

BCA

Title of the Course	Environmental Science
Course Code	BCA-104[T]

Part A

FaitA								
Year	1st	Semester	1st	Credits	L	Т	Р	С
Teal	151	Semester	151	Cieuts	2	0	2	4
Course Type	Embedded the	ory and lab						
Course Category	Discipline Core	,						
Pre-Requisite/s	Student must h	nave knowledge about Language prof	ficiency.	Co-Requisite/s	Knowledge	e of English I	anguage	
Course Outcomes & Bloom's Level	CO1- To remember various concept of environmental education and ecosystem and also about its functions and knowledge about the conservation of biodiversity and its importance. (BL1-Remember) CO2- To understand about natural resource, its importance and environmental impacts of human activities on natural resource. (BL2-Understand) CO3- To implement various concepts and methods from ecological and physical sciences and their application in environmental problem solving. (BL3-Apply) CO4- To gain the knowledge about the different types of pollutions and their control technologies. (BL4-Analyze) CO5- To Acquire values and attitudes towards understanding complex environmental- economic social challenges, and participating actively in solving current environmental problems and preventing the future ones. (BL5-Evaluate)							
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics X Gender X Human Values ✓ Environment ✓ SDG (Goals) SDG4(Quality education) SDG6(Clean water and sanitation) SDG7(Affordable and clean energy) SDG12(Reduced inequalities) SDG12(Responsible consuption and production) SDG13(Climate action) SDG14(Life below water) SDG15(Life on land)							

Part B

Modules	Contents	Pedagogy	Hours
Module 1	Environmental Education, Ecosystem & Ecology Environmental Education- Definition, scope, importance, Need for Public Awareness, Multidisciplinary nature of Environmental Science, Environment – Definition and its segments, (Lithosphere, Hydrosphere, Atmosphere and Biosphere) Ecology and Ecosystem: Basic concepts, Type & Components, Energy Flow, Food chain, food web, Ecological Pyramids & Biodiversity (importance, threats & conservation).	Classroom Lecture, PPts, Videoes	7
Module 2	Natural Resources Management & Energy Resources Natural Resources – Classification, Water Resources (availability, quality, water budget), Mineral Resources (distribution, availability and future perspectives), and Forest Resources and its management. Energy Resources-Classification, - Conventional (Mineral Oil, Coal and Gas), Non-Conventional (Solar, Geothermal, Wind, Nuclear, Hydrogen, Biomass Energy.	Classroom Lecture, PPts,	8
Module 3	Environmental Pollution and Control Air pollution - Causes, Effects & Control methodologies. Water pollution - sources & effects, characteristics and treatment of waste water, Soil - Formation of soil, elementary and mineral composition, effects and abatements. Noise Pollution and Hazards	Classroom Lecture, PPts, Videoes	6
Module 4	Environmental Issues and Legislations Population Growth & Explosion, Global warming, Acid Rain, Ozone Layer depletion, Photochemical smog. Environmental legislations in India – Air Act, Water Act, Environment Protection Act & Wild life Act.	Classroom Lecture, PPts, Videos	7
Module 5	Ethics, Solid waste Management & EIA Ethics (types & theories) and moral values, NGOs and their role in environmental preservations, Effectiveness of various religions in environmental conservation Solid waste - impacts on Society & management strategies. Environmental Impact Assessment – Methods & Process in India	Classroom Lecture, PPts, Videos	6

Part C

Modules	Title	Indicative-ABCA/PBL/ Experiments/Field work/ Internships	Bloom's Level	Hours
1	To measure the intensity of Light at different locations in the ITM University campus by using Light Meter.	Experiments	BL4-Analyze	4
2	To measure the intensity of Noise at different places in the ITM University campus by using Sound Meter.	Experiments	BL4-Analyze	4
3	To analyze the grassland ecosystem and calculate the Important Value Index (IVI) by quadrate method.	Field work	BL2-Understand	4
4	To determine the TDS and Conductivity of the given water samples.	Experiments	BL4-Analyze	4
5	To determine the pH of given water and soil samples.	Experiments	BL4-Analyze	4
6	To determine the turbidity of given water samples.	Experiments	BL4-Analyze	4
7	To determine the strength of calcium ion in the given water sample	Experiments	BL4-Analyze	4
8	To find out the amount of Dissolved Oxygen (DO) in the given sample of water.	Experiments	BL4-Analyze	4

Part D(Marks Distribution)

	Theory						
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation		
100	40	60	18	40			
	Practical						
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation		
100	50	60	30	40			

Part E

T GIVE						
Books Chauhan, B. S. (2008b). Environmental Studies. Firewall Media. Cunningham, W., & Cunningham, M. (2014). Ebook: Environmental Science: A Global Concern. McGraw Hill.						
Articles						
References Books	Peavy, H. S., Rowe, D. R., & Tchobanoglous, G. (1985b). Environmental Engineering. McGraw-Hill Publishing Company. Masters, G. M., & Ela, W. (2008). Introduction to Environmental Engineering and Science. Pearson.					
MOOC Courses						
Videos						

