.L.S. Jyothi
4	Data Structures (R201218)	Ms.N.Sarada Kumari
5	Python Programming (R201225)	Ms.D.Nalini Kumari
6	Environmental Science (R201228)	Ms.G.K.Deepthi
7	Applied Chemistry Laboratory (R201239)	Dr. B.Sowjanya / Dr.T.V.Nagalakshmi
8	Data Structures Laboratory (R201241)	Ms.N.Sarada Kumari
9	Python Programming Laboratory (R201250)	Ms.D.Nalini Kumari
10	Soft Skills	Ms.V.Navatha

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

DEPARTMENT OF INFORMATION TECHNOLOGY

COURSE STRUCTURE AND SYLLABUS

For UG - R20

B. TECH - INFORMATION TECHNOLOGY

(Applicable for batches admitted from 2020-2021)



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

KAKINADA - 533 003, Andhra Pradesh, India

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

DEPARTMENT OF INFORMATION TECHNOLOGY

II Year - I SEMESTER

S.No	Course Code	Courses	L	T	P	Credits
1	BS	Mathematics - III	3	0	0	3
2	IT	Object Oriented Programming through C++	3	0	0	3
3	IT	Operating Systems	3	0	0	3
4	IT	Database Management Systems	3	0	0	3
5	IT	Discrete Mathematics and Graph Theory	3	0	0	3
6	IT	Object Oriented Programming through C++ Lab	0	0	3	1.5
7	IT	Operating Systems Lab	0	0	3	1.5
8	IT	Database Management Systems Lab	0	0	3	1.5
9	SO	Skill oriented Course - I 1) Animations- 2D Animation 2) Distributed Technologies- NoSQL	0	0	4	2
10	MC	Constitution of India	2	0	0	0
Total Credits						21.5

II Year - II SEMESTER

S.No	Course Code	Courses	L	T	P	Credits
1	BS	Statistics with R	2	0	2	3
2	IT	Principles of Software Engineering	3	0	0	3
3	IT	Automata Theory and Compiler Design	3	0	0	3
4	ES	Java Programming	3	0	0	3
5	HS	Managerial Economics and Financial Accountancy	3	0	0	3
6	IT	UML Lab	0	1	2	2
7	IT	FOSS Lab	0	0	2	1
8	ES	Java Programming Lab	0	0	3	1.5
9	SO	Skill oriented Course - II 1) Animations- 3D Animation 2) Distributed Technologies- MongoDB	0	0	4	2
Total Credits						21.5

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KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF INFORMATION TECHNOLOGY

III B. Tech – I Semester

S.No	Course Code	Courses	Hours per week			Credits
			L	T	P	
1	PC	Computer Networks	3	0	0	3
2	PC	Design and Analysis of Algorithms	3	0	0	3
3	PC	Data Mining Techniques	3	0	0	3
4	Open Elective/Job Oriented	Open Elective-I Open Electives offered by other departments/ DevOps (Job Oriented course)	3	0	0	3
5	PE	Professional Elective-I 1. Artificial Intelligence 2. Agile Software Process 3. Distributed Systems 4. Advanced Unix Programming	3	0	0	3
6	PC	Data Mining Techniques with R Lab	0	0	3	1.5
7	PC	Computer Networks Lab	0	0	3	1.5
8	SO	Skill Oriented Course - III 1. Animation course: Animation Design OR 2. Continuous Integration and Continuous Delivery using DevOps	0	0	4	2
9	MC	Employability Skills-I	2	0	0	0
10	PR	Summer Internship 2 Months(Mandatory) after second year(to be evaluated during V semester	0	0	0	1.5
Total credits						21.5
11	Minor	Computer Networks ⁵	3	0	2	3+1
12	Honors	Any course from the Pool, as per the opted track	4	0	0	4

5- Integrated Course

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KAKINADA - 533 003, Andhra Pradesh, India

DEPARTMENT OF INFORMATION TECHNOLOGY

III B. Tech - II Semester						
S.No	Course Code	Courses	Hours per week			Credits
			L	T	P	C
1	PC	Machine Learning	3	0	0	3
2	PC	Big Data Analytics	3	0	0	3
3	PC	Cryptography and Network Security	3	0	0	3
4	PE	Professional Elective-II 1.Mobile Computing 2.MEAN Stack Development 3. Design Patterns 4.Scripting Languages	3	0	0	3
5	Open Elective/ Job Oriented	Open Elective-II Open Electives offered by other departments	3	0	0	3
6	PC	Big Data Analytics lab	0	0	3	1.5
7	PC	Machine Learning using Python Lab	0	0	3	1.5
8	PC	Cryptography and Network Security Lab	0	0	3	1.5
9	SO	Skill Oriented Course - IV 1.Data Science: Natural Language Processing OR 2.Video Analytics	0	0	4	2
10	MC3201	Employability skills-II	2	0	0	0
Total credits						21.5
Industrial/Research Internship(Mandatory) 2 Months during summer vacation						
11	Minor	Data Structures and Algorithms ^S	3	0	2	3+1
12	Honors	Any course from the Pool, as per the opted track	4	0	0	4
Minor course through SWAYAM			-	-	-	2

S- Integrated Course

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DEPARTMENT OF INFORMATION TECHNOLOGY

IV Year – I SEMESTER

S.No	Course Code	Courses	L	T	P	Credits
1	IT4101	Cryptography and Network Security	3	0	0	3
2	IT4102	Machine Learning	3	1	0	4
3	IT4103	Advanced Computer Networks	3	0	0	3
4	OE4101	Open Elective II (Inter Disciplinary)	3	0	0	3
5	PE4101	Professional Elective III 1. Big Data Analytics 2. Social Networking 3. Ad-hoc and Sensor Networks 4. Cloud Computing 5. Design Patterns	3	0	0	3
6	PE4102	Professional Elective IV 1. Distributed Systems 2. DevOps 3. Internet of Things 4. Data Science 5. Biometrics	3	0	0	3
7	IT4104	Unified Modeling Language (UML) Lab *	0	0	2	1
8	PR4101	Project –I	0	0	0	2
9	MC4101	IPR & Patents	3	0	0	0
Total			21	1	2	22

*Relevant theory to be taught in the lab

(Signature)

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DEPARTMENT OF INFORMATION TECHNOLOGY

II Year - I Semester		L	T	P	C
		2	0	0	0
CONSTITUTION OF INDIA					

Course Objectives:

- To Enable the student to understand the importance of constitution
- To understand the structure of executive, legislature and judiciary
- To understand philosophy of fundamental rights and duties
- To understand the autonomous nature of constitutional bodies like Supreme Court and high court controller and auditor general of India and election commission of India.
- To understand the central and state relation financial and administrative

Course Outcomes:

At the end of the course, the student will be able to have a clear knowledge on the following:

- Understand historical background of the constitution making and its importance for building a democratic India.
- Understand the functioning of three wings of the government i.e., executive, legislative and judiciary.
- Understand the value of the fundamental rights and duties for becoming good citizen of India.
- Analyze the decentralization of power between central, state and local self-government.
- Apply the knowledge in strengthening of the constitutional institutions like CAG, Election Commission and UPSC for sustaining democracy.
 1. Know the sources, features and principles of Indian Constitution.
 2. Learn about Union Government, State government and its administration.
 3. Get acquainted with Local administration and Panchayati Raj.
 4. Be aware of basic concepts and developments of Human Rights.
 5. Gain knowledge on roles and functioning of Election Commission

UNIT I

Introduction to Indian Constitution: Constitution meaning of the term, Indian Constitution - Sources and constitutional history, Features - Citizenship, Preamble, Fundamental Rights and Duties, Directive Principles of State Policy.

Learning outcomes: After completion of this unit student will

- Understand the concept of Indian constitution
- Apply the knowledge on directive principle of state policy
- Analyze the History, features of Indian constitution
- Evaluate Preamble Fundamental Rights and Duties

UNIT II

Union Government and its Administration Structure of the Indian Union: Federalism, Centre-State relationship, President: Role, power and position, PM and Council of ministers, Cabinet and Central Secretariat, Lok Sabha, Rajya Sabha, The Supreme Court and High Court: Powers and Functions;

Learning outcomes: After completion of this unit student will

- Understand the structure of Indian government
- Differentiate between the state and central government
- Explain the role of President and Prime Minister
- Know the Structure of supreme court and High court

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UNIT III

State Government and its Administration Governor - Role and Position - CM and Council of ministers, State Secretariat: Organisation, Structure and Functions

Learning outcomes: After completion of this unit student will

- Understand the structure of state government
- Analyze the role Governor and Chief Minister
- Explain the role of state Secretariat
- Differentiate between structure and functions of state secretariat

UNIT IV

A. Local Administration - District's Administration Head - Role and Importance, Municipalities - Mayor and role of Elected Representative - CEO of Municipal Corporation
PachayatiRaj: Functions PRI: ZilaPanchayat, Elected officials and their roles, CEO ZilaPanchayat: Block level Organizational Hierarchy - (Different departments), Village level - Role of Elected and Appointed officials - Importance of grass root democracy

Learning outcomes:-After completion of this unit student will

- Understand the local Administration
- Compare and contrast district administration role and importance
- Analyze the role of Myer and elected representatives of Municipalities
- Evaluate Zillapanchayat block level organisation

UNIT V

Election Commission: Election Commission- Role of Chief Election Commissioner and Election Commissionerate State Election Commission:, Functions of Commissions for the welfare of SC/ST/OBC and women

Learning outcomes: After completion of this unit student will

- Know the role of Election Commission apply knowledge
- Contrast and compare the role of Chief Election commissioner and Commissionerate
- Analyze role of state election commission
- Evaluate various commissions of viz SC/ST/OBC and women

References:

- 1) Durga Das Basu, Introduction to the Constitution of India, Prentice Hall of India Pvt. Ltd.
- 2) SubashKashyap, Indian Constitution, National Book Trust
- 3) J.A. Siwach, Dynamics of Indian Government & Politics
- 4) D.C. Gupta, Indian Government and Politics
- 5) H.M.Sreevai, Constitutional Law of India, 4th edition in 3 volumes (Universal Law Publication)
- 6) J.C. Johari, Indian Government and Politics Hans
- 7) J. Raj Indian Government and Politics
- 8) M.V. Pylee, Indian Constitution Durga Das Basu, Human Rights in Constitutional Law, Prentice – Hall of India Pvt. Ltd., New Delhi
- 9) Noorani, A.G., (South Asia Human Rights Documentation Centre), Challenges to Civil Right), Challenges to Civil Rights Guarantees in India, Oxford University Press 2012

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e-Resources:

- 1) nptel.ac.in/courses/109104074/8
- 2) nptel.ac.in/courses/109104045/
- 3) nptel.ac.in/courses/101104065/
- 4) www.hss.iitb.ac.in/en/lecture-details
- 5) www.iitb.ac.in/en/event/2nd-lecture-institute-lecture-series-indian-constitution

A handwritten signature in green ink, appearing to be 'S. Subbarao'.

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DEPARTMENT OF INFORMATION TECHNOLOGY

III Year – I Semester	L	T	P	C
	2	0	0	0
EMPLOYABILITY SKILLS-I				

Course Objectives:

The main objective of this course is to assist students in developing employability skills and personal qualities related to gaining and sustaining employment.

Course Outcomes: The end of the course student will be able to

- Understand the corporate etiquette.
- Make presentations effectively with appropriate body language
- Be composed with positive attitude
- Understand the core competencies to succeed in professional and personal life

UNIT I:

Analytical Thinking & Listening Skills: Self-Introduction, Shaping Young Minds - A Talk by Azim Premji (Listening Activity), Self – Analysis, Developing Positive Attitude, Perception.

Communication Skills: Verbal Communication; Non Verbal Communication (Body Language)

UNIT II:

Self-Management Skills: Anger Management, Stress Management, Time Management, Six Thinking Hats, Team Building, Leadership Qualities

Etiquette: Social Etiquette, Business Etiquette, Telephone Etiquette, Dining Etiquette

UNIT III:

Standard Operation Methods: Note Making, Note Taking, Minutes Preparation, Email & Letter Writing

Verbal Ability: Synonyms, Antonyms, One Word Substitutes-Correction of Sentences-Analogies, Spotting Errors, Sentence Completion, Course of Action -Sentences Assumptions, Sentence Arguments, Reading Comprehension, Practice work

UNIT IV:

Job-Oriented Skills –I: Group Discussion, Mock Group Discussions

UNIT V:

Job-Oriented Skills –II: Resume Preparation, Interview Skills, Mock Interviews

Text Books and Reference Books:

1. Barun K. Mitra, Personality Development and Soft Skills, Oxford University Press, 2011.
2. S.P. Dhanavel, English and Soft Skills, Orient Blackswan, 2010.
3. R.S.Aggarwal, A Modern Approach to Verbal & Non-Verbal Reasoning, S.Chand & Company Ltd., 2018.
4. Raman, Meenakshi & Sharma, Sangeeta, Technical Communication Principles and Practice, Oxford University Press, 2011.

e-resources:

1. www.Indiabix.com
2. www.freshersworld.com

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DEPARTMENT OF INFORMATION TECHNOLOGY

III Year – II Semester		L	T	P	C
		2	0	0	0
EMPLOYABILITY SKILLS-II					

Course Objectives:

The main objective of this course is to assist students in developing employability skills and personal qualities related to gaining and sustaining employment.

Course Outcomes: After completion of this course

- Solve various Basic Mathematics problems by following different methods
- Follow strategies in minimizing time consumption in problem solving Apply shortcut methods to solve problems
- Confidently solve any mathematical problems and utilize these mathematical skills both in their professional as well as personal life.
- Analyze, summarize and present information in quantitative forms including table, graphs and formulas

UNIT I:

Numerical ability I: Number system, HCF & LCM, Average, Simplification, Problems on numbers

Numerical ability II: Ratio & Proportion, Partnership, Percentages, Profit & Loss

UNIT II:

Arithmetical ability I: Problems on ages, Time & Work, Pipes & Cistern, Chain Rule.

Arithmetical ability II: Time & Distance, Problems on boats & Steams, Problems on Trains

UNIT III:

Arithmetical ability III: Allegation, Simple interest and compound interest, Races & Games of skills, Calendar and Clock,

Logical ability: Permutations and Combination and Probability.

UNIT IV:

Mensuration: Geometry, Areas, Volumes

UNIT V:

Data interpretation: Tabulation, Bar graphs, Pie charts, line graphs

Text Books And Reference Books:

1. R. S. Aggarwal "Quantitative Aptitude", Revised ed., S Chand publication, 2017 ISBN:8121924987

E- resources:

1. https://blog.feedspot.com/aptitude_youtube_channels/
2. https://www.tutorialspoint.com/quantitative_apititude/
3. <https://www.careerbless.com/aptitude/qa/home.php>

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DEPARTMENT OF INFORMATION TECHNOLOGY

IV Year – I Semester		L	T	P	C
		3	0	0	0
IPR & PATENTS					

Course Objectives:

- To know the importance of Intellectual property rights, which plays a vital role in advanced Technical and Scientific disciplines
- Imparting IPR protections and regulations for further advancement, so that the students can familiarize with the latest developments

Course Outcomes:

- IPR Laws and patents pave the way for innovative ideas which are instrumental for inventions to seek Patents
- Student gets an insight on Copyrights, Patents and Software patents which are instrumental for further advancements

UNIT I

Introduction to Intellectual Property Rights (IPR): Concept of Property - Introduction to IPR – International Instruments and IPR - WIPO - TRIPS – WTO -Laws Relating to IPR - IPR Tool Kit - Protection and Regulation - Copyrights and Neighboring Rights – Industrial Property – Patents - Agencies for IPR Registration – Traditional Knowledge –Emerging Areas of IPR - Layout Designs and Integrated Circuits – Use and Misuse of Intellectual Property Rights.

UNIT II

Copyrights and Neighboring Rights: Introduction to Copyrights – Principles of Copyright Protection – Law Relating to Copyrights - Subject Matters of Copyright – Copyright Ownership – Transfer and Duration – Right to Prepare Derivative Works –Rights of Distribution – Rights of Performers – Copyright Registration – Limitations – Infringement of Copyright – Relief and Remedy – Case Law ; Semiconductor Chip Protection Act.

UNIT III

Introduction to Patents - Laws Relating to Patents in India – Patent Requirements – Product Patent and Process Patent - Patent Search - Patent Registration and Granting of Patent - Exclusive Rights – Limitations - Ownership and Transfer — Revocation of Patent – Patent Appellate Board - Infringement of Patent – Compulsory Licensing — Patent Cooperation Treaty – New developments in Patents – Software Protection and Computer related Innovations

UNIT IV

Introduction to Trademarks – Laws Relating to Trademarks – Functions of Trademark – Distinction between Trademark and Property Mark – Marks Covered under Trademark Law - Trade Mark Registration – Trade Mark Maintenance – Transfer of rights - Deceptive Similarities Likelihood of Confusion - Dilution of Ownership – Trademarks Claims and Infringement – Remedies – Passing Off Action.

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UNIT V

Introduction to Trade Secrets – General Principles - Laws Relating to Trade Secrets –Maintaining Trade Secret – Physical Security – Employee Access Limitation – Employee Confidentiality Agreements
Breach of Contract –Law of Unfair Competition – Trade Secret Litigation – Applying State Law. Cyber Law – Information Technology Act 2000 - Protection of Online and Computer Transactions – E-commerce - Data Security – Authentication and Confidentiality - Privacy - Digital Signatures – Certifying Authorities - Cyber Crimes - Prevention and Punishment – Liability of Network Providers.

References:

- 1) Intellectual Property Rights (Patents & Cyber Law), Dr. A. Srinivas, Oxford University Press, New Delhi.
- 2) Deborah E.Bouchoux: Intellectual Property, Cengage Learning, New Delhi.
- 3) Prabhuddha Ganguli: Intellectual Property Rights, Tata Mc-Graw –Hill, New Delhi
- 4) Richard Stim: Intellectual Property, Cengage Learning, New Delhi.
- 5) Kompal Bansal &Parishit Bansal Fundamentals of IPR for Engineers, B. S. Publications (Press).
- 6) Cyber Law - Texts & Cases, South-Western's Special Topics Collections.
- 7) R.Radha Krishnan, S.Balasubramanian: Intellectual Property Rights, Excel Books. New Delhi.
- 8) M.Ashok Kumar and MohdIqbal Ali: Intellectual Property Rights, Serials Pub.

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CLASS TIME TABLE

Regulation :R20

II/IV B. Tech – I SEM Time Table(2022-23) (R20)

PERIOD	1	2	3	4	5	6	7	8
TIME/ DAY	9:00-9:50	9:50-10:40	10:45-11:35	11:35-12:25	1:10-2:00	2:00-2:45	2:50-3:35	3:35-4:25
MON	OS	DBMS	M-III	OOPS	-----OS LAB-----			
TUE	-----OOPS THROUGH C++-----				DMG	OS	OOPS	DBMS
WED	DBMS	M-III	DMG	CI	-----DBMS LAB-----			
THU	M-III	OS	OOPS	DMG	DBMS	OOPS	M-III	DMG
FRI	OOPS	M-III	DBMS	OS	-----SKILL ORIENTED LAB---			
SAT	DMG	DBMS	OS	OOPS	M-III	OS	DMG	CI

12.25P.M to 01.10 P.M Lunch Break

NAME OF THE SUBJECT

NAME OF THE FACULTY

Mathematics - III	Mrs.V.Prasanthi
Object Oriented Programming through C++	Mrs.A.Akhila
Operating Systems	Mrs.Amritha Mishra
Database Management Systems	Mrs A.Veda Sri
Discrete Mathematics and Graph Theory	Mrs.V.V.M.Sri Vidya
Operating Systems Lab	Mrs.Amritha Mishra
Database Management Systems Lab	Mrs A.Veda Sri
Skill oriented Course – I	Mrs A.Veda Sri
Distributed Technologies- NoSQL	Mrs A.Veda Sri
Constitution of India	Mrs.N.Gayathri

HOD 28/10

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CLASS TIME TABLE

w.e.f.: 1/8/22

Room no: 409


III/IV B. Tech – I SEM Time Table(2022-23) (R20)

PERIOD	1	2	3	4	5	6	7	8
TIME/ DAY	9:00-9:50	9:50-10:40	10:45-11:35	11:35-12:25	1:10-2:00	2:00-2:45	2:50-3:35	3:35-4:25
MON	SET	CN	DAA	DM	AUP	ES-I	DM	LIB
TUE	DAA	SET	DM	AUP	-----DM LAB-----			
WED	-----CN LAB-----				DAA	AUP	DM	SET
THU	CN	AUP	SET	DAA	-SKILL ORIENTED COURSE--			
FRI	SET	AUP	CN	DM	CN	DAA	DAA	ES-I
SAT	DM	CN	SET	AUP	CN	INTERNSHIP		COUN

NAME OF THE SUBJECT

NAME OF THE FACULTY

Computer Networks	Mrs.A.Akhila
Design and Analysis of Algorithms	Ms.V.Lalitha
Data Mining Techniques	Mrs G.Srilakshmi
Professional Elective-I	
Advanced Unix Programming	Mr.G.D.K.Kishore
Open Elective-I	
Sustainable Energy Technologies	Mr.U.TANOJ
Data Mining Techniques with R Lab	Mrs G.Srilakshmi
Computer Networks Lab	Mrs.Amrita Mishra/ Mrs.A.Akhila
Skill Oriented Course - III	
Employability Skills-I	Ms.V.Navatha
Summer Internship 2 Months(Mandatory) after second year	Mrs.P.Sai Charita


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CLASS TIME TABLE



SRKIT / IT / 10.1

III/IV B. Tech – II SEM Time Table (2022-23)
 Regulation: R20

w.e.f.: 9-1-2023

Room no:409

PERIOD	1	2	3	4	12.25P.M to 01.10 P.M Lunch Break	5	6	7	8
TIME/ DAY	9:00A.M to 09:50 A.M	09:50A.M to 10:40A.M	10:45 A.M to 11:35 A.M	11:35 A.M to 12:25P.M		01:10P.M to 02:00P.M	02:00 P.M to 02:45 P.M	02:50P.M to 03:35 P.M	03:35P.M to 04:20 P.M
MON	Big Data Analytics Lab			ML(T)		DP	CNS	DM	LIB
TUE	BDA	DP	EM-II	BDA(T)		Machine Learning Lab			SPORTS
WED	ML	CNS	BDA	DP(T)		DM	BDA	DP	CNS(T)
THU	SKILL ORIENTED LAB-IV					DM	DP	CNS	ML
FRI	CNS	DM	BDA	ML		CNS LAB			COUNCELING
SAT	DM	ML	CNS	DP		EMP-II	BDA	DM	

S.No	Name of the Subject	Name of the Faculty
1	Machine Learning (R2032051)	Mrs .G.Sri Lakshmi
2	Big Data Analytics (R2032121)	Mr. M.Suresh Babu
3	Cryptography and Network Security(R2032053)	Mrs.Amritha Mishra
4	Open Elective –I Disater Management(R203201G)	Mr. B.Saikumar Reddy
5	Professional Elective-II Design Patterns (R203212B)	Mrs.A.Akhila
6	Machine Learning using Python Lab (R2032054)	Mrs .G.Sri Lakshmi
7	Big Data Analytics Lab(R2032122)	Mr. M.Suresh Babu
8	Cryptography and Network Security Lab(R2032056)	Mrs.Amritha Mishra
9	Skill oriented course-IV(R2032123)	Mrs.A.Akhila
10	Employability Skills-II(R2032125)	Mrs. V. Prasanthi


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CLASS TIME TABLE

w.e.f.: 4-7-2022

Room no: 410

IV/IV B. Tech – I SEM Time Table(2022-23)(R19)

DAY/ Hr	I 9:00-9:50	II 9:50-10:40	III 10:45-11:35	IV 11:35-12:25	LUNCN(12:25 to 1:10)	V 1:10-2:00	VI 2:00-2:45	VII 2:50-3:35	VIII 3:35-4:20
MON	ROBO	ML	DP	CNS		IPR	IOT	ACN	COUN
TUE	ML	DP	ACN	ROBO		CNS	ACN	IOT	IOT
WED	IOT	ACN	ROBO	DP		ML	CNS	IOT	IPR
THR U	-----UML LAB-----					ROBO	DP	ACN	ML
FRI	ACN	CNS	IOT	ROBO		DP	ML	CNS	IPR
SAT	CNS	DP	ROBO	ML		-----PROJECT----			

NAME OF THE SUBJECT

NAME OF THE FACULTY

Cryptography And Network Security	Mrs.Amritha Mishra
Machine Learning	Mrs G.Srilakshmi
Advanced Computer Networks	Mrs A.Veda Sri
Design Patterns	Mr.G.D.K.Kishore
Internet Of Things	Ms.V.Lalitha
Open Elective-II ROBOTICS	Dr.A.Stanly Kumar
Ipr & Patents	Ms.T.Sowjanya
Unified Modeling Language (Uml) Lab	Mrs G.Srilakshmi
Project -I	Mr.G.D.K.Kishore/Mr.S.Moshe Dayan

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(Signature)
 HOD 4/7/22

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DEPARTMENT OF INFORMATION TECHNOLOGY

COURSE STRUCTURE AND SYLLABUS

For UG – R20

B. TECH - INFORMATION TECHNOLOGY

(Applicable for batches admitted from 2020-2021)



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

KAKINADA - 533 003, Andhra Pradesh, India

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DEPARTMENT OF INFORMATION TECHNOLOGY

COURSE STRUCTURE

I Year - I SEMESTER

S. No	Course Code	Courses	L	T	P	Credits
1	HS	Communicative English	3	0	0	3
2	BS	Mathematics - I (Calculus And Differential Equations)	3	0	0	3
3	BS	Applied Physics	3	0	0	3
4	ES	Programming for Problem Solving using C	3	0	0	3
5	ES	Computer Engineering Workshop	1	0	4	3
6	HS	English Communication Skills Laboratory	0	0	3	1.5
7	BS	Applied Physics Lab	0	0	3	1.5
8	ES	Programming for Problem Solving using C Lab	0	0	3	1.5
Total Credits						19.5

I Year - II SEMESTER

S. No	Course Code	Courses	L	T	P	Credits
1	BS	Mathematics - II (Linear Algebra And Numerical Methods)	3	0	0	3
2	BS	Applied Chemistry	3	0	0	3
3	ES	Computer Organization	3	0	0	3
4	ES	Python Programming	3	0	0	3
5	ES	Data Structures	3	0	0	3
6	BS	Applied Chemistry Lab	0	0	3	1.5
7	ES	Python Programming Lab	0	0	3	1.5
8	ES	Data Structures Lab	0	0	3	1.5
9	MC	Environment Science	2	0	0	0
Total Credits						19.5

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

DEPARTMENT OF INFORMATION TECHNOLOGY

I Year - II Semester		L	T	P	C
		2	0	0	0
ENVIRONMENT SCIENCE					

Course Objectives:

The objectives of the course are to impart:

- Overall understanding of the natural resources.
- Basic understanding of the ecosystem and its diversity.
- Acquaintance on various environmental challenges induced due to unplanned anthropogenic activities.
- An understanding of the environmental impact of developmental activities.
- Awareness on the social issues, environmental legislation and global treaties.

UNIT I

Multidisciplinary nature of Environmental Studies: Definition, Scope and Importance - Sustainability: Stockholm and Rio Summit-Global Environmental Challenges: Global warming and climate change, acid rains, ozone layer depletion, population growth and explosion, effects. Role of information technology in environment and human health.

Ecosystems: 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, characteristic features, structure and function of Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems.

UNIT II

Natural Resources: Natural resources and associated problems.

Forest resources: Use and over - exploitation, deforestation - 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.

Food resources: World food problems, changes caused by non-agriculture activities-effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity.

Energy resources: Growing energy needs, renewable and non-renewable energy sources use of alternate energy sources.

Land resources: Land as a resource, land degradation, Wasteland reclamation, man induced landslides, soil erosion and desertification; Role of an individual in conservation of natural resources; Equitable use of resources for sustainable lifestyles.

UNIT III

Biodiversity and its conservation: Definition: genetic, species and ecosystem diversity, classification - Value of biodiversity: consumptive use, productive use, social-Biodiversity at national and local levels. India as a mega-diversity nation - Hot-spots of biodiversity - Threats to biodiversity: habitat loss, man-wildlife conflicts. - Endangered and endemic species of India - Conservation of biodiversity: conservation of biodiversity.

The Principal

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KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF INFORMATION TECHNOLOGY

UNIT IV

Environmental Pollution: Definition, Cause, effects and control measures of Air pollution, Water pollution, Soil pollution, Noise pollution, Nuclear hazards. Role of an individual in prevention of pollution. - Pollution case studies, Sustainable Life Studies. Impact of Fire Crackers on Men and his well being.

Solid Waste Management: Sources, Classification, effects and control measures of urban and industrial solid wastes. Consumerism and waste products, Biomedical, Hazardous and e – waste management.

UNIT V

Social Issues and the Environment: Urban problems related to energy -Water conservation, rain water harvesting-Resettlement and rehabilitation of people; its problems and concerns. Environmental ethics: Issues and possible solutions. Environmental Protection Act -Air (Prevention and Control of Pollution) Act. -Water (Prevention and control of Pollution) Act - Wildlife Protection Act -Forest Conservation Act-Issues involved in enforcement of environmental legislation. -Public awareness.

Environmental Management: Impact Assessment and its significance various stages of EIA, preparation of EMP and EIS, Environmental audit. Ecotourism, Green Campus – Green business and Green politics.

The student should Visit an Industry / Ecosystem and submit a report individually on any issues related to Environmental Studies course and make a power point presentation.

Text Books:

- 1) Environmental Studies, K. V. S. G. Murali Krishna, VGS Publishers, Vijayawada
- 2) Environmental Studies, R. Rajagopalan, 2nd Edition, 2011, Oxford University Press.
- 3) Environmental Studies, P. N. Palanisamy, P. Manikandan, A. Geetha, and K. Manjula Rani; Pearson Education, Chennai

Reference Books:

- 1) Text Book of Environmental Studies, Deeshita Dave & P. Udaya Bhaskar, Cengage Learning.
- 2) A Textbook of Environmental Studies, Shaashi Chawla, TMH, New Delhi
- 3) Environmental Studies, Benny Joseph, Tata McGraw Hill Co, New Delhi
- 4) Perspectives in Environment Studies, Anubha Kaushik, C P Kaushik, New Age International Publishers, 2014

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SRK INSTITUTE OF TECHNOLOGY
Enikepadu, Vijayawada 521108
Department of Science and Humanities
CLASS TIME TABLE



SRKIT / S&H / 10.1

Academic Year: 2022-23

Class: IT

Semester: II

w.e.f: 27-02-2023

Section I											
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25-01:15	01:15 - 02:00	2:00-2:45	2:45-3:30	03:30-04:15	
Period	1	2	3	BREAK	4	5	LUNCH	6	7	8	
MON	AC	ES	DS		CO(T)			M-II(T)		PP	
TUE	M-II	CO	PP		DS(T)			----PP LAB----			
WED	CO	LIB	SS		M-II	AC		M-II	PP(T)		
THU	M-II	AC(T)			SS	M-II		DS	PP	CO	
FRI	DS	AC	PP		M-II	ES		----AC LAB----			
SAT	----DS LAB----				AC	ES		CO	DS	SPORTS	

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-II (R201201)	Ms.S.Kalpana
2	Applied Chemistry (R201215)	Dr.T.V.Nagalakshmi/ Ms.B.Madhavi
3	Computer Organization (R201216)	Mr. B.S.S.Telesh
4	Data Structures (R201218)	Ms. A. Akhila
5	Python Programming (R201225)	Mr. Basha
6	Environmental Science (R201228)	Ms.G.K.Deepthi
7	Applied Chemistry Laboratory (R201239)	Dr.T.V.Nagalakshmi
8	Data Structures Laboratory (R201241)	Ms. A. Akhila
9	Python Programming Laboratory (R201250)	Mr. Basha
10	Soft Skills	Ms.V.Navatha

HoD
27/2/23

(Signature)

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

COURSE STRUCTURE AND SYLLABUS

For UG - R20

B. Tech - COMPUTER SCIENCE AND ENGINEERING with Specialization

Common to

- (i) **CSE (ARTIFICIAL INTELLIGENCE and MACHINE LEARNING)-Branch Code:42**
- (ii) **ARTIFICIAL INTELLIGENCE and MACHINE LEARNING - Branch Code: 61**

(Applicable for batches admitted from 2020-2021)



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

COURSE STRUCTURE

I Year – I SEMESTER						
S. No	Course Code	Courses	L	T	P	Credits
1	HS1101	Communicative English	3	0	0	3
2	BS1101	Mathematics – I	3	0	0	3
3	BS1102	Applied Chemistry	3	0	0	3
4	ES1101	Programming for Problem Solving using C	3	0	0	3
5	ES1102	Computer Engineering Workshop	1	0	4	3
6	HS1102	English Communication Skills Laboratory	0	0	3	1.5
7	BS1103	Applied Chemistry Lab	0	0	3	1.5
8	ES1103	Programming for Problem Solving using C Lab	0	0	3	1.5
9	MC1101	Environmental Science*	2	0	0	0
Total Credits						19.5

I Year – II SEMESTER						
S. No	Course Code	Courses	L	T	P	Credits
1	BS1201	Mathematics – II	3	0	0	3
2	BS1202	Applied Physics	3	0	0	3
3	ES1201	Digital Logic Design	3	0	0	3
4	ES1202	Python Programming	3	0	0	3
5	CS1201	Data Structures	3	0	0	3
6	BS1203	Applied Physics Lab	0	0	3	1.5
7	ES1203	Python Programming Lab	0	0	3	1.5
8	CS1202	Data Structures Lab	0	0	3	1.5
9	MC1201	Constitution of India *	2	0	0	0
Total Credits						19.5

*Internal Evaluation

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KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

I Year - I Semester	L	T	P	C
	2	0	0	0
ENVIRONMENTAL SCIENCE (MC1101)				

Course Objectives:

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KAKINADA - 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

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DEPARTMENT OF CSE - ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

I Year – II Semester		L	T	P	C
		2	0	0	0
CONSTITUTION OF INDIA (MC1201)					

Course Objectives:

- To Enable the student to understand the importance of constitution
- To understand the structure of executive, legislature and judiciary
- To understand philosophy of fundamental rights and duties
- To understand the autonomous nature of constitutional bodies like Supreme Court and high court controller and auditor general of India and election commission of India.
- To understand the central and state relation financial and administrative

Course Outcomes:

At the end of the course, the student will be able to have a clear knowledge on the following:

- Understand historical background of the constitution making and its importance for building a democratic India.
- Understand the functioning of three wings of the government i.e., executive, legislative and judiciary.
- Understand the value of the fundamental rights and duties for becoming good citizen of India.
- Analyze the decentralization of power between central, state and local self-government.
- Apply the knowledge in strengthening of the constitutional institutions like CAG, Election Commission and UPSC for sustaining democracy.
 1. Know the sources, features and principles of Indian Constitution.
 2. Learn about Union Government, State government and its administration.
 3. Get acquainted with Local administration and Panchayati Raj.
 4. Be aware of basic concepts and developments of Human Rights.
 5. Gain knowledge on roles and functioning of Election Commission

UNIT I

Introduction to Indian Constitution: Constitution meaning of the term, Indian Constitution - Sources and constitutional history, Features - Citizenship, Preamble, Fundamental Rights and Duties, Directive Principles of State Policy.

Learning outcomes: After completion of this unit student will

- Understand the concept of Indian constitution
- Apply the knowledge on directive principle of state policy
- Analyze the History, features of Indian constitution
- Evaluate Preamble Fundamental Rights and Duties

UNIT II

Union Government and its Administration Structure of the Indian Union: Federalism, Centre-State relationship, President: Role, power and position, PM and Council of ministers, Cabinet and Central Secretariat, Lok Sabha, Rajya Sabha, The Supreme Court and High Court: Powers and Functions;

Learning outcomes: After completion of this unit student will

- Understand the structure of Indian government
- Differentiate between the state and central government
- Explain the role of President and Prime Minister

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KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

• Know the Structure of supreme court and High court
UNIT III
State Government and its Administration Governor - Role and Position - CM and Council of ministers, State Secretariat: Organisation, Structure and Functions

Learning outcomes: After completion of this unit student will

- Understand the structure of state government
- Analyze the role Governor and Chief Minister
- Explain the role of state Secretariat
- Differentiate between structure and functions of state secretariat

UNIT IV

A. Local Administration - District's Administration Head - Role and Importance, Municipalities - Mayor and role of Elected Representative - CEO of Municipal Corporation Pachayati Raj: Functions PRI: Zila Panchayat, Elected officials and their roles, CEO Zila Panchayat: Block level Organizational Hierarchy - (Different departments), Village level - Role of Elected and Appointed officials - Importance of grass root democracy

Learning outcomes: -After completion of this unit student will

- Understand the local Administration
- Compare and contrast district administration role and importance
- Analyze the role of Myer and elected representatives of Municipalities
- Evaluate Zillapanchayat block level organisation

UNIT V

Election Commission: Election Commission- Role of Chief Election Commissioner and Election Commissionerate State Election Commission:, Functions of Commissions for the welfare of SC/ST/OBC and women

Learning outcomes: After completion of this unit student will

- Know the role of Election Commission apply knowledge
- Contrast and compare the role of Chief Election commissioner and Commissiononerate
- Analyze role of state election commission
- Evaluate various commissions of viz SC/ST/OBC and women

References:

- 1) Durga Das Basu, Introduction to the Constitution of India, Prentice Hall of India Pvt. Ltd.
- 2) SubashKashyap, Indian Constitution, National Book Trust
- 3) J.A. Siwach, Dynamics of Indian Government & Politics
- 4) D.C. Gupta, Indian Government and Politics
- 5) H.M.Sreevai, Constitutional Law of India, 4th edition in 3 volumes (Universal Law Publication)
- 6) J.C. Johari, Indian Government and Politics Hans
- 7) J. Raj Indian Government and Politics
- 8) M.V. Pylee, Indian Constitution Durga Das Basu, Human Rights in Constitutional Law, Prentice – Hall of India Pvt. Ltd. New Delhi
- 9) Noorani, A.G., (South Asia Human Rights Documentation Centre), Challenges to Civil Right), Challenges to Civil Rights Guarantees in India, Oxford University Press 2012

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KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

e-Resources:

- 1) nptel.ac.in/courses/109104074/8
- 2) nptel.ac.in/courses/109104045/
- 3) nptel.ac.in/courses/101104065/
- 4) www.hss.iitb.ac.in/en/lecture-details
- 5) www.iitb.ac.in/en/event/2nd-lecture-institute-lecture-series-indian-constitution

A handwritten signature in green ink, appearing to read 'P. Srinivas', is written over the printed name of the Principal.

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SRK INSTITUTE OF TECHNOLOGY
 Enikepada, Vijayawada 521108
 Department of Science and Humanities
 Accredited by NAAC with "A" Grade
CLASS TIME TABLE



Academic Year: 2022-23

Class: CSM

Semester: I

w.e.f: 17-10-2022

Section I										
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25-01:15	01:15-02:00	2:00-2:45	2:45-3:30	03:30-04:15
Period	1	2	3		4	5		6	7	8
MON	-----CP LAB-----			BREAK	ES	M-I (T)	LUNCH	AC	CP	ENG
TUE	M-I	AC	LIB		ENG (T)			M-I	CP (T)	
WED	M-I		CP		AC (T)			-----ENG LAB-----		
THU	AC	M-I	CP		ENG	ES		-----AC LAB-----		
FRI	M-I	AC	SPORTS		AC	COUN		M-I (T)	CP	ENG
SAT	-----CEW LAB-----				ENG	M-I (T)		AC	CP	ES

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-I (R201101)	Ms.S.Suman
2	Communicative English (R201102)	Mr.P.Sam Joshi
3	Applied Chemistry (R201115)	Dr.T.V.Naga Lakshmi
4	Programming For Problem Solving Using C (R201110)	Ms.Padmaja
5	Environmental Science (R201114)	Ms.G.K.Deepthi
6	English Communication Skills Laboratory (R201106)	Mr.P.Sam Joshi / Ms.N.Gayathri
7	Applied Chemistry Lab(R201116)	Dr.T.V.Naga Lakshmi / Ms.G.K.Deepthi
8	Programming For Problem Solving Using C Lab(R201113)	Ms.Padmaja
9	Computer Engineering Workshop (R201118)	Ms.Ch.Pavani

HoD

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12/10/22

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SRK INSTITUTE OF TECHNOLOGY
 Enikepadu, Vijayawada 521108
 Department of Science and Humanities
CLASS TIME TABLE



SRKIT / S&H / 10.1

Academic Year: 2022-23

Class: CSM

Semester: II

w.e.f: 27-02-2023

Section I											
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25-01:15	01:15-02:00	2:00-2:45	2:45-3:30	03:30-04:15	
Period	1	2	3	BREAK	4	5	LUNCH	6	7	8	
MON	AP	DLD	M-II		COI	PP		----DS LAB----			
TUE	----AP LAB----				PP	M-II		DS	DLD	SPORTS	
WED	DS	PP	SS		M-II(T)			COI	DLD	AP	
THU	M-II	DS	DLD		AP(T)			----PP LAB----			
FRI	PP	AP	LIB		M-II(T)			DS	DLD(T)		
SAT	AP	SS	AP		DS(T)			M-II	PP(T)		

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-II (R201201)	Ms.S.Suman
2	Applied Physics (R201207)	Ms.Vidya Elizabeth
3	Digital Logic Design (R201221)	Ms.V. Sri Lakshmi
4	Python Programming (R201225)	Ms.G M.Padmaja
5	Constitution of India (R201229)	Ms.V.Navatha
6	Data Structures (R201218)	Ms.B.Tarmila Devi
7	Data Structures Laboratory (R201241)	Ms.B.Tarmila Devi
8	Applied Physics Laboratory (R201233)	Ms.Vidya Elizabeth / Dr.J. Ashok/Ms.B.Naga Jyothirmai
9	Python Programming Laboratory (R201250)	Ms.G M.Padmaja
10	Soft Skills	Mr.Yellamanda Vusa

HoD

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23/2/23

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - DATA SCIENCE

COURSE STRUCTURE

For UG - R20

B. Tech - COMPUTER SCIENCE AND ENGINEERING with Specialization
DATA SCIENCE

(Applicable for batches admitted from 2020-2021)



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - DATA SCIENCE

COURSE STRUCTURE

I Year – I SEMESTER

S. No	Course Code	Subjects	L	T	P	Credits
1	HS1101	Communicative English	3	0	0	3
2	BS1101	Mathematics – I	3	0	0	3
3	BS1102	Applied Chemistry	3	0	0	3
4	ES1101	Programming for Problem Solving using C	3	0	0	3
5	ES1102	Computer Engineering Workshop	1	0	4	3
6	HS1102	English Communication Skills Laboratory	0	0	3	1.5
7	BS1103	Applied Chemistry Lab	0	0	3	1.5
8	ES1103	Programming for Problem Solving using C Lab	0	0	3	1.5
9	MC1101	Environmental Science*	2	0	0	0
Total Credits			15	0	13	19.5

I Year – II SEMESTER

S. No	Course Code	Subjects	L	T	P	Credits
1	BS1201	Mathematics – II	3	0	0	3
2	BS1202	Applied Physics	3	0	0	3
3	ES1201	Digital Logic Design	3	0	0	3
4	ES1202	Python Programming	3	0	0	3
5	CS1201	Data Structures	3	0	0	3
6	BS1203	Applied Physics Lab	0	0	3	1.5
7	ES1203	Python Programming Lab	0	0	3	1.5
8	CS1202	Data Structures Lab	0	0	3	1.5
9	MC1201	Constitution of India *	2	0	0	0
Total Credits			17	0	9	19.5

*Internal Evaluation

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

I Year - I Semester	L	T	P	C
	2	0	0	0
ENVIRONMENTAL SCIENCE (MC1101)				

Course Objectives:

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- Overall understanding of the natural resources.
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UNIT III

Biodiversity and its conservation: Definition: genetic, species and ecosystem diversity-classification - Value of biodiversity: consumptive use, productive use, social-Biodiversity at national and local levels. India as a mega-diversity nation - Hot-spots of biodiversity - Threats to biodiversity: habitat loss, man-wildlife conflicts. - Endangered and endemic species of India – Conservation of biodiversity: conservation of biodiversity.


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

UNIT IV

Environmental Pollution: Definition, Cause, effects and control measures of Air pollution, Water pollution, Soil pollution, Noise pollution, Nuclear hazards. Role of an individual in prevention of pollution. - Pollution case studies, Sustainable Life Studies. Impact of Fire Crackers on Men and his well being.

Solid Waste Management: Sources, Classification, effects and control measures of urban and industrial solid wastes. Consumerism and waste products, Biomedical, Hazardous and e – waste management.

UNIT V

Social Issues and the Environment: Urban problems related to energy -Water conservation, rain water harvesting-Resettlement and rehabilitation of people; its problems and concerns. Environmental ethics: Issues and possible solutions. Environmental Protection Act -Air (Prevention and Control of Pollution) Act. -Water (Prevention and control of Pollution) Act - Wildlife Protection Act -Forest Conservation Act-Issues involved in enforcement of environmental legislation. -Public awareness.

Environmental Management: Impact Assessment and its significance various stages of EIA, preparation of EMP and EIS, Environmental audit. Ecotourism, Green Campus – Green business and Green politics.

The student should Visit an Industry / Ecosystem and submit a report individually on any issues related to Environmental Studies course and make a power point presentation.

Text Books:

- 1) Environmental Studies, K. V. S. G. Murali Krishna, VGS Publishers, Vijayawada
- 2) Environmental Studies, R. Rajagopalan, 2nd Edition, 2011, Oxford University Press.
- 3) Environmental Studies, P. N. Palanisamy, P. Manikandan, A. Geetha, and K. Marjula Rani; Pearson Education, Chennai

Reference Books:

- 1) Text Book of Environmental Studies, Deeshita Dave & P. UdayaBhaskar, 3rded, Cengage Learning.
- 2) A Textbook of Environmental Studies, ShaashiChawla, TMH, New Delhi
- 3) Environmental Studies, Benny Joseph, Tata McGraw Hill Co, New Delhi
- 4) Perspectives in Environment Studies, AnubhaKaushik, C P Kaushik, New Age International Publishers, 2014

e-learning resources:

- <http://nptel.ac.in/courses.php>
- <http://jntuk-cooerd.in/>


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KAKINADA.



SRK INSTITUTE OF TECHNOLOGY
 Enikepadu, Vijayawada 521108
 Department of Science and Humanities
 Accredited by NAAC with "A" Grade
CLASS TIME TABLE



Academic Year: 2022-23

Class: CSD

Semester: I

w.e.f: 17-10-2022

Section I											
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25-01:15	01:15 - 02:00	2:00-2:45	2:45-3:30	03:30-04:15	
Period	1	2	3	BREAK	4	5	LUNCH	6	7	8	
MON	M-I	AC	ENG		M-I	CP		-----ENG LAB-----			
TUE	M-I		CP		AC	ENG(T)		-----AC LAB-----			
WED	CP	ES	ENG		LIB	M-I (T)		CP	AC (T)		
THU	-----CEW LAB-----				AC	M-I(T)		CP(T)	ENG	SPORTS	
FRI	-----CP LAB-----				ENG	ES		AC	M-I (T)		
SAT	CP	AC	ENG		CP (T)	M-I		ES	COUN	AC	

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-I (R201101)	Ms.S.Kalpana
2	Communicative English (R201102)	Ms.V.Navatha
3	Applied Chemistry (R201115)	Dr.T.V.Naga Lakshmi
4	Programming For Problem Solving Using C (R201110)	Ms.Padmaja
5	Environmental Science (R201114)	Ms.G.K.Deepthi / Dr.N.Sri Devi
6	English Communication Skills Laboratory (R201106)	Ms.V.Navatha / Ms.N.Gayathri
7	Applied Chemistry Lab(R201116)	Dr.T.V.Naga Lakshmi / Ms.G.K.Deepthi/Ms.B.Madhavi
8	Programming For Problem Solving Using C Lab(R201113)	Ms.Padmaja
9	Computer Engineering Workshop (R201118)	Ms.R.Lakshmi

HoD

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17/10/22

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17/10/22



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KAKINADA - 533 003, Andhra Pradesh, India

I Year - II Semester	L	T	P	C
	2	0	0	0
CONSTITUTION OF INDIA (MC1201)				

Course Objectives:

- To Enable the student to understand the importance of constitution
- To understand the structure of executive, legislature and judiciary
- To understand philosophy of fundamental rights and duties
- To understand the autonomous nature of constitutional bodies like Supreme Court and high court controller and auditor general of India and election commission of India.
- To understand the central and state relation financial and administrative

Course Outcomes:

At the end of the course, the student will be able to have a clear knowledge on the following:

- Understand historical background of the constitution making and its importance for building a democratic India.
- Understand the functioning of three wings of the government i.e., executive, legislative and judiciary.
- Understand the value of the fundamental rights and duties for becoming good citizen of India.
- Analyze the decentralization of power between central, state and local self-government.
- Apply the knowledge in strengthening of the constitutional institutions like CAG, Election Commission and UPSC for sustaining democracy.
 1. Know the sources, features and principles of Indian Constitution.
 2. Learn about Union Government, State government and its administration.
 3. Get acquainted with Local administration and Panchayati Raj.
 4. Be aware of basic concepts and developments of Human Rights.
 5. Gain knowledge on roles and functioning of Election Commission

UNIT I

Introduction to Indian Constitution: Constitution meaning of the term, Indian Constitution - Sources and constitutional history, Features - Citizenship, Preamble, Fundamental Rights and Duties, Directive Principles of State Policy.

Learning outcomes: After completion of this unit student will

- Understand the concept of Indian constitution
- Apply the knowledge on directive principle of state policy
- Analyze the History, features of Indian constitution
- Evaluate Preamble Fundamental Rights and Duties

UNIT II

Union Government and its Administration Structure of the Indian Union: Federalism, Centre-State relationship, President: Role, power and position, PM and Council of ministers, Cabinet and Central Secretariat, Lok Sabha, Rajya Sabha, The Supreme Court and High Court: Powers and Functions;

Learning outcomes: After completion of this unit student will

- Understand the structure of Indian government
- Differentiate between the state and central government
- Explain the role of President and Prime Minister
- Know the Structure of supreme court and High court

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UNIT III

State Government and its Administration Governor, Role and Position, CM and Council of ministers, State Secretariat: Organisation, Structure and Functions

Learning outcomes: After completion of this unit student will

- Understand the structure of state government
- Analyze the role Governor, state Secretariat and Chief Minister
- Differentiate between structure and functions of state secretariat

UNIT IV

A. Local Administration, District's Administration Head, Role and Importance, Municipalities, Mayor and role of Elected Representative, CEO of Municipal Corporation PachayatiRaj: Functions PRI: ZilaPanchayat, Elected officials and their roles, CEO ZilaPanchayat: Block level Organizational Hierarchy(Different departments), Village level, Role of Elected and Appointed officials, Importance of grass root democracy

Learning outcomes: -After completion of this unit student will

- Understand the local Administration
- Compare and contrast district administration role and importance
- Analyze the role of Myer and elected representatives of Municipalities
- Evaluate Zillapanchayat block level organisation

UNIT V

Election Commission: Election Commission, Role of Chief Election Commissioner and Election Commissionerate State Election Commission:, Functions of Commissions for the welfare of SC/ST/OBC and women

Learning outcomes: After completion of this unit student will

- Know the role of Election Commission apply knowledge
- Contrast and compare the role of Chief Election commissioner and Commissiononerate
- Analyze role of state election commission
- Evaluate various commissions of viz SC/ST/OBC and women

References:

- 1) Durga Das Basu, Introduction to the Constitution of India, Prentice Hall of India Pvt. Ltd.
- 2) SubashKashyap, Indian Constitution, National Book Trust
- 3) J.A. Sivach, Dynamics of Indian Government & Politics
- 4) D.C. Gupta, Indian Government and Politics
- 5) H.M.Sreevai, Constitutional Law of India, 4th edition in 3 volumes (Universal Law Publication)
- 6) J.C. Johari, Indian Government and Politics Hans
- 7) J. Raj Indian Government and Politics
- 8) M.V. Pylee, Indian Constitution Durga Das Basu, Human Rights in Constitutional Law, Prentice - Hall of India Pvt. Ltd., New Delhi
- 9) Noorani, A.G., (South Asia Human Rights Documentation Centre), Challenges to Civil Rights Guarantees in India, Oxford University Press 2012

esources:

- 1) nptel.ac.in/courses/109104074/8
- 2) nptel.ac.in/courses/109104045/
- 3) nptel.ac.in/courses/101104065/
- 4) www.hss.iitb.ac.in/en/lecture-details
- 5) www.iitb.ac.in/en/event/2nd-lecture-institute-lecture-series-india-constitution

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DEPARTMENT OF CSE - DATA SCIENCE

II Year - I SEMESTER

S. No	Course Code	Courses	L	T	P	Credits
1	BS	Mathematics III	3	0	0	3
2	CS	Mathematical Foundations of Computer Science	3	0	0	3
3	CS	Fundamentals of Data Science	3	0	0	3
4	CS	Object Oriented Programming with Java	3	0	0	3
5	CS	Database Management Systems	3	0	0	3
6	CS	Fundamentals of Data Science Lab	0	0	3	1.5
7	CS	Object Oriented Programming with Java Lab	0	0	3	1.5
8	CS	Database Management Systems Lab	0	0	3	1.5
9	SO	Mobile App Development	0	0	4	2
10	MC	Essence of Indian Traditional Knowledge	2	0	0	0
Total Credits			17	0	13	21.5

II Year - II SEMESTER

S. No	Course Code	Courses	L	T	P	Credits
1	BS	Probability and Statistics	3	0	0	3
2	CS	Computer Organization	3	0	0	3
3	CS	Data Warehousing and Mining	3	0	0	3
4	ES	Formal Languages and Automata Theory	3	0	0	3
5	HS	Managerial Economics and Financial Accountancy	3	0	0	3
6	CS	R Programming Lab	0	0	3	1.5
7	CS	Data Mining using Python Lab	0	0	3	1.5
8	ES	Web Application Development Lab	0	0	3	1.5
9	SO	MongoDB	0	0	4	2
Total Credits						21.5
10	Minor	Fundamentals of Data Science ^S	3	0	2	4

S- Integrated Course

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II Year - I Semester	L	T	P	C
	2	0	0	0
ESSENCE OF INDIAN TRADITIONAL KNOWLEDGE (MC2101)				

Course Objectives:

- The course aims at imparting basic principles of thought process, reasoning and inferencing. Sustainability is at the core of Indian Traditional Knowledge Systems connecting society and nature.
- Holistic life style of Yogic-science and wisdom capsules in Sanskrit literature are also important in modern society with rapid technological advancements and societal disruptions.
- The course focuses on introduction to Indian Knowledge System, Indian perspective of modern scientific world-view and basic principles of Yoga and holistic health care system

Course Outcomes:

Upon successful completion of the course, the student will be able to:

- Understand the significance of Indian Traditional Knowledge
- Classify the Indian Traditional Knowledge
- Compare Modern Science with Indian Traditional Knowledge system.
- Analyze the role of Government in protecting the Traditional Knowledge
- Understand the impact of Philosophical tradition on Indian Knowledge System.

Unit I

Introduction to Traditional Knowledge: Define Traditional Knowledge- Nature and Characteristics- Scope and Importance- kinds of Traditional Knowledge- The historical impact of social change on Traditional Knowledge Systems- Value of Traditional knowledge in global economy.

Unit II

Basic structure of Indian Knowledge System: AstadashVidya- 4 Ved - 4 Upaved (Ayurved,Dhanurved,GandharvaVed&SthapthyaAdi),6vedanga(Shisha,Kalppa,Nirukha,Vyakaran,Jy othisha&Chand),4upanga(Dharmashastra,Meemamsa,purana&Tharka Shastra).

Unit III

Modern Science and Indian Knowledge System-Indigenous Knowledge, Characteristics- Yoga and Holistic Health care-cases studies.

Unit IV

Protection of Traditional Knowledge: The need for protecting traditional knowledge - Significance of Traditional knowledge Protection-Role of government to harness Traditional Knowledge.

Unit V

Impact of Traditions: Philosophical Tradition (Sarvadarshan) Nyaya, Vyshepec, Sankhya, Yog, Meemamsa, Vedantha, Chavanka, Jain & Boudh - Indian Artistic Tradition - Chitrakala, Moorthikala, Vasthukala, Sthapthya, Sangeetha, NruthyaYevamSahithya


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KAKINADA – 533 003, Andhra Pradesh, India

Reference Books :

1. Traditional Knowledge System in India, by AmitJha, 2009.
2. Traditional Knowledge System and Technology in India by Basanta Kumar Mohanta and Vipin Kumar Singh, PratibhaPrakashan 2012.
3. Sivaramakrishnan (Ed.), Cultural Heritage of India-course material, BharatiyaVidya
4. Swami Jitatmanand, Holistic Science and Vedant, BharatiyaVidyaBhavan
5. Yoga Sutra of Patanjali, Ramakrishna Mission, Kolkata.
6. Pramod Chandra, India Arts, Howard Univ. Press, 1983.
7. Krishna Chaitanya, Arts of India, Abhinav Publications, 1987.

Web Resources:

1. https://www.wipo.int/wipo_magazine/en/2017/01/article_0004.html
2. <http://iks.iitgn.ac.in/wp-content/uploads/2016/01/Indian-Knowledge-Systems-Kapil-Kapoor.pdf>
3. https://www.wipo.int/edocs/mdocs/ik/en/wipo_grtkf_ic_21/wipo_grtkf_ic_21_ref_facilitators_text.pdf


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 Approved by AICTE, Affiliated to JNTUK, Kakinada
 (ISO 9001:2015 Certified Institution)
 Department of Computer Science and Engineering(CSD)
CLASS TIME TABLE

SRKIT / CSE / 10.1

Academic Year: 2022-2023

Class: II

Semester: I

Wef: 5-9-2022

Section CSE-DS									
Time	9:00 To 9:50	9:50 To 10:40	10:45 To 11:35	11:35 To 12:20	LUNCH	1:10 To 2:00	2:00 To 2:45	2:50 To 3:35	3:35 To 4:20
Period	1	2	3	4		5	6	7	8
MON	←	DBMS LAB		→		JAVA	M-III	MFCS	FDS
TUE	DBMS	MFCS	FDS	MFCS		JAVA	DBMS	M-III	EITK
WED	FDS	EITK	M-III	FDS		JAVA	DBMS	M-III	MFCS
THU	←	SOC LAB		→		JAVA	FDS	DBMS	M-III
FRI	←	FDS LAB		→		JAVA	MFCS	DBMS	JAVA
SAT	←	OOP'S Thru JAVA LAB		→		JAVA	DBMS	M-III	MFCS

SUBJECTS

FACULTY

Mathematics III	:	S.Kalpana
Mathematical Foundations of Computer Science	:	T.Prasanna
Fundamentals of Data Science	:	Mr.Jairam
Object Oriented Programming through Java	:	Dr.Senthil Kumar
Database Management Systems	:	Dr.D.Usha Rani
Fundamentals of Data Science Lab	:	Mr.Jairam
Object Oriented Programming through Java Lab	:	Dr.Senthil Kumar
Database Management Systems Lab	:	Dr.D.Usha Rani
Mobile App Development	:	P.Beersheba
Essence of Indian Traditional Knowledge	:	V.Navatha

Class Teacher : Mr.Jairam

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 ENIKEPADU, VIJAYAWADA-521 108

B. Chandrasekhar
 HOD / Date 3/9/22



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

DEPARTMENT OF CSE - ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

COURSE STRUCTURE AND SYLLABUS

For UG - R20

B. Tech - COMPUTER SCIENCE AND ENGINEERING with Specialization

Common to

- (i) **CSE (ARTIFICIAL INTELLIGENCE and MACHINE LEARNING)-Branch Code:42**
- (ii) **ARTIFICIAL INTELLIGENCE and MACHINE LEARNING - Branch Code: 61**

(Applicable for batches admitted from 2020-2021)



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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India**

**DEPARTMENT OF CSE - ARTIFICIAL INTELLIGENCE & MACHINE
LEARNING**

COURSE STRUCTURE

I Year – I SEMESTER

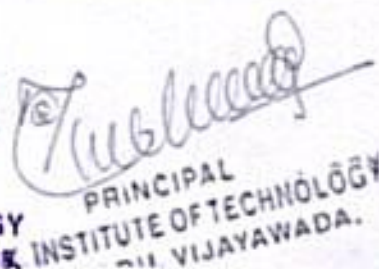
S. No	Course Code	Subjects	L	T	P	Credits
1	HS1101	Communicative English	3	0	0	3
2	BS1101	Mathematics – I	3	0	0	3
3	BS1102	Applied Chemistry	3	0	0	3
4	ES1101	Programming for Problem Solving using C	3	0	0	3
5	ES1102	Computer Engineering Workshop	1	0	4	3
6	HS1102	English Communication Skills Laboratory	0	0	3	1.5
7	BS1103	Applied Chemistry Lab	0	0	3	1.5
8	ES1103	Programming for Problem Solving using C Lab	0	0	3	1.5
9	MC1101	Environmental Science	2	0	0	0
Total Credits			15	0	13	19.5

I Year – II SEMESTER

S. No	Course Code	Subjects	L	T	P	Credits
1	BS1201	Mathematics – II	3	0	0	3
2	BS1202	Applied Physics	3	0	0	3
3	ES1201	Digital Logic Design	3	0	0	3
4	ES1202	Python Programming	3	0	0	3
5	CS1201	Data Structures	3	0	0	3
6	BS1203	Applied Physics Lab	0	0	3	1.5
7	ES1203	Python Programming Lab	0	0	3	1.5
8	CS1202	Data Structures Lab	0	0	3	1.5
9	MC1201	Constitution of India	2	0	0	0
Total Credits			17	0	9	19.5


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KAKINADA – 533 003, Andhra Pradesh, India

I Year - I Semester	L	T	P	C
	2	0	0	0
ENVIRONMENTAL SCIENCE (MC1101)				

Course Objectives:

The objectives of the course are to impart:

- Overall understanding of the natural resources.
- Basic understanding of the ecosystem and its diversity.
- Acquaintance on various environmental challenges induced due to unplanned anthropogenic activities.
- An understanding of the environmental impact of developmental activities.
- Awareness on the social issues, environmental legislation and global treaties.

UNIT I

Multidisciplinary nature of Environmental Studies: Definition, Scope and Importance – Sustainability: Stockholm and Rio Summit–Global Environmental Challenges: Global warming and climate change, acid rains, ozone layer depletion, population growth and explosion, effects. Role of information technology in environment and human health.

Ecosystems: 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, characteristic features, structure and function of Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems.

UNIT II

Natural Resources: Natural resources and associated problems.

Forest resources: Use and over – exploitation, deforestation – 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.

Food resources: World food problems, changes caused by non-agriculture activities-effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity.

Energy resources: Growing energy needs, renewable and non-renewable energy sources use of alternate energy sources.

Land resources: Land as a resource, land degradation, Wasteland reclamation, man induced landslides, soil erosion and desertification; Role of an individual in conservation of natural resources; Equitable use of resources for sustainable lifestyles.

UNIT III

Biodiversity and its conservation: Definition: genetic, species and ecosystem diversity-classification - Value of biodiversity: consumptive use, productive use, social-Biodiversity at national and local levels. India as a mega-diversity nation - Hot-spots of biodiversity - Threats to biodiversity: habitat loss, man-wildlife conflicts. - Endangered and endemic species of India – Conservation of biodiversity: conservation of biodiversity.


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KAKINADA – 533 003, Andhra Pradesh, India

UNIT IV

Environmental Pollution: Definition, Cause, effects and control measures of Air pollution, Water pollution, Soil pollution, Noise pollution, Nuclear hazards. Role of an individual in prevention of pollution. - Pollution case studies, Sustainable Life Studies. Impact of Fire Crackers on Men and his well being.

Solid Waste Management: Sources, Classification, effects and control measures of urban and industrial solid wastes. Consumerism and waste products, Biomedical, Hazardous and e – waste management.

UNIT V

Social Issues and the Environment: Urban problems related to energy -Water conservation, rain water harvesting-Resettlement and rehabilitation of people; its problems and concerns. Environmental ethics: Issues and possible solutions. Environmental Protection Act -Air (Prevention and Control of Pollution) Act. -Water (Prevention and control of Pollution) Act - Wildlife Protection Act -Forest Conservation Act-Issues involved in enforcement of environmental legislation. -Public awareness.

Environmental Management: Impact Assessment and its significance various stages of EIA, preparation of EMP and EIS, Environmental audit. Ecotourism, Green Campus – Green business and Green politics.

The student should Visit an Industry / Ecosystem and submit a report individually on any issues related to Environmental Studies course and make a power point presentation.

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- 2) Environmental Studies, R. Rajagopalan, 2nd Edition, 2011, Oxford University Press.
- 3) Environmental Studies, P. N. Palanisamy, P. Manikandan, A. Geetha, and K. Manjula Rani; Pearson Education, Chennai

Reference Books:

- 1) Text Book of Environmental Studies, Deeshita Dave & P. UdayaBhaskar, 3rded, Cengage Learning.
- 2) A Textbook of Environmental Studies, ShaashiChawla, TMH, New Delhi
- 3) Environmental Studies, Benny Joseph, Tata McGraw Hill Co, New Delhi
- 4) Perspectives in Environment Studies, AnubhaKaushik, C P Kaushik, New Age International Publishers, 2014

e-learning resources:

- <http://nptel.ac.in/courses.php>
- <http://jntuk-coocerd.in/>

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 Department of Science and Humanities
 Accredited by NAAC with "A" Grade
CLASS TIME TABLE



Academic Year: 2022-23

Class: CSM

Semester: I

w.e.f: 17-10-2022

Section I										
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25-01:15	01:15-02:00	2:00-2:45	2:45-3:30	03:30-04:15
Period	1	2	3		4	5		6	7	8
MON	CP LAB			BREAK	ES	M-I (T)	LUNCH	AC	CP	ENG
TUE	M-I	AC	LIB		ENG (T)			M-I	CP (T)	
WED	M-I		CP		AC (T)			ENG LAB		
THU	AC	M-I	CP		ENG	ES		AC LAB		
FRI	M-I	AC	SPORTS		AC	COUN		M-I (T)	CP	ENG
SAT	CEW LAB				ENG	M-I (T)		AC	CP	ES

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-I (R201101)	Ms.S.Suman
2	Communicative English (R201102)	Mr.P.Sam Joshi
3	Applied Chemistry (R201115)	Dr.T.V.Naga Lakshmi
4	Programming For Problem Solving Using C (R201110)	Ms.Padmaja
5	Environmental Science (R201114)	Ms.G.K.Deepthi
6	English Communication Skills Laboratory (R201106)	Mr.P.Sam Joshi / Ms.N.Gayathri
7	Applied Chemistry Lab(R201116)	Dr.T.V.Naga Lakshmi / Ms.G.K.Deepthi
8	Programming For Problem Solving Using C Lab(R201113)	Ms.Padmaja
9	Computer Engineering Workshop (R201118)	Ms.Ch.Pavani

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17/10/22



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

I Year - II Semester		L	T	P	C
		2	0	0	0
CONSTITUTION OF INDIA (MC1201)					

Course Objectives:

- To Enable the student to understand the importance of constitution
- To understand the structure of executive, legislature and judiciary
- To understand philosophy of fundamental rights and duties
- To understand the autonomous nature of constitutional bodies like Supreme Court and high court controller and auditor general of India and election commission of India.
- To understand the central and state relation financial and administrative

Course Outcomes:

At the end of the course, the student will be able to have a clear knowledge on the following:

- Understand historical background of the constitution making and its importance for building a democratic India.
- Understand the functioning of three wings of the government i.e., executive, legislative and judiciary.
- Understand the value of the fundamental rights and duties for becoming good citizen of India.
- Analyze the decentralization of power between central, state and local self-government.
- Apply the knowledge in strengthening of the constitutional institutions like CAG, Election Commission and UPSC for sustaining democracy.
 1. Know the sources, features and principles of Indian Constitution.
 2. Learn about Union Government, State government and its administration.
 3. Get acquainted with Local administration and Panchayati Raj.
 4. Be aware of basic concepts and developments of Human Rights.
 5. Gain knowledge on roles and functioning of Election Commission

UNIT I

Introduction to Indian Constitution: Constitution meaning of the term, Indian Constitution - Sources and constitutional history, Features - Citizenship, Preamble, Fundamental Rights and Duties, Directive Principles of State Policy.

Learning outcomes: After completion of this unit student will

- Understand the concept of Indian constitution
- Apply the knowledge on directive principle of state policy
- Analyze the History, features of Indian constitution
- Evaluate Preamble Fundamental Rights and Duties

UNIT II

Union Government and its Administration Structure of the Indian Union: Federalism, Centre-State relationship, President: Role, power and position, PM and Council of ministers, Cabinet and Central Secretariat, Lok Sabha, Rajya Sabha, The Supreme Court and High Court: Powers and Functions;

Learning outcomes: After completion of this unit student will

- Understand the structure of Indian government
- Differentiate between the state and central government
- Explain the role of President and Prime Minister
- Know the Structure of supreme court and High court

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KAKINADA – 533 003, Andhra Pradesh, India

UNIT III

State Government and its Administration Governor, Role and Position, CM and Council of ministers, State Secretariat: Organisation, Structure and Functions

Learning outcomes: After completion of this unit student will

- Understand the structure of state government
- Analyze the role Governor, state Secretariat and Chief Minister
- Differentiate between structure and functions of state secretariat

UNIT IV

A. Local Administration, District's Administration Head, Role and Importance, Municipalities, Mayor and role of Elected Representative, CEO of Municipal Corporation PanchayatiRaj: Functions PRI: ZilaPanchayat, Elected officials and their roles, CEO ZilaPanchayat: Block level Organizational Hierarchy(Different departments), Village level, Role of Elected and Appointed officials, Importance of grass root democracy

Learning outcomes:-After completion of this unit student will

- Understand the local Administration
- Compare and contrast district administration role and importance
- Analyze the role of Myer and elected representatives of Municipalities
- Evaluate Zillapanchayat block level organisation

UNIT V

Election Commission: Election Commission, Role of Chief Election Commissioner and Election Commissionerate State Election Commission:, Functions of Commissions for the welfare of SC/ST/OBC and women

Learning outcomes: After completion of this unit student will

- Know the role of Election Commission apply knowledge
- Contrast and compare the role of Chief Election commissioner and Commissiononerate
- Analyze role of state election commission
- Evaluate various commissions of viz SC/ST/OBC and women

References:

- 1) Durga Das Basu, Introduction to the Constitution of India, Prentice Hall of India Pvt. Ltd.
- 2) SubashKashyap, Indian Constitution, National Book Trust
- 3) J.A. Siwach, Dynamics of Indian Government & Politics
- 4) D.C. Gupta, Indian Government and Politics
- 5) H.M.Sreevai, Constitutional Law of India, 4th edition in 3 volumes (Universal Law Publication)
- 6) J.C. Johari, Indian Government and Politics Hans
- 7) J. Raj Indian Government and Politics
- 8) M.V. Pylee, Indian Constitution Durga Das Basu, Human Rights in Constitutional Law, Prentice – Hall of India Pvt. Ltd., New Delhi
- 9) Noorani, A.G., (South Asia Human Rights Documentation Centre), Challenges to Civil Rights Guarantees in India, Oxford University Press 2012

esources:

- 1) nptel.ac.in/courses/109104074/8
- 2) nptel.ac.in/courses/109104045/
- 3) nptel.ac.in/courses/101104065/
- 4) www.hss.iitb.ac.in/en/lecture-details
- 5) www.iitb.ac.in/en/event/2nd-lecture-institute-lecture-series-in-the-constitution

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KAKINADA - 533 003, Andhra Pradesh, India

**DEPARTMENT OF CSE - ARTIFICIAL INTELLIGENCE & MACHINE
 LEARNING**

II Year - I SEMESTER

S. No	Course Code	Courses	L	T	P	Credits
1	BS	Mathematics III	3	0	0	3
2	CS	Mathematical Foundations of Computer Science	3	0	0	3
3	CS	Introduction to Artificial Intelligence and Machine Learning	3	0	0	3
4	CS	Object Oriented Programming with Java	3	0	0	3
5	CS	Database Management Systems	3	0	0	3
6	CS	Introduction to Artificial Intelligence and Machine Learning Lab	0	0	3	1.5
7	CS	Object Oriented Programming with Java Lab	0	0	3	1.5
8	CS	Database Management Systems Lab	0	0	3	1.5
9	SO	Mobile App Development	0	0	4	2
10	MC	Essence of Indian Traditional Knowledge	2	0	0	0
Total Credits			17	0	13	21.5

II Year - II SEMESTER

II Year - II SEMESTER						
S. No	Course Code	Courses	L	T	P	Credits
1	BS	Probability and Statistics	3	0	0	3
2	CS	Computer Organization	3	0	0	3
3	CS	Data Warehousing and Mining	3	0	0	3
4	ES	Formal Languages and Automata Theory	3	0	0	3
5	HS	Managerial Economics and Financial Accountancy	3	0	0	3
6	CS	R Programming Lab	0	0	3	1.5
7	CS	Data Mining using Python Lab	0	0	3	1.5
8	ES	Web Application Development Lab	0	0	3	1.5
9	SO	Natural Language Processing with Python	0	0	4	2
Total Credits						21.5
10	Minor	Introduction to Artificial Intelligence and Machine Learning*	3	0	2	4

*- Integrated Course


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II Year - I Semester	L	T	P	C
	2	0	0	0
ESSENCE OF INDIAN TRADITIONAL KNOWLEDGE (MC2101)				

Course Objectives:

- The course aims at imparting basic principles of thought process, reasoning and inferencing. Sustainability is at the core of Indian Traditional Knowledge Systems connecting society and nature.
- Holistic life style of Yogic-science and wisdom capsules in Sanskrit literature are also important in modern society with rapid technological advancements and societal disruptions.
- The course focuses on introduction to Indian Knowledge System, Indian perspective of modern scientific world-view and basic principles of Yoga and holistic health care system

Course Outcomes:

Upon successful completion of the course, the student will be able to:

- Understand the significance of Indian Traditional Knowledge
- Classify the Indian Traditional Knowledge
- Compare Modern Science with Indian Traditional Knowledge system.
- Analyze the role of Government in protecting the Traditional Knowledge
- Understand the impact of Philosophical tradition on Indian Knowledge System.

Unit I

Introduction to Traditional Knowledge: Define Traditional Knowledge- Nature and Characteristics- Scope and Importance- kinds of Traditional Knowledge- The historical impact of social change on Traditional Knowledge Systems- Value of Traditional knowledge in global economy.

Unit II

Basic structure of Indian Knowledge System: AstadashVidya- 4 Ved - 4 Upaved (Ayurved, Dhanurved, Gandharva Ved & Sthapthya Adi), 6 vedanga (Shisha, Kalppa, Nirukha, Vyakaran, Jy othisha & Chand), 4 upanga (Dharmashastra, Meemamsa, purana & Tharka Shastra).

Unit III

Modern Science and Indian Knowledge System-Indigenous Knowledge, Characteristics- Yoga and Holistic Health care-cases studies.

Unit IV

Protection of Traditional Knowledge: The need for protecting traditional knowledge - Significance of Traditional knowledge Protection-Role of government to harness Traditional Knowledge.

Unit V

Impact of Traditions: Philosophical Tradition (Sarvadarshan) Nyaya, Vyshepec, Sankhya, Yog, Meemamsa, Vedantha, Chavanka, Jain & Boudh - Indian Artistic Tradition - Chitrakala, Moorthikala, Vasthukala, Sthapthya, Sangeetha, Nruthya Yevam Sahithya


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Reference Books :

1. Traditional Knowledge System in India, by AmitJha, 2009.
2. Traditional Knowledge System and Technology in India by Basanta Kumar Mohanta and Vipin Kumar Singh, PratibhaPrakashan 2012.
3. Sivaramakrishnan (Ed.), Cultural Heritage of India-course material, BharatiyaVidya
4. Swami Jitatanand, Holistic Science and Vedant, BharatiyaVidyaBhavan
5. Yoga Sutra of Patanjali, Ramakrishna Mission, Kolkata.
6. Pramod Chandra, India Arts, Howard Univ. Press, 1983.
7. Krishna Chaitanya, Arts of India, Abhinav Publications, 1987.

Web Resources:

1. https://www.wipo.int/wipo_magazine/en/2017/01/article_0004.html
2. <http://iks.iitgn.ac.in/wp-content/uploads/2016/01/Indian-Knowledge-Systems-Kapil-Kapoor.pdf>
3. https://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_21/wipo_grtkf_ic_21_ref_facilitators_text.pdf

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 (ISO 9001:2015 Certified Institution)
 Department of Computer Science and Engineering(CSM)
CLASS TIME TABLE

SRKIT / CSE / 10.1

Academic Year: 2022-2023

Class: II

Semester: I

Wef: 5-9-2022

Section CSE-AI&ML									
Time	9:00 To 9:50	9:50 To 10:40	10:45 To 11:35	11:35 To 12:20	LUNCH	1:10 To 2:00	2:00 To 2:45	2:50 To 3:35	3:35 To 4:20
Period	1	2	3	4		5	6	7	8
MON	← SOC LAB →					JAVA	AI&ML	M-III	DBMS
TUE	JAVA	MFCS	M-III	DBMS		← AI&ML LAB →			
WED	← DBMS LAB →					JAVA	MFCS	AI&ML	MFCS
THU	JAVA	DBMS	AI&ML	M-III		EITK	M-III	MFCS	AI&ML
FRI	← OOP'S Thru JAVA LAB →					DBMS	AI&ML	MFCS	M-III
SAT	JAVA	AI&ML	MFCS	DBMS		JAVA	DBMS	M-III	EITK

SUBJECTS

FACULTY

Mathematics III	:	S.Suman
Mathematical Foundations of Computer Science	:	G.Koteswaramma
Introduction to AI and M L	:	Mr.Jairam
Object Oriented Programming through Java	:	Dr.Saravana Priya
Database Management Systems	:	Dr.D.Usha Rani
Introduction to AI and M L Lab	:	Mr.Jairam
Object Oriented Programming through Java Lab	:	Dr.Saravana Priya
Database Management Systems Lab	:	Dr.D.Usha Rani
Mobile App Development	:	P.Beersheba
Essence of Indian Traditional Knowledge	:	V.Navatha

Class Teacher : Dr.D.Usha Rani

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Room No:202

B. Chandram
 HOD/Date
 3/9/22



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India
DEPARTMENT OF CSE - DATA SCIENCE

COURSE STRUCTURE AND SYLLABUS
For UG – R20

B. Tech - COMPUTER SCIENCE AND ENGINEERING with Specialization
DATA SCIENCE

(Applicable for batches admitted from 2020-2021)



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DEPARTMENT OF CSE - DATA SCIENCE

COURSE STRUCTURE

I Year - I SEMESTER						
S. No	Course Code	Courses	L	T	P	Credits
1	HS1101	Communicative English	3	0	0	3
2	BS1101	Mathematics - I	3	0	0	3
3	BS1102	Applied Chemistry	3	0	0	3
4	ES1101	Programming for Problem Solving using C	3	0	0	3
5	ES1102	Computer Engineering Workshop	1	0	4	3
6	HS1102	English Communication Skills Laboratory	0	0	3	1.5
7	BS1103	Applied Chemistry Lab	0	0	3	1.5
8	ES1103	Programming for Problem Solving using C Lab	0	0	3	1.5
9	MC1101	Environmental Science*	2	0	0	0
Total Credits			19.5			

I Year - II SEMESTER						
S. No	Course Code	Courses	L	T	P	Credits
1	BS1201	Mathematics - II	3	0	0	3
2	BS1202	Applied Physics	3	0	0	3
3	ES1201	Digital Logic Design	3	0	0	3
4	ES1202	Python Programming	3	0	0	3
5	CS1201	Data Structures	3	0	0	3
6	BS1203	Applied Physics Lab	0	0	3	1.5
7	ES1203	Python Programming Lab	0	0	3	1.5
8	CS1202	Data Structures Lab	0	0	3	1.5
9	MC1201	Constitution of India *	2	0	0	0
Total Credits			19.5			

*Internal Evaluation

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DEPARTMENT OF CSE - DATA SCIENCE

I Year - II Semester		L	T	P	C
		2	0	0	0
CONSTITUTION OF INDIA (MC1201)					

Course Objectives:

- To Enable the student to understand the importance of constitution
- To understand the structure of executive, legislature and judiciary
- To understand philosophy of fundamental rights and duties
- To understand the autonomous nature of constitutional bodies like Supreme Court and high court controller and auditor general of India and election commission of India.
- To understand the central and state relation financial and administrative

Course Outcomes:

At the end of the course, the student will be able to have a clear knowledge on the following:

- Understand historical background of the constitution making and its importance for building a democratic India.
- Understand the functioning of three wings of the government i.e., executive, legislative and judiciary.
- Understand the value of the fundamental rights and duties for becoming good citizen of India.
- Analyze the decentralization of power between central, state and local self-government.
- Apply the knowledge in strengthening of the constitutional institutions like CAG, Election Commission and UPSC for sustaining democracy.
 1. Know the sources, features and principles of Indian Constitution.
 2. Learn about Union Government, State government and its administration.
 3. Get acquainted with Local administration and Panchayati Raj.
 4. Be aware of basic concepts and developments of Human Rights.
 5. Gain knowledge on roles and functioning of Election Commission

UNIT I

Introduction to Indian Constitution: Constitution meaning of the term, Indian Constitution - Sources and constitutional history, Features - Citizenship, Preamble, Fundamental Rights and Duties, Directive Principles of State Policy.

Learning outcomes: After completion of this unit student will

- Understand the concept of Indian constitution
- Apply the knowledge on directive principle of state policy
- Analyze the History, features of Indian constitution
- Evaluate Preamble Fundamental Rights and Duties

UNIT II

Union Government and its Administration Structure of the Indian Union: Federalism, Centre- State relationship, President: Role, power and position, PM and Council of ministers, Cabinet and Central Secretariat, Lok Sabha, Rajya Sabha, The Supreme Court and High Court: Powers and Functions;

Learning outcomes: After completion of this unit student will


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DEPARTMENT OF CSE - DATA SCIENCE

- Understand the structure of Indian government
- Differentiate between the state and central government
- Explain the role of President and Prime Minister
- Know the Structure of supreme court and High court

UNIT III

State Government and its Administration Governor - Role and Position - CM and Council of ministers, State Secretariat: Organisation, Structure and Functions

Learning outcomes: After completion of this unit student will

- Understand the structure of state government
- Analyze the role Governor and Chief Minister
- Explain the role of state Secretariat
- Differentiate between structure and functions of state secretariat

UNIT IV

A. Local Administration - District's Administration Head - Role and Importance, Municipalities - Mayor and role of Elected Representative - CEO of Municipal Corporation Panchayati Raj: Functions PRI: Zila Panchayat, Elected officials and their roles, CEO Zila Panchayat: Block level Organizational Hierarchy - (Different departments), Village level - Role of Elected and Appointed officials - Importance of grass root democracy

Learning outcomes: -After completion of this unit student will

- Understand the local Administration
- Compare and contrast district administration role and importance
- Analyze the role of Mayor and elected representatives of Municipalities
- Evaluate Zilla Panchayat block level organisation

UNIT V

Election Commission: Election Commission- Role of Chief Election Commissioner and Election Commissionerate State Election Commission;, Functions of Commissions for the welfare of SC/ST/OBC and women

Learning outcomes: After completion of this unit student will

- Know the role of Election Commission apply knowledge
- Contrast and compare the role of Chief Election commissioner and Commissionerate
- Analyze role of state election commission
- Evaluate various commissions of viz SC/ST/OBC and women

References:

- 1) Durga Das Basu, Introduction to the Constitution of India, Prentice Hall of India Pvt. Ltd.
- 2) Subash Kashyap, Indian Constitution, National Book Trust
- 3) J.A. Siwach, Dynamics of Indian Government & Politics
- 4) D.C. Gupta, Indian Government and Politics
- 5) H.M. Sreevai, Constitutional Law of India, 4th edition in 3 volumes (Universal Law Publication)
- 6) J.C. Johari, Indian Government and Politics Hans
- 7) J. Raj Indian Government and Politics
- 8) M.V. Pylee, Indian Constitution Durga Das Basu, Human Rights in Constitutional Law, Prentice – Hall of India Pvt. Ltd., New Delhi


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DEPARTMENT OF CSE - DATA SCIENCE

- 9) Noorani, A.G., (South Asia Human Rights Documentation Centre), Challenges to Civil Right), Challenges to Civil Rights Guarantees in India, Oxford University Press 2012

e-Resources:

- 1) nptel.ac.in/courses/109104074/8
- 2) nptel.ac.in/courses/109104045/
- 3) nptel.ac.in/courses/101104065/
- 4) www.hss.iitb.ac.in/en/lecture-details
- 5) www.iitb.ac.in/en/event/2nd-lecture-institute-lecture-series-indian-constitution

A handwritten signature in green ink, appearing to read 'Chandrasekhar'.

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DEPARTMENT OF CSE - DATA SCIENCE

I Year - I Semester	L	T	P	C
	2	0	0	0
ENVIRONMENTAL SCIENCE (MC1101)				

Course Objectives:

The objectives of the course are to impart:

- Overall understanding of the natural resources.
- Basic understanding of the ecosystem and its diversity.
- Acquaintance on various environmental challenges induced due to unplanned anthropogenic activities.
- An understanding of the environmental impact of developmental activities.
- Awareness on the social issues, environmental legislation and global treaties.

UNIT I

Multidisciplinary nature of Environmental Studies: Definition, Scope and Importance – Sustainability: Stockholm and Rio Summit–Global Environmental Challenges: Global warming and climate change, acid rains, ozone layer depletion, population growth and explosion, effects. Role of information technology in environment and human health.

Ecosystems: 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, characteristic features, structure and function of Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems.

UNIT II

Natural Resources: Natural resources and associated problems.

Forest resources: Use and over – exploitation, deforestation – 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.

Food resources: World food problems, changes caused by non-agriculture activities-effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity.

Energy resources: Growing energy needs, renewable and non-renewable energy sources use of alternate energy sources.

Land resources: Land as a resource, land degradation, Wasteland reclamation, man induced landslides, soil erosion and desertification; Role of an individual in conservation of natural resources; Equitable use of resources for sustainable lifestyles.

UNIT III

Biodiversity and its conservation: Definition: genetic, species and ecosystem diversity-classification - Value of biodiversity: consumptive use, productive use, social-Biodiversity at national and local levels. India as a mega-diversity nation - Hot-spots of biodiversity - Threats to biodiversity: habitat loss, man-wildlife conflicts. - Endangered and endemic species of India – Conservation of biodiversity: conservation of biodiversity.

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DEPARTMENT OF CSE - DATA SCIENCE

UNIT IV

Environmental Pollution: Definition, Cause, effects and control measures of Air pollution, Water pollution, Soil pollution, Noise pollution, Nuclear hazards. Role of an individual in prevention of pollution. - Pollution case studies, Sustainable Life Studies, Impact of Fire Crackers on Men and his well being.

Solid Waste Management: Sources, Classification, effects and control measures of urban and industrial solid wastes. Consumerism and waste products, Biomedical, Hazardous and e – waste management.

UNIT V

Social Issues and the Environment: Urban problems related to energy -Water conservation, rain water harvesting-Resettlement and rehabilitation of people; its problems and concerns. Environmental ethics: Issues and possible solutions. Environmental Protection Act -Air (Prevention and Control of Pollution) Act. –Water (Prevention and control of Pollution) Act - Wildlife Protection Act -Forest Conservation Act-Issues involved in enforcement of environmental legislation. -Public awareness.

Environmental Management: Impact Assessment and its significance various stages of EIA, preparation of EMP and EIS, Environmental audit. Ecotourism, Green Campus – Green business and Green politics.

The student should Visit an Industry / Ecosystem and submit a report individually on any issues related to Environmental Studies course and make a power point presentation.

Text Books:

- 1) Environmental Studies, K. V. S. G. Murali Krishna, VGS Publishers, Vijayawada
- 2) Environmental Studies, R. Rajagopalan, 2nd Edition, 2011, Oxford University Press.
- 3) Environmental Studies, P. N. Palanisamy, P. Manikandan, A. Geetha, and K. Manjula Rani; Pearson Education, Chennai

Reference Books:

- 1) Text Book of Environmental Studies, Deeshita Dave & P. UdayaBhaskar, Cengage Learning.
- 2) A Textbook of Environmental Studies, ShaashiChawla, TMH, New Delhi
- 3) Environmental Studies, Benny Joseph, Tata McGraw Hill Co, New Delhi
- 4) Perspectives in Environment Studies, AnubhaKaushik, C P Kaushik, New Age International Publishers, 2014

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 Department of Science and Humanities
 Accredited by NAAC with "A" Grade
CLASS TIME TABLE



Academic Year: 2022-23

Class: CSD

Semester: I

w.e.f: 17-10-2022

Section I											
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25-01:15	01:15-02:00	2:00-2:45	2:45-3:30	03:30-04:15	
Period	1	2	3	BREAK	4	5	LUNCH	6	7	8	
MON	M-I	AC	ENG		M-I	CP		-----ENG LAB-----			
TUE	M-I		CP		AC	ENG(T)		-----AC LAB-----			
WED	CP	ES	ENG		LIB	M-I(T)		CP	AC(T)		
THU	-----CEW LAB-----				AC	M-I(T)		CP(T)	ENG	SPORTS	
FRI	-----CP LAB-----				ENG	ES		AC	M-I(T)		
SAT	CP	AC	ENG		CP(T)	M-I		ES	COUN	AC	

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-I (R201101)	Ms.S.Kalpana
2	Communicative English (R201102)	Ms.V.Navatha
3	Applied Chemistry (R201115)	Dr.T.V.Naga Lakshmi
4	Programming For Problem Solving Using C (R201110)	Ms.Padmaja
5	Environmental Science (R201114)	Ms.G.K.Deepthi / Dr.N.Sri Devi
6	English Communication Skills Laboratory (R201106)	Ms.V.Navatha / Ms.N.Gayathri
7	Applied Chemistry Lab(R201116)	Dr.T.V.Naga Lakshmi / Ms.G.K.Deepthi/Ms.B.Madhavi
8	Programming For Problem Solving Using C Lab(R201113)	Ms.Padmaja
9	Computer Engineering Workshop (R201118)	Ms.R.Lakshmi

HoD *R*
 17/10/22

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 Department of Science and Humanities
CLASS TIME TABLE



SRKIT / S&H / 10.1

Academic Year: 2022-23

Class: CSE DS

Semester: II

w.e.f: 27-02-2023

Section I										
Time	9:00-9:50	9:50-10:40	10:40-11:30	10 Min	11:40-12:25	12:25-01:15	01:15-02:00	2:00-2:45	2:45-3:30	03:30-04:15
Period	1	2	3		4	5		6	7	8
MON	---PP LAB---			BREAK	M-II	DLD	LUNCH	COI	PP	SPORTS
TUE	PP	DS	M-II		DLD(T)			M-II	AP	COI
WED	MII(T)		DS		PP	AP		---DS LAB---		
THU	SS	PP	M-II		DS(T)			DLD	AP(T)	
FRI	DS	LIB:COUN	PP		AP	DLD		---AP LAB---		
SAT	M-II	PP(T)			M-II	AP		AP	DLD	DS

S.No.	Name of the Subject	Name of the Faculty
1	Mathematics-II (R201201)	Ms.S.Kalpana
2	Applied Physics (R201207)	Ms.Vidya Elizabeth
3	Digital Logic Design (R201221)	Ms.V. Sri Lakshmi
4	Python Programming (R201225)	Ms.G M.Padmaja
5	Constitution of India (R201229)	Ms.V.Navatha/V.Saida Reddy
6	Data Structures (R201218)	Ms.B.Tarmila Devi
7	Data Structures Laboratory (R201241)	Ms.B.Tarmila Devi
8	Applied Physics Laboratory (R201233)	Ms.Vidya Elizabeth / Dr.J. Ashok /Ms.B.Naga Jyothirmai
9	Python Programming Laboratory (R201250)	Ms.G M.Padmaja
10	Soft Skills	Mr.Yellamanda Vusa

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