



Tulsiramji Gaikwad-Patil College of Engineering & Technology, Nagpur

(An Autonomous Institution Affiliated to RTM Nagpur University, Nagpur)

SCHEME OF INSTRUCTIONS & SYLLABI

Programme: Electronics & Communication Engineering (NBA Accredited)

Scheme of Instructions: Second Year B.Tech. in Electronics & Communication Engineering

Semester--III



Sr. No.	Course Category	Course Code	Course Title	T/P	Contact Hours				Credits	Exam Scheme			ESE Duration (Hours)	Total Marks
					L	P	SL	Hrs.		CT/IA	CA	ESE		
1	PCC	BEC42301	Network Analysis	T	3	-	-	3	3	30	10	60	3	100
2	PCC	BEC42302	Electronics Systems & Design	T	3	-	-	3	3	30	10	60	3	100
3	MDM	BSH42301	Mathematical Transform & Signal Series	T	2	-	-	2	2	14	6	30	2	50
4	OEC	BEC42303	Principles of Electronics & Communication	T	4	-	-	4	4	30	10	60	3	100
5	HSSM	BBA42301	Human Resource Management	T	2	-	-	2	2	14	6	30	2	50
6	VEC	BCE42309	Sustainable Development Goals	T	2	-	-	2	2	14	6	30	2	50
7	PCC	BEC42304	Network Analysis Lab	P	-	2	-	2	1	-	25	25	2	50
8	PCC	BEC42305	Electronics Systems & Design Lab	P	-	2	-	2	1	-	25	25	2	50
9	CEP	BEC42306	Field Project (Micro project)	P	-	4	-	4	2	-	50	50	2	100
10	AEC	BSH423XX	Liberal Learning Module-III	P	-	2	-	2	1	50	-	-	2	50
Total				-	16	10		26	21	182	148	370	23	700

Course Category	BSC/ESC (Basic Science Course/Engineering Science Course.)	PCC (Programme Core courses)	PEC (Programme Elective courses)	OEC (Open Elective Course)	Multi-disciplinary courses	VSEC (Skill Course)	VEC (Value Education Courses)	Humanities Social Science & Management		Experiential Learning Courses	CC (Liberal Learning Courses)
								AEC (Ability Enhancement Course)	IKS (Indian Knowledge System)		
Credits	-	10	-	4	2	-	2	1		2	-
Cumulative Sum	16/13	12	-	4	2	4	2	5		2	4

PROGRESSIVE TOTAL CREDITS: 43+21=64

				June, 2026	1.00	Applicable for AY 2026-27
Chairperson	Vice-Principal / Director Academics	Director (Administration)	Principal	Date of Release	Version	



TULSIRAMJI GAIKWAD-PATIL COLLEGE OF ENGINEERING & TECHNOLOGY

Wardha Road, Nagpur - 441108
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Approved by AICTE, New Delhi, Govt. of Maharashtra
(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)



Department of Electronics and Communication Engineering

Program: B. Tech Electronics and Communication Engineering

Semester-III **BEC42301: Network Analysis**

Teaching Scheme		Examination Scheme (Th)		Examination Scheme (P)	
Theory (Th)	3 Hrs./week	CT-I	15 Marks	-	-
Practical (P)	-	CT-II	15 Marks	-	-
Total Credits	3 (Th) = 3	CA	10 Marks	-	-
Duration of ESE: 3 Hrs.		ESE	60 Marks	-	-
		Total Marks	100 Marks	-	-

Pre-Requisites: Principle of Electrical Engineering

Course Objectives:

1	Understand the fundamentals of nodal and mesh analysis.
2	Apply network theorems to calculate electrical circuit parameters.
3	Analyze the transient and steady state behavior of electrical networks.
4	Estimate the network characteristics from pole-zero locations of network functions.
5	Model two port electrical networks.

Course Content

Unit I	Circuit Analysis: Equilibrium Equations with Nodal & Mesh Analysis on electrical networks, Concept of Super-node, super-mesh, source transformations, Dot conventions in coupled circuits, Solutions of Mutually coupled Networks, Duality.
	Activity 1: Circuit Solver Race: Teams solve circuits using nodal or mesh analysis, competing for speed, accuracy, and method comparison.
Unit II	Application of Network Theorem in DC & AC Circuits: Superposition theorem, Thevenin theorem, Norton theorem, Maximum power transfer theorem, Reciprocity theorem, Analysis with and without controlled sources.
	Activity1: Mixed Theorem Challenge Match: Students select, justify, and apply the most suitable network theorem to solve circuits.
Unit III	Initial and Final Conditions, Impedance Functions and Circuit Analysis with Laplace Transform: Concept of initial and final conditions, behavior of resistor, inductor and capacitor at $t = 0^-$ and at $t = 0^+$, Concept of complex frequency, Partial fractions, Singularity functions, Waveforms Synthesis, Steady state and transient state analysis of RL, RC, RLC network with initial & final conditions using Laplace Transformation.
	Activity1: Complete Transient Solver Champion: Students analyze a switching circuit using initial/final conditions and Laplace transform to obtain the time-domain response.
Unit IV	Network Functions: Transient Response, Driving points and transfer functions, Poles, Zeros of network function, their properties, Time response from Pole-Zero locations on s-plane, convolution integral solution.
	Activity1: System Behavior Analyzer Test: Students identify poles/zeros, assess stability, and predict system response from a network function.
Unit V	Two Port Network: Network Parameters and Inter-connections, Conditions of Reciprocity and Symmetry, Inter-relations between parameter sets. Introduction to passive low-pass, high-pass, band-pass filters using RLC.
	Activity 1: Parameter Identification Challenge: Students analyze two-port circuits to select the appropriate parameter set and compute Z, Y, h, or ABCD parameters.

Chairperson

Text Books	
T.1	A.Chakrabarty, “Circuit Theory (Analysis & Synthesis)”, Dhanpat Rai & Co. 2015
T.2	C. K. Alexander and M. N. O. Sadiku, “Electric Circuits”, McGraw Hill Education, 2004.
T.3	W. H. Hayt and J. E. Kemmerly, “Engineering Circuit Analysis”, McGraw Hill Education, 2013.
T.4	Ravish R. Singh, “Network Analysis & Synthesis” Tata McGraw Hill Education (India) Private Limited, 2013.
Reference Books	
R.1	Allan H. Robbins, Wilhelm C. Miller, “Circuit Analysis Theory and Practice”, Cengage Learning India, 2013
R.2	M. E. Van Valkenburg, “Network Analysis”, Prentice Hall, 2006.
R.3	A William Hayt, “Engineering Circuit Analysis” 8th Edition, McGraw-Hill Education, 2013
R.4	Sudhakar, A., Shyammohan, S. P.; “Circuits and Network”; Tata McGraw-Hill New Delhi, 1994.
Useful Links	
1	https://onlinecourses.nptel.ac.in/noc22_ee93/preview
2	https://onlinecourses.nptel.ac.in/noc22_ee90/preview
3	

CO	Course Outcomes	CL	Class Sessions
CO1	Apply mesh and nodal analysis to AC circuits in sinusoidal steady state.	3	9
CO2	Use network theorems for analysis and design of A.C. & DC circuits.	3	9
CO3	Evaluate the parameter of energy storage elements with and without initial conditions.	3	9
CO4	Find out transient behaviors, driving points and transfer functions, poles, zeros of transfer function.	3	9
CO5	Solve two port networks and relationships between parameter sets.	3	9



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Department of Electronics and Communication Engineering

Program: B. Tech Electronics and Communication Engineering

Semester-III **BEC42302: Electronics Systems & Design**

Teaching Scheme		Examination Scheme (Th)		Examination Scheme (P)	
Theory (Th)	3 Hrs./week	CT-I	15 Marks	-	-
Practical (P)	-	CT-II	15 Marks	-	-
Total Credits	3 (Th) = 3	CA	10 Marks	-	-
Duration of ESE: 3 Hrs.		ESE	60 Marks	-	-
		Total Marks	100 Marks	-	-

Pre-Requisites:

Course Objectives:

1	Apply the operating principles and applications of diode and Zener diode semiconductor devices.
2	Analyze the operation, configurations (CB, CE, CC), biasing techniques, and stability considerations of BJT transistors.
3	Examine the characteristics of FETs and power devices, FET circuits using small signal models.
4	Analyze a power amplifier circuit using transistors, the working principles of Class A, Class B, Class AB, and Class C amplifiers including crossover distortion.
5	Examine the operation and characteristics of enhancement and depletion type MOSFETs using small signal models.

Course Content

Unit I	Semiconductor Diodes: PN junction diode and its application, Physics and structure of diodes, Characteristics, resistance, capacitance and its application, Diode small signal model, Rectifier circuits, Clipping and clamping circuits, Zener diode, voltage regulator, Schottky diode, Varactor Diode, Tunnel Diode
	Activity1: Identify and discuss real-life applications of diodes (rectifiers, regulators, signal shaping). Classify different diodes (Zener, Schottky, Varactor, Tunnel) with their applications.
Unit II	Bipolar Junction Transistors: Bipolar junction transistor (BJT), V-I characteristics, Biasing, Small signal low frequency amplifier. Physical structure and operation modes, Ebor-Moll model, Current voltage characteristics of CE, CB, CC configuration, Low frequency analysis of transistors, miller's theorem, load line, stability factors.
	Activity1: Simulate CE, CB, and CC configurations to analyze input/output characteristics. Discuss BJT operation modes (active, cutoff, saturation) and practical applications.
Unit III	Junction Field-effect Transistor: JFET parameters, V-I characteristics, Biasing of JFET, Low frequency model of JFET and its analysis, Power devices, power diode, IGBT, SCR TRIAC, Switching Devices, DIAC, UJT characteristics and applications
	Activity1: Identify real-life uses of switching devices (motor control, dimmer circuits, power control).
Unit IV	Power Amplifier: Class A, Class B, Class AB and Class C, Power Efficiency, Power Dissipation, Cross-Over Distortion in Class AB Circuits, negative and positive feedback, Barkhausen criteria, RC, LC, Crystal Oscillators.
	Activity1: Relate feedback types (positive and negative) with amplifier performance and stability.
Unit V	MOSFET: Device Structure and Physical Operation of MOSFET, Finite Output Resistance in Saturation, Current voltage characteristics of the MOSFET, Biasing in MOSFET Amplifier Circuits, Small Signal Operation and Models, Overview of Depletion type-MOSFET, Enhancement type-MOSFET
	Activity 1: Simulate MOSFET amplifier circuits and analyze V-I characteristics.

Text Books	
T.1	Millman Halkias, "Electronic Devices and Circuits", TMH Publication, 2000
T.2	David A. Bell, "Electronic Devices and Circuits", PHI Publication, 4th Edition, 2007
T.3	J.Cathey, "Electronics Devices and Circuit-Jimmie", McGraw – Hill Education, 2002
Reference Books	
R.1	BoyleStad, Nashelsky, "Electronic Devices and Theory" - 9th. Edition, PHI, May 2010
R.2	S Salivahanan, N Suresh Kumar, "Electronic Devices and Circuits", Tata McGraw Hills Publication, 3rd Edition, 2012
R.3	V.K. Mehta, "Electronic Devices and Theory, McGraw Hill Publication, 3rd Edition, 2015
Useful Links	
1	https://onlinecourses.nptel.ac.in/noc25_ee110/preview
2	https://onlinecourses-archive.nptel.ac.in/noc18_ee32/preview

CO	Course Outcomes	CL	Class Sessions
CO1	Apply the applications and operating principles of the diode and Zener diode semiconductor devices.	3	9
CO2	Analyze the operation and configuration of BJT transistors in CB, CE, and CC, biasing and stability concerns	4	9
CO3	Examine the characteristics of FET's and Power devices, and analysis of FET using small signal model	4	9
CO4	Analyze Power amplifier circuits using transistor, and operation principal of a Class A, Class B, Class AB, and Class C power amplifier circuits with cross over distortion.	4	9
CO5	Examine the operation and characteristics of Enhancement and Depletion type MOSFETs and their analysis using small signal model.	4	9


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Department of Electronics and Communication Engineering

Program: B. Tech Electronics and Communication Engineering

Semester-III | BEC42304: Network Analysis Lab

Teaching Scheme		Examination Scheme (Th)		Examination Scheme(P)	
Theory (Th)	-	INT	-	INT	-
Practical (P)	2 Hrs./week	ESE	-	ESE	-
Total Credits	1	CA	-	CA	25 Marks
Duration of ESE: 2Hrs		ESE	-	ESE-P	25 Marks
		Total Marks	-	Total Marks	50 Marks

Pre-Requisites: Principal of Electrical Engineering

Course Objectives:

1.	Perform nodal and mesh analysis to determine voltages and currents in real electrical circuits.
2.	Apply network theorems (Superposition, Thevenin, Norton, etc.) to simplify circuits and compute electrical parameters.
3.	Analyze transient and steady-state responses of RL, RC, and RLC circuits using practical scenarios and simulation tools.
4.	Interpret pole-zero plots to estimate system behavior, stability, and response characteristics of networks.
5.	Model and analyze two-port networks for practical applications such as communication and filter circuits.

List of Experiments

1	Use voltmeter, ammeter to determine current through the given branch of electric network by applying mesh analysis.	CO1
2	Use voltmeter, ammeter to determine current through the given branch of electric network by applying nodal analysis.	CO1
3	Use multimeter to determine current through the given branch of electric network by applying Superposition Theorem and reciprocity theorem	CO2
4	Use multimeter to determine equivalent circuit parameter in a given circuit by applying Thevenin's & Norton's Theorem.	CO2
5	Use multimeter to determine load resistance for maximum power transfer for a given circuit by applying Maximum Power Transfer Theorem	CO2
6	Find the parameter in a series RL circuit when a variable DC voltage is applied.	CO3
7	Obtain the simulation result of a given series RC circuit with different inputs using PSPICE programming	CO3
8	Determination of driving point and transfer functions of a two-port ladder network and verify with theoretical values.	CO4
9	Plot the poles and zeros of the continuous-time system represented by the given transfer function using SCILAB software.	CO4
10	Evaluate the Z-Parameter & Y-Parameter of a given Two Port Network.	CO5
11	Evaluate the Transmission-Parameter & h-Parameter of a given Two Port Network.	CO5

Text Books

T.1	A. Chakrabarty, "Circuit Theory (Analysis & Synthesis)", Dhanpat Rai & Co. 2015
T.2	C. K. Alexander and M. N. O. Sadiku, "Electric Circuits", McGraw Hill Education, 2004.
T.3	W. H. Hayt and J. E. Kemmerly, "Engineering Circuit Analysis", McGraw Hill Education, 2013.

Reference Books

R.1	Allan H. Robbins, Wilhelm C. Miller, "Circuit Analysis Theory and Practice", Cengage Learning India, 2013
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R.2	M. E. Van Valkenburg, "Network Analysis", Prentice Hall, 2006.
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Useful Links	
L.1	https://onlinecourses.nptel.ac.in/noc22_ee93/preview
L.2	https://onlinecourses.nptel.ac.in/noc22_ee90/preview

CO	Course Outcomes	CL	Class Sessions
CO1	Apply mesh and nodal analysis to AC circuits in sinusoidal steady state.	3	8
CO2	Use network theorems for analysis and design of A.C. & DC circuits.	3	8
CO3	Evaluate the parameter of energy storage elements with and without initial conditions.	3	8
CO4	Find out transient behaviors, driving points and transfer functions, poles, zeros of transfer function.	3	8
CO5	Solve two port networks and relationships between parameter sets.	3	8


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Department of Electronics and Communication Engineering

Program: B. Tech Electronics and Communication Engineering

Semester-III **BEC42305: Electronics Systems & Design Lab**

Teaching Scheme		Examination Scheme (Th)		Examination Scheme(P)	
Theory (Th)	-	INT	-	INT	-
Practical (P)	2 Hrs./week	ESE	-	ESE	-
Total Credits	1	CA	-	CA	25 Marks
Duration of ESE: 2Hrs		ESE	-	ESE-P	25 Marks
		Total Marks	-	Total Marks	50 Marks

Pre-Requisites: Principle of Basic Electronics Engineering

Course Objectives:

1.	To study and analyze the V–I characteristics of PN junction and Zener diodes.
2.	To evaluate the V–I characteristics and operating modes of a transistor in CE, CB, and CC configurations.
3.	To examine the frequency response of transistors at low and high frequencies.
4.	To design and construct power amplifier and oscillator circuits using transistors.
5.	To analyze the operation and V–I characteristics of MOSFET in enhancement and depletion modes.

List of Experiments

1	Examine the V- I characteristics of PN junction diode (Si and Ge).	CO1
2	Calculate Voltage regulation of a Zener diode voltage regulator	CO1
3	Examine the operation of Full Wave Rectifier with filters.	CO1
4	Analyze the I/P & O/P Characteristics of BJT Common Base Transistor Configuration.	CO2
5	Analyze the I/P & O/P Characteristics of BJT Common Emitter Transistor Configuration.	CO2
6	Plot the I/O characteristics of Junction Field Effect Transistor.	CO3
7	Plot the I/O characteristics of Insulated Gate Bipolar Transistor.	CO3
8	Verify the Class B Power Amplifier and observe Cross Over Distortion.	CO4
9	Verify the operation of Class C Power Amplifier.	CO4
10	Demonstrate the operation of the LC, RC phase shift and Crystal Oscillators.	CO5
11	Plot the Transfer characteristics of Metal Oxide Semiconductor Field Effect Transistor (MOSFET).	CO5

Text Books

T.1	Millman Halkias, “Electronic Devices and Circuits”, TMH Publication, 2000
T.2	David A. Bell, “Electronic Devices and Circuits”, PHI Publication, 4th Edition, 2007
T.3	J.Cathey , “Electronics Devices and Circuit-Jimmie”, McGraw – Hill Education, 2002

Reference Books

R.1	BoyleStad, Nashelsky, “Electronic Devices and Theory” - 9th. Edition, PHI, May 2010
R.2	S Salivahanan, N Suresh Kumar, “Electronic Devices and Circuits”, Tata McGraw Hills Publication, 3rd Edition, 2012
R.3	V.K. Mehta, “Electronic Devices and Theory, McGraw Hill Publication, 3rd Edition, 2015

Useful Links

L.1	https://onlinecourses.nptel.ac.in/noc25_ee110/preview
L.2	https://onlinecourses-archive.nptel.ac.in/noc18_ee32/preview

CO	Course Outcomes	CL	Class Sessions
CO1	Examine the V_I characteristics of PN Junction and Zener Diode	4	8
CO2	Demonstrate the V-I Characteristics of Transistor and its modes of operation. For configuration CE, CB, CC.	2	8
CO3	Evaluate the response of transistors at low and high frequency.	4	8
CO4	Construct the circuit of Power amplifiers and oscillators using transistor	3	8
CO5	Analyze the operation and V-I characteristics of MOSFET in Enhancement and Depletion Modes.	4	8

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Department of Electronics and Communication Engineering

Program: B.Tech. Electronics and Communication Engineering

Semester-III Open Elective-I: BEC42303: Principle of Electronics & Communication

Teaching Scheme		Examination Scheme (Th)		Examination Scheme(P)	
Theory (Th)	4Hrs./week	CT-I	15Marks	-	-
Practical (P)	-	CT-II	15Marks	-	-
Total Credits	4(Th)=4	CA	10Marks	-	-
Duration of ESE:3Hrs.		ESE	60Marks	-	-
		Total Marks	100 Marks	-	-

Pre-Requisites:

Course Objectives:

1	To understand the fundamentals of semiconductor devices, including p-n junction diodes, their characteristics, parameters, and applications in rectifiers, filters, and voltage regulation circuits.
2	To analyze and apply Bipolar Junction Transistor (BJT) concepts in different configurations (CB, CE, CC) and understand their role in amplification and oscillator circuits.
3	To develop knowledge of Operational Amplifiers (Op-Amps), their ideal characteristics, and applications in analog circuits such as amplifiers, integrators, differentiators, and signal processing systems.
4	To introduce the basic concepts of electronic communication systems, including transmission modes, noise, signal-to-noise ratio, and the need for modulation.
5	To understand modulation techniques and radio communication systems, including AM, FM, PM, and the working principles of radio transmitters and receivers.

Course Content

Unit I	Semiconductor Diodes and Applications: p-n junction diode, Characteristics and parameters of diode, Diode approximations, DC load line analysis, Half-wave rectifier, Two-diode full-wave rectifier, Bridge rectifier, Capacitor filter circuit, Zener diode voltage regulators, Regulator circuit with no load and with load
	Activity1: Set up the diode circuit for forward bias and reverse bias. Plot the V-I characteristics graph.
Unit II	Bipolar Junction Transistors (BJT): Types of transistors, BJT operation, BJT voltages and currents, BJT amplification Characteristics of: Common Base (CB), Common Emitter (CE), Common Collector (CC) Comparison between CB, CE, and CC configurations, RC oscillators, LC oscillators
	Activity1: Perform an experiment or simulation to study the characteristics of a BJT in Common Emitter configuration. By varying input base current and measuring corresponding collector current and voltages.
Unit III	Operational Amplifiers (Op-Amp): Introduction to Operational Amplifiers, Ideal Op-Amp characteristics, Inverting Op-Amp circuits Non-inverting Op-Amp circuits, Op-Amp applications: Voltage follower, Addition (Summing amplifier), Subtraction, Integration, Differentiation
	Activity1: Design and implement inverting and non-inverting amplifier circuits using an operational amplifier (such as IC 741)
Unit IV	Basics of Electronic Communication: Elements of basic electronic communication system, Need for modulation, Transmission modes: Simplex, Half duplex, Full duplex, Communication types: Synchronous, Asynchronous, Sources of noise: Internal, External, Signal-to-noise ratio (SNR) Types of modulation: AM (Amplitude Modulation), FM (Frequency Modulation), PM (Phase Modulation)
	Activity1: Study the block diagram of a basic communication system and analyze each component such as transmitter, channel, and receiver.
Unit V	Modulation and Radio Systems: Generation of AM, Modulation index, Percentage of modulation, SSB-FC (Single Sideband Full Carrier) , DSB-SC (Double Sideband Suppressed Carrier), AM radio receiver: TRF (Tuned Radio Frequency) receiver, Superheterodyne receiver, Block diagram and working of FM transmitter and receiver, Narrowband FM , Wideband FM
	Activity1: Generate or simulate an amplitude modulated (AM) signal and analyze its parameters such as modulation index.

Text Books	
T.1	Electronic Devices and Circuits , S. Salivahanan, N. Suresh Kumar, McGraw Hill Education, 3rd Edition, 2012.
T.2	Electronic Devices and Circuits , David A. Bell, Oxford University Press / PHI, 5th Edition, 2010.
T.3	Electronic Devices and Circuit Theory , Robert L. Boylestad, Louis Nashelsky, Pearson Education, 11th Edition, 2013.
Reference Books	
R.1	Electronic Devices , Thomas L. Floyd, Pearson Education, 10th Edition, 2017.
R.2	Microelectronic Circuits , Adel S. Sedra, Kenneth C. Smith, Oxford University Press, 7th Edition, 2014.
R.3	Integrated Electronics , Jacob Millman, Christos C. Halkias, McGraw-Hill, 2nd Edition, 2009.
Useful Links	
1	https://onlinecourses.nptel.ac.in/noc22_ee93/preview
2	https://onlinecourses.nptel.ac.in/noc22_ee90/preview

CO	Course Outcomes	CL	Class Sessions
CO1	Understand the working, characteristics, and applications of semiconductor diodes in rectifier and voltage regulation circuits.	2	9
CO2	Explain the operation, characteristics, and applications of BJT in amplification and oscillator circuits	2	9
CO3	Apply operational amplifier concepts to design and analyze basic analog circuits.	3	9
CO4	Demonstrate the use of electronic communication concepts in analyzing modulation techniques, transmission modes, and noise effects.	3	9
CO5	Analyze the operation of AM and FM radio transmitter and receiver systems by implementing modulation techniques.	4	9


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Department of Electronics and Communication Engineering

Second Year (Semester-III) B. Tech. Electronics and Communication Engineering

BCE42309 : Sustainable Development Goals

Teaching Scheme		Examination Scheme	
Lectures	2 Hrs./week	CIE	20 Marks
Tutorial	-	ESE	30 Marks
Total Credit	2	Total	50 Marks
		Duration of ESE: 01 Hrs. 00 Min.	

Course Objectives:

1.	To develop a comprehensive understanding of the UN Sustainable Development Goals (SDGs) and their interconnections.
2.	To analyze the global challenges addressed by the SDGs and their impact on various sectors.
3.	To explore innovative solutions and best practices for implementing the SDGs.
4.	To evaluate the progress made towards achieving the SDGs at national and international levels.
5.	To foster a sense of global citizenship and social responsibility among students.

Course Contents

	Hours
Unit I <u>Introduction to Sustainable Development Goals (SDGs):</u> Definition of Sustainability, Aspects of sustainability, historical perspective of sustainable development, Climate Change Conferences and Summits, the Brundtland Commission Report, transition from Millennium Development Goals (MDGs) to SDGs, the role of UN and the need for SDGs and Adoption by the World, scope and inclusion of the 2030 Agenda for Sustainable Development.	(7)
Unit II <u>Framework & Structuring of the 17 SDGs:</u> SDG 1: No Poverty, SDG 2: Zero Hunger, SDG 3: Good Health and Well-being, SDG 4: Quality Education, SDG 5: Gender Equality, SDG 6: Clean Water and Sanitation, SDG 7: Affordable and Clean Energy, SDG 8: Decent Work and Economic Growth, SDG 9: Industry, Innovation and Infrastructure, SDG 10: Reduced Inequalities, SDG 11: Sustainable Cities and Communities, SDG 12: Responsible Consumption and Production, SDG 13: Climate Action, SDG 14: Life below Water, SDG 15: Life on Land, SDG 16: Peace, Justice and Strong Institutions, SDG 17: Partnerships for the Goal	(7)
Unit III <u>SDGs Implementation and Future Perspectives:</u> Interconnections between the SDGs, the role of technology and innovation in SDG implementation, financing the SDGs, measuring SDG progress, future challenges and opportunities, Climate change and its impact on sustainable development, Case studies of successful SDG implementation – India, World	(7)

Text Books	
1	Hazra, Somnath., Bhukta, Anindya (2020) Sustainable Development Goals An Indian Perspective, Springer International Publishing, Switzerland
2	Ziai, Aram (2016) Development Discourse and Global History from colonialism to the sustainable development goals. Routledge, London & New York
Reference Books	
1	Sachs, J., Schmidt-Traub, G., Kroll, C., Lafortune, G., Fuller, G., Woelm, F. 2020. The Sustainable Development Goals and COVID-19. Sustainable Development Report 2020. Cambridge: Cambridge University Press.
2	OECD (2019), Sustainable Results in Development: Using the SDGs for Shared Results and Impact, OECD Publishing, Paris, https://doi.org/10.1787/368cf8b4-en .

Useful Links		
1. https://nptel.ac.in/courses/109106200		
2. https://www.un.org/sustainabledevelopment/		
BCE42309	Course Outcomes	CL
CO 1	Explore the historical origins and evolution of the UN-SDGs.	2
CO 2	Analyze the 17 SDGs and their interlinkages.	4
CO 3	Analyze the role of technology and innovation in achieving the SDGs along with future challenges and opportunities.	4



BOS Chairman