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	-	2	2	-	-	-	2	-	-	1	-	1
CO2	2	2	1	2	2	2	-	-	-	2	-	-	1	-	3
CO3	2	1	1	-	1	-	-	-	-	2	-	-	3	2	3
CO4	3	2	-	2	1	-	-	-	-	2	-	-	2	3	3
CO5	3	2	-	2	1	-	-	-	-	2	-	-	2	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BCA

Title of the Course	Universal Human Values
Course Code	BCA-407

	Part A							
Year	2nd	Semester	4th	Credits	L	Т	Р	С
tear	ZIId	Semester	401	Credits	2	0	0	2
Course Type	Theory only							•
Course Category	Ability Enhancer	nent Courses						
Pre-Requisite/s				Co-Requisite/s				
Course Outcomes & Bloom's Level	CO1- CO1: To help the students appreciate the essential complimentarily between "VALUES" and "SKILLS" to ensure sustained happiness and prosperity which are the core aspirations of all human beings. (BL2-Understand) CO2- CO2: To facilitate the development of a holistic perspective among students towards life and profession as well as towards happiness and prosperity based on a correct understanding of the human reality and the rest of existence. (BL2-Understand) CO3- CO3: To highlight plausible implications of such a holistic understanding in terms of ethical human conduct, trustful and mutually fulfilling human behavior and enriching interactions with nature. (BL3-Apply) CO4- CO4: To provide a much-needed orientation input in value education to the young enquiring minds.(BL4-Analyze)							
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics X Gender ✓ Human Values ✓ Environment X SDG (Goals) SDG4(Quality education) SDG5(Gender equality) SDG10(Reduced inequalities)							

Part B

Modules	Contents	Pedagogy	Hours
I	Introduction to Value Education • Value education: Concept, Need and Process • Self- Exploration- what is it? – its content and process • The basic human aspirations- continuous happiness and prosperity • Method to fulfill the basic human aspiration • Right understanding, Relationship and Physical facility	Whiteboard, PPT, Video	6
II	Understanding Harmony in the Human Being- Harmony in Myself • Understanding human being as a co-existence of sentient !" and material 'Body' • Understanding the needs of ['I'] and 'Body' — Sukh' and 'Suvidha' • Understanding body as an instrument of 'I' ['I' being the seer, doer and enjoyer) • Understanding the Harmony of 'I' with the Body-Sanyam' and 'Swasthya' correct apprials of physical needs, meaning of prosperity in detail. • Program to ensure Sanyam and Swasthya.	Whiteboard, PPT, Programming Labs	6
III	Understanding the Harmony in Family and Society- harmony in Human-Human Relationship • Family as basic unit of human interactions and values in Relationships. • Understanding the harmony in Society (society being extension of family): Resolution, Prosperity, fearlessness(trust) and co-existence as comprehensive Human Goals. • Vision of the Universal Human Order • Understanding the meaning of Trust; difference between Intention and Competence. • Understanding the meaning of Respect, difference between Respect and Differentiation; the other salient values in relationship.	Whiteboard, PPT, Programming Labs	6
IV	Understanding the Harmony in the Nature and Existence – Whole Existence as Coexistence • Understanding the harmony in Nature • Interconnectedness and mutual fulfilment among the four orders of nature recyclability and self-regulation in Nature • Understanding Existence as Co-existence of mutually interacting units in all-pervasive space • Holistic perception of harmony at all levels of existence	Whiteboard, PPT, Programming Labs	6
V	Professional Ethics • Definitiveness of Ethical Human Conduct • Providing the basis for Universal Human Values and ethical Human conduct • Professional ethics in the light of right Understanding • Competence in Professional ethics • Strategies for transition towards Value-based life and profession.	Whiteboard, PPT, Programming Labs	6

Part D(Marks Distribution)

	Theory						
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation		
100	40	60	18	40			
	Practical						
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation		

Part E

Books	Naagarazan, R. S. (2020). A Textbook on Professional Ethics and Human Values (1st ed.). New Age International Private Limited. Gaur, R. R., Asthana, R., & Bagaria, G. P. (2019). A Foundation in Human Values and Professional Ethics (2nd ed.). Excel Books.
Articles	
References Books	Mazumdar, Prof. (2013). Values and Ethics in Profession (3rd ed.). Everest Publishing House. Tripathi, A. N. (2004). Human Values. New Age International Publishers.
MOOC Courses	
Videos	

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	-	-	-	-	2	-	-	1	1	1	2
CO2	-	2	-	-	-	-	-	-	-	-	2	2	1	2	-
CO3	1	-	-	-	-	-	-	-	2	-	-	1	-	1	1
CO4	-	2	-	-	-	-	-	-	-	-	2	2	1	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-CivilEngineering

Title of the Course	Evaluation of Industrial	Training -1							
Course Code	CED0301[P]								
			Part A						
V	01	0		0	L	Т	Р	С	
Year	2nd	Semester	3rd	Credits	0	0	2	2	
Course Type	Lab only	only							
Course Category	Projects and Internship								
Pre-Requisite/s	subject knowledge of fi	rst and second semester .		Co-Requisite/s					
Course Outcomes & Bloom's Level	CO2- To have hands-or CO3- To promote coop CO4- Develop the conf	CO1- Understand the 'real' working environment and get acquainted with the organization structure, business operations and administrative functions (BL2-Understand) CO2- To have hands-on experience in the students' related field so that they can relate and reinforce what has been taught at the university(BL2-Understand) CO3- To promote cooperation and to develop synergetic collaboration between industry and the university in promoting a knowledgeable society(BL3-Apply) CO4- Develop the confidence require for group living and sharing of responsibilities of acquire leader ship qualities and democratic attitudes. (BL4-Analyze) CO5- Develop the capacity to meet emergencies and natural disasters and practice national integration and social harmony(BL5-Evaluate)							

Part B

SDG (Goals)

Skill Development ✓
Entrepreneurship ✓
Employability ✓
Professsonal Ethics X
Gender X
Human Values ✓
Environment X

Coures Elements

Modules	Contents	Pedagogy	Hours
1	Students have to submit a report on training and give a presentation on his/her experience	Presentation	8

Part C

Modules	Title	Indicative-ABCA/PBL/ Experiments/Field work/ Internships	Bloom's Level	Hours
Module-I	Industrial training has its own importance in a career of a student who is pursuing a professional degree. It is considered as a part of college curriculum. The objective of an industrial training is to provide us an insight regarding internal working of companies. We understand that theoretical knowledge is not enough for a successful professional career. With an aim to go beyond academics, industrial visit provides students a practical perspective of the work place. Industrial trainings provide an opportunity to learn practically through interaction, working methods and employment practices.	Field work	BL3-Apply	40 hrs
Module-II	It gives students an exposure to current work practices as opposed to possibly theoretical knowledge being taught at college. Industrial visits provide an excellent opportunity to interact with industries and know more about industrial environment. Industrial trainings are arranged by TAP cell with an objective of providing us an opportunity to explore different sectors like IT. Manufacturing services, finance and marketing. Industrial visit helps to combine theoretical knowledge with practical knowledge. Industrial realities are opened to the students through industrial visits/trainings.	Field work	BL4-Analyze	40 hrs

Part D(Marks Distribution)

	Theory											
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation							
	50											
			Practical									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation							
100	40	40	20	60								

Part E

Books	
Articles	
References Books	
MOOC Courses	
Videos	

	1	1	1	1			1								
COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	0	1	0	2	1	3	2	3	2	0	2	1	1	2
CO2	2	1	0	0	2	1	2	3	3	2	1	2	2	1	1
CO3	2	1	0	0	2	1	3	3	2	2	0	2	2	2	1
CO4	2	0	1	0	2	0	3	2	2	2	0	2	1	2	1
CO5	2	1	0	0	2	1	3	3	3	2	0	2	2	1	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-CivilEngineering

Title of the Course	Industrial Training
Course Code	CED0501[P]

Part A												
Year	3rd	Semester	5th	Credits	L	Т	Р	С				
leai	Sid	Semester	501	Credits	0	0	2	2				
Course Type	Lab only	Lab only										
Course Category	gory Projects and Internship											
Pre-Requisite/s	Basic Knowle	dge of Civil Engineering		Co-Requisite/s	Co-Requisite/s							
Course Outcomes & Bloom's Level	CO2- To have CO3- To prom CO4- Develop	e hands-on experience in the stu note cooperation and to develop to the confidence require for grou	dents' related field so that they synergetic collaboration betwe ip living and sharing of respons	organization structure, business operations a can relate and reinforce what has been taugh en industry and the university in promoting a l ibilities of acquire leader ship qualities and de practice national integration and social harmon	t at the univer inowledgeable mocratic attitu	sity(BL2-Unde society(BL3-A des. (BL4-Ana	erstand) Apply)	nd)				
Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professonal Ethics × Gender × Human Values ✓ Environment × SDG (Goals) SDG11(Sustainable cities and economies)												

Part B

Modules	Contents	Pedagogy	Hours
1	Students have to submit a report on training and give a presentation on his/her experience	Presentation	8

Part C

Modules	Title	Indicative-ABCA/PBL/ Experiments/Field work/ Internships	Bloom's Level	Hours
Module-I	Industrial training has its own importance in a career of a student who is pursuing a professional degree. It is considered as a part of college curriculum. The objective of an industrial training is to provide us an insight regarding internal working of companies. We understand that theoretical knowledge is not enough for a successful professional career. With an aim to go beyond academics, industrial visit provides students a practical perspective of the work place. Industrial trainings provide an opportunity to learn practically through interaction, working methods and employment practices.	Field work	BL3-Apply	40 hrs
Module-II	It gives students an exposure to current work practices as opposed to possibly theoretical knowledge being taught at college. Industrial visits provide an excellent opportunity to interact with industries and know more about industrial environment. Industrial trainings are arranged by TAP cell with an objective of providing us an opportunity to explore different sectors like IT, Manufacturing services, finance and marketing. Industrial visit helps to combine theoretical knowledge with practical knowledge. Industrial realities are opened to the students through industrial visits/trainings.	Field work	BL4-Analyze	40 hrs

Part D(Marks Distribution)

	Theory											
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation							
	0											
			Practical									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation							
100	40	40	20	60								

Part E

Books	
Articles	
References Books	
MOOC Courses	
Videos	

	1	1	1	1			1								
COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	0	1	0	2	1	3	2	3	2	0	2	1	1	2
CO2	2	1	0	0	2	1	2	3	3	2	1	2	2	1	1
CO3	2	1	0	0	2	1	3	3	2	2	0	2	2	2	1
CO4	2	0	1	0	2	0	3	2	2	2	0	2	1	2	1
CO5	2	1	0	0	2	1	3	3	3	2	0	2	2	1	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-CivilEngineering

Title of the Course	Industrial training
Course Code	CED0702[P]

			Part A					
Year	4th	Semester	7th	Credits	L	Т	Р	С
rear	401	Semester	741	Credits	0	0	2	2
Course Type	Lab only							
Course Category	Projects and	Internship						
Pre-Requisite/s	Basic Knowle	dge of Civil Engineering		Co-Requisite/s				
Course Outcomes & Bloom's Level	CO2- To have CO3- To pron CO4- Develo	e hands-on experience in the stu note cooperation and to develop p the confidence require for grou	dents' related field so that they synergetic collaboration betwe p living and sharing of respons	organization structure, business operations a can relate and reinforce what has been taugh en industry and the university in promoting a ibilities of acquire leader ship qualities and de practice national integration and social harmon	it at the unive knowledgeabl mocratic attit	rsity(BL2-Unde e society(BL3- udes. (BL4-An	erstand) Apply)	nd)
Coures Elements	Skill Develop Entrepreneur Employability Professsonal Gender X Human Value	ship ✓ ✓ Ethics X	SDG (Goals)	SDG11(Sustainable cities and economies)				

Part B

Modules	Contents	Pedagogy	Hours
1	Students have to submit a report on training and give a presentation on his/her experience	Presentation	8

Part C

Modules	Title	Indicative-ABCA/PBL/ Experiments/Field work/ Internships	Bloom's Level	Hours
Module-I	Industrial training has its own importance in a career of a student who is pursuing a professional degree. It is considered as a part of college curriculum. The objective of an industrial training is to provide us an insight regarding internal working of companies. We understand that theoretical knowledge is not enough for a successful professional career. With an aim to go beyond academics, industrial visit provides students a practical perspective of the work place. Industrial trainings provide an opportunity to learn practically through interaction, working methods and employment practices.	Field work	BL3-Apply	40 hrs
Module-II	It gives students an exposure to current work practices as opposed to possibly theoretical knowledge being taught at college. Industrial visits provide an excellent opportunity to interact with industries and know more about industrial environment. Industrial trainings are arranged by TAP cell with an objective of providing us an opportunity to explore different sectors like IT, Manufacturing services, finance and marketing. Industrial visit helps to combine theoretical knowledge with practical knowledge. Industrial realities are opened to the students through industrial visits/trainings.	Field work	BL4-Analyze	40 hrs

Part D(Marks Distribution)

	Theory								
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation				
	50								
			Practical						
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation				
100	40	40	20	60					

Part E

Books	
Articles	
References Books	
MOOC Courses	
Videos	

00-	DO4	DOG	DO0	DO4	DOF	DOG	DO7	DOG	DOG	DO40	DO44	DO40	D004	DOOD	D000
COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	0	1	0	2	1	3	2	3	2	0	2	1	1	2
CO2	2	1	0	0	2	1	2	3	3	2	1	2	2	1	1
CO3	2	1	0	0	2	1	3	3	2	2	0	2	2	2	1
CO4	2	0	1	0	2	0	3	2	2	2	0	2	1	2	1
CO5	2	1	0	0	3	2	3	3	3	2	1	2	2	2	2
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-ComputerScience

Title of the Course	Software Engineering
Course Code	CSL0303[T]

		Part	A							
Year	2nd	Semester	3rd	Credits		Т	Р	С		
Teal	ZIIU	Semester	Sid	Credits	3	0	0	3		
Course Type	Course Type Theory only									
Course Category	Discipline Core							-		
Pre-Requisite/s	student must have knowledge about basic data structures , computer organization & programming language concepts.									
Course Outcomes & Bloom's Level	CO2- Apply the variou CO3- Design the Desig CO4- Explain various CO5- Evaluating the n Maintenance, Software	basics of software engineering like characterist s SDLC, ER, DFD models, to collect SRS, And an Strategies, Architectural Design concept for lesting techniques and Analyze the concept of reed of Software Maintenance and Software Pro Re- Engineering, Reverse Engineering and o s and Management. (Investigation). (BL5-Evalu	understand the software. (Apply).(BL3-App better development of software (Design).(BL sesting strategies (Analysis)(BL4-Analyze) oject Management Software, Need for Maint ther inter process communication tech An O	L6-Create) enance, Corrective and Perfective Maintenan	ce, C	ost of		ŕ		
Coures Elements	Skill Development ✓ Entrepreneurship ✓ Employability ✓ Professsonal Ethics ✓ Gender X Human Values ✓ Environment X		SDG (Goals)	SDG1(No poverty) SDG2(Zero hunger) SDG4(Quality education)						

Dart F

Modules	Contents	Pedagogy	Hours
Unit-1	Introduction: Introduction to Software Engineering, Software Components, Software Characteristics, Software Crisis, Software Engineering Processes, Similarity and Differences from Conventional Engineering Processes, Software Quality Attributes. Software Development Life Cycle (SDLC) Models: Water Fall Model, Prototype Model, Spiral Model, Evolutionary Development Models, Iterative Enhancement Models.	Lecturing	6
Unit-2	Planning: Software Requirement Specifications (SRS) Requirement Engineering Process: Elicitation, Analysis, Documentation, Review and Management of User Needs, Feasibility Study, Information Modeling, Data Flow Diagrams, Entity Relationship Diagrams, Decision Tables, SRS Document, Software Quality Assurance (SQA): Verification and Validation, SQA Plans, Software Quality Frameworks, ISO 9000 Model.	Case Study	6
Unit-3	Design: Basic Concept of Software Design, Architectural Design, Low Level Design: Modularization, Design Structure Charts, Pseudo Codes, Flow Charts, Coupling and Cohesion Measures, Design Strategies: Function Oriented Design, Object Oriented Design, Top-Down and Bottom-Up Design. Software Measurement and Metrics: Various Size Oriented Measures: Function Point (FP) Based Measures, Cyclomatic Complexity.	Case Study	6
Unit-4	Testing: Software Testing, Testing Objectives, Unit Testing, Integration Testing, Acceptance Testing, Regression Testing, Testing for Functionality and Testing for Performance, Top-Down and Bottom-Up Testing Strategies: Test Drivers and Test Stubs, Structural Testing (White Box Testing), Functional Testing (Black Box Testing), Test Data Suit Preparation, Alpha and Beta Testing of Products. Static Testing Strategies: Formal Technical Reviews (Peer Reviews), Walk Through, Code Inspection, Compliance with Design and Coding Standards.	Case Study	6
Unit-5	Maintenance: Software Maintenance and Software Project Management Software as an Evolutionary Entity, Need for Maintenance, Categories of Maintenance: Preventive, Corrective and Perfective Maintenance, Cost of Maintenance, Software Re- Engineering, Reverse Engineering, Software Configuration Management, An Overview of CASE Tools, Constructive Cost Models (COCOMO), Software Risk Analysis and Management.	Lecturing	6

Part C

Modules	Title	Indicative-ABCA/PBL/ Experiments/Field work/ Internships	Bloom's Level	Hours
2,3,4	Case study	Case Study	BL5-Evaluate	15

Part D(Marks Distribution)

	Theory										
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation						
100	40	60	18	40							
			Practical								
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation						
100	0	40	12	60	18						

Part E

Books	Pressman, R. S., & Dr, B. R. M. (2014, January 23). Software Engineering: A Practitioner's Approach. McGraw-Hill Education. http://books.google.ie/books?id=i8NmnAEACAAJ&dq=R.+S.+Pressman&hl=&cd=1&source=gbs_api (Pressman & Dr, 2014)
Articles	
References Books	Pressman, R. S., & Dr, B. R. M. (2014, January 23). Software Engineering: A Practitioner's Approach. McGraw-Hill Education. http://books.google.ie/books?id=i8NmnAEACAAJ&dq=R.+S.+Pressman&hl=&cd=1&source=gbs_api (Pressman & Dr, 2014)
MOOC Courses	
Videos	https://onlinecourses.nptel.ac.in/noc20_cs68/preview

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	1	-	-	-	-	-	-	-	1	-	2
CO2	1	-	-	-	1	2	-	-	-	-	-	-	1	2	3
CO3	2	1	-	-	1	-	-	-	-	-	-	-	3	2	3
CO4	2	2	-	3	1	-	-	-	-	-	-	-	3	2	3
CO5	2	2	-	2	1	-	-	-	-	-	-	-	3	2	3
CO6	1	1	2	3	2	2	-	-	-	2	-	-	3	3	3



BTech-Electronics_and_Communication

Title of the Course	Intellectual Property Rights
Course Code	EC00701C[T]

			Part A					
Year	4th	Semester	7th	Credits	L	L T		С
Tear	401	Semester	7111	Credits	3	0	0	3
Course Type	Theory only					•	•	
Course Category	Open Elective							
Pre-Requisite/s				Co-Requisite/s				
Course Outcomes & Bloom's Level	industries(BL1-R CO2- To dissemin CO3- To apply the CO4- To analyze	emember) nate knowledge on patents, patent regime e concept of IPR(BL3-Apply)	in India and abroad and registration a	o play a major role in development and manag spects (BL2-Understand) Variety and Layout Design Protection and thei				
Coures Elements	Skill Developmen Entrepreneurship Employability ✓ Professsonal Eth Gender X Human Values ✓ Environment X	×	SDG (Goals)					

Part F

Modules	Contents	Pedagogy	Hours
1	Introduction and the need for intellectual property right (IPR) - Kinds of Intellectual Property Rights: Patent, Copyright, Trade Mark, Design, Geographical Indication, Plant Varieties and Layout Design – Genetic Resources and Traditional Knowledge – Trade Secret - IPR in India: Genesis and development – IPR in abroad – Major International Instruments concerning Intellectual Property Rights: Paris Convention, 1883, the Berne Convention, 1886, the Universal Copyright Convention, 1952, the WIPO Convention, 1967, the Patent Co-operation Treaty, 1970, the TRIPS Agreement, 1994	Lecture Method/ Case Study/ Video/ Group Discussion	12
2	Elements of Patentability: Novelty, Non Obviousness (Inventive Steps), Industrial Application - Non - Patentable Subject Matter - Registration Procedure, Rights and Duties of Patentee, Assignment and licence , Restoration of lapsed Patents, Surrender and Revocation of Patents, Infringement, Remedies & Penalties - Patent office and Appellate Board	Lecture Method/ Case Study/ Video/ Group Discussion	12
3	Nature of Copyright - Subject matter of copyright: original literary, dramatic, musical, artistic works; cinematograph films and sound recordings - Registration Procedure, Term of protection, Ownership of copyright, Assignment and license of copyright - Infringement, Remedies & Penalties – Related Rights - Distinction between related rights and copyrights	Lecture Method/ Case Study/ Video/ Group Discussion	12
4	Different kinds of marks (brand names, logos, signatures, symbols, well known marks, certification marks and service marks) - Non-Registrable Trademarks - Registration of Trademarks - Rights of holder and assignment and licensing of marks - Infringement, Remedies & Penalties - Trademarks registry and appellate board	Lecture Method/ Case Study/ Video/ Group Discussion	10
5	meaning and concept of novel and original - Procedure for registration, effect of registration and term of protection Geographical Indication (GI) Geographical indication: meaning, and difference between GI and trademarks - Procedure for registration, effect of registration and term of protection	Lecture Method/ Case Study/ Video/ Group Discussion	10

Part D(Marks Distribution)

	Theory											
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation							
100	40	60	18	40								
	Practical											
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation							
0	0	0	0	0	0							

Part E

Books	1) Nithyananda, K V. (2019). Intellectual Property Rights. India, IN: Cengage Learning India Private Limited.
Articles	http://op.niscair.res.in/index.php/JIPR
References Books	1) Law of Intellectual Property, Asian Law House, Dr.S.R. Myneni.
MOOC Courses	https://www.udemy.com/course/certificate-course-ipr/? =&gad_source=1&gclid=Cj0KCQjw6PGxBhCVARlsAlumnWYAVsP2ByJ2PaFsYr6Xs5JKQfqgImfwumwXAL_wj2tvGaXZiybXm1YaAsoWEALw_wcB&couponCode=LETSLEARNNOWPP
Videos	https://archive.nptel.ac.in/courses/110/105/110105139/

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	1	2	-	3	-	3	-	-	-	-	1
CO2	-	2	2	-	1	2	-	3	-	3	-	-	-	-	1
CO3	2	2	1	2	-	-	-	-	-	-	-	-	1	-	3
CO4	2	3	1	2	-	-	-	-	-	-	-	-	2	2	3
CO5	2	2	-	1	-	-	-	-	-	-	-	-	2	-	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-CivilEngineering

Title of the Course	Communication Skills & Colloquim
Course Code	HUL0101[T]

			Part A									
Year	1st	Semester	1st	Credits	L	Т	Р	С				
Teal	150	Semester	151	Orealis	3	0	1	4				
Course Type	Embedded theory	Embedded theory and lab										
Course Category	Discipline Core											
Pre-Requisite/s		igned to enable students to enhance ability English) required for effective communicatio	Co-Requisite/s			n skills a lligence						
Course Outcomes & Bloom's Level	CO1- Determine interpersonal skills and be an effective goal-oriented team player (BL1-Remember) CO2- Classify and formulate the elementary intricacies of Scientific and Technical Writing using applicative grammar construct. (BL2-Understand) CO3- Create cohesive technical paragraphs & text. (BL3-Apply) CO4- Analyzing: Students will be able to analyze information learnt about communication to become a good communicator. (BL4-Analyze) CO5- Evaluating: Students will be able to Compare the usage between reading and writing skills and evaluate the importance of both the skills to make process of communication successful (BL5-Evaluate)											
Coures Elements	Skill Development ✓ Entrepreneurship × Employability × Professonal Ethics ✓ Gender × Human Values ✓ Environment × SDG (Goals) SDG1((No poverty) SDG10((Reduced inequalities))											

Part B

Modules	Part B Contents	Pedagogy	Hours
Module 1	Introduction to Communication Skills, Objectives, Significance of Communication, Flow of Communication, Principles Communication, Essential Features, Process of Communication, Verbal (Oral & Written) and Non-verbal Communication, Barriers to Effective Communication, Introduction to Technical Communication, Major Difference between Technical Communication and General Communication.	Classroom Lecture, PPts,	6
Module 2	Introduction to Communication Skills, Objectives, Significance of Communication, Flow of Communication, Principles Communication, Essential Features, Process of Communication, Verbal (Oral & Written) and Non-verbal Communication, Barriers to Effective Communication, Introduction to Technical Communication, Major Difference between Technical Communication and General Communication.	Classroom Lecture, PPts,	6
Module 3	Introduction to Formal Letter Writing, Elements of Letter Writing and Style of Writing, Layout & Structure of Formal Letter Writing, Introduction to the Types of Business Letters- Enquiry, Calling Quotations, Order, Complaint and Adiustment.Introduction to Employment Communication- Job Application, Writing Resume, Differences among Resume, Curriculum Vitae & Bio-data.	Classroom Lecture, PPts, Videoes	6
Module 4	Introduction to Oral Presentations, Objectives, Significance and Approach, Preparation and Delivery of Oral Presentation (topics to be selected by the teachers). Introduction to Interview Skills. How to Develop Interview Skills. Dos and Don't of Interviews, Types of Interviews, Reviewing TV Program/Book/News Paper Articles etc.	Classroom Lecture, PPts, Videos	6
Module 5	Introduction to Report Writing, Major Objectives of Writing Reports, Significance of Business/Technical, Types and Forms of Reports, Styles of Writing Reports- Printed Format, Hemo Format, Letter Format, Book/Letter Text Format. Layout and Structure of Reports, Components of Reports, Writing.	Classroom Lecture, PPts, Videos	6

Part D(Marks Distribution)

	Theory									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	40	40	12	60	28					
	Practical									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	50	40	20	60	30					

Part E

Books	A Text Book of Scientific and Technical Writing by S.D. Sharma; Vikas Publication, Delhi
Articles	www.helpguide.org/articles/relationships-communication/effective-communication.htm
References Books	Rizvi, M.A. Academic Writing: A course in English for Science and Technology, Nabodaya Prakashak , Calcutta
MOOC Courses	https://nptel.ac.in/courses/109103020
Videos	https://nptel.ac.in/courses/109103020

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	-	-	2	2	-	-	-	2	-	•	1	-	1
CO2	2	2	1	2	2	2	-	-	-	2	-	•	1	-	3
CO3	2	1	1	-	1	-	-	-	-	2	-	-	3	2	3
CO4	3	2	-	2	1	-	-	-	-	2	-	-	2	3	3
CO5	3	2	-	2	1	-	-	-	-	2	-	-	2	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	=	-	-	-



BTech-MechanicalEngineering

Title of the Course	Communication Skills & Colloquim
Course Code	HUL0101[T]

			Part A					
Year	1st	Semester	1st	Credits	L	Т	Р	С
Teal	151	Semester	151	oreuts .	3	0	1	4
Course Type	Embedded the	ory and lab						
Course Category	Discipline Core)						
Pre-Requisite/s	Student must h	nave knowledge about Language prof	iciency.	Co-Requisite/s	Develop	ed Commu	ınication ski	ıl.
Course Outcomes & Bloom's Level	CO2- Classify CO3- Examine CO4- Justify a	ne interpersonal skills and be an effec and formulate the elementary intricac a tatitudes, emotional intelligence and oproaches to conflict resolution(BL4-, Formal Communication.(BL5-Evalua	ies of Scientific and Technical Writ understand its influence on behav Analyze)	ing using applicative grammar construct.□(3L2-Unders	tand)		
Coures Elements	Skill Developm Entrepreneurs Employability > Professsonal E Gender X Human Values Environment X	hip X K Ethics X	SDG (Goals)	SDG4(Quality education)				

Part F

	Part B		
Modules	Contents	Pedagogy	Hours
Module 1	Introduction to Communication Skills, Objectives, Significance of Communication, Flow of Communication, Principles Communication, Essential Features, Process of Communication, Verbal (Oral & Written) and Non-verbal Communication, Barriers to Effective Communication, Introduction to Technical Communication, Major Difference between Technical Communication and General Communication.	Classroom Lecture, PPts,	6
Module 2	Introduction & Significance of Listening skills, Types of Listening, Barriers in Effective Listening, Basic Grammar - Parts of Speech, Active Passive and Articles.	Classroom Lecture, PPts,	6
Module 3	Introduction to Formal Letter Writing, Elements of Letter Writing and Style of Writing, Layout & Structure of Formal Letter Writing, Introduction to the Types of Business Letters- Enquiry, Calling Quotations, Order, Complaint and Adiustment.Introduction to Employment Communication- Job Application, Writing Resume, Differences among Resume, Curriculum Vitae & Bio-data.	Classroom Lecture, PPts, Videoes	6
Module 4	Introduction to Oral Presentations, Objectives, Significance and Approach, Preparation and Delivery of Oral Presentation (topics to be selected by the teachers). Introduction to Interview Skills. How to Develop Interview Skills. Dos and Don't of Interviews, Types of Interviews, Reviewing TV Program/Book/News Paper Articles etc	Classroom Lecture, PPts, Videos	6
Module 5	Introduction to Report Writing, Major Objectives of Writing Reports, Significance of Business/Technical, Types and Forms of Reports, Styles of Writing Reports- Printed Format, Memo Format, Letter Format, Book/Letter Text Format. Layout and Structure of Reports, Components of Reports, Writing.	Classroom Lecture, PPts, Videos	6

Part D(Marks Distribution)

	Theory									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	40	40	12	60						
	Practical									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	50	40	20	60	30					

Part E

Books	Technical Communication – Principles and Practices by Meenakshi Raman & Sangeeta Sharma, Oxford Univ. Press, 2007, New Delhi
Articles	https://www.jetir.org/papers/JETIR2108373.pdf https://open.lib.umn.edu/communication/chapter/1-2-the-communication-process/ https://www.iosrjournals.org/iosr-jbm/papers/Vol22-issue8/Series-2/E2208024254.pdf
References Books	Modern Technical Writing by Sherman, Theodore A (et.al); Apprentice Hall; New Jersey; U.S
MOOC Courses	https://nptel.ac.in/courses/109103020
Videos	https://nptel.ac.in/courses/109103020

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	-	-	2	2	-	-	-	2	-	-	1	-	1
CO2	2	2	1	2	2	2	-	-	-	2	-	-	1	-	3
CO3	2	1	1	-	1	-	-	-	-	2	-	-	3	2	3
CO4	3	2	-	2	1	-	-	-	-	2	-	-	2	3	3
CO5	3	2	-	2	1	-	-	-	-	2	-	-	2	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-ComputerScience

Part A Telegraph Telegra	Title of the Course	Making of Mo	dern India							
Tourse Type Theory only Course Category Ability Enhancement Courses Ability Enhancement Courses 1. "Understanding of Indian Culture and History: Before deliving into the lefe of Indian in historical proposable, making and the left of Indian in historical proposable, making and the left of Indian in historical proposable, making and the left of Indian in historical proposable, making and the left of Indian in historical proposable, making and the left of Indian indiangents in the left of Indian indiangents in Indiana, and the left of Indian indiangents in Indiana, and the left of Indiana, and Indiana, an	Course Code	MCL0101[T]								
Tear Table Tear				Part A						
Course Category Asilty Enhancement Courses Course Category Asilty Enhancement Courses 1. **Understanding of Indian Culture and History' Before deliving into the country of the Course Category (and the Culture and Course) and the Course Category (and the Category Catego	Year	1et	Samester	1et	Cradits	L	Т	Р	С	
Ability Enhancement Courses A billity Enhancement Courses 1. "Understanding of Indian Culture and History": Before delving into the lot out of Indian in a historical perspective, readers should have a commodations of commodations and commissions of commissions and com	Tour	150	Contester	150	Orcuits	2	0	0	2	
1. "Understanding of Indian Culture and History" Before delving into the idea of Indian in a historical prespective, readers should have a foundational understanding of Indian culture, including its commonalities, diversities, and the concept of unity in diversity. Familiary with Cultural and in the concept of unity in diversity. Familiary with cultural and intelligence of the concept of unity in diversity. Familiary with Cultural and intelligence of the concept of unity in the concept of unity with Cultural and the new formation of concurrations and the new formation of concurration and the new formation of the concurration of the concur	Course Type	Theory only								
1. "Understanding of Indian Culture and History". Before delving into the idea of Indian in a historical perspective, readers should have a foundational understanding of the indices about have a foundational understanding of the indices about the search of the indian indices indian indian indices about the search of indian indices indian indian indices about the search of indian indices indian indian indices and conflicts within India's historical cortext is essential, abony with an understanding of the red of Indian indices indices in an appropriate cornegts. 2. "Knowledge of Indian Nationalisms is Foundations". To be a couplinate for the Indian indices indices in the red of Indian indices indices in a page through the emergence of automatic sentiments and indian indices indian i	Course Category	Ability Enhan	cement Courses			1				
the Indian intelligentsia. They will grasp how these factors shaped the idea of India, particularly in the context of British rule, (BL2-Understand) CO2-2.: Students will critically analyze the development of Indian nationalism, exploring its anti-colonial basis, economic nationalism, communalism, revivalism, and the influences of Enlightenment values and European nationalism. They will understand the complex factors contributing to the emergence and growth of Indian nationalism, (BL4-Analyze) CO3-3. Students will appreciate the significance of social reform movements in 19th-century India, understanding the contributions of key figures such as Raja Rammohan Roy and Swami Vivekananda. They will recognize the importance of addressing issues like women's rights and the caste system within the context of British rule and Indian introspection. (BL5-Evaluate) CO4-4.: Students will understand the dynamics of the Indian National Movement, including early revolts, the 1857 revolt, the role of early nationalists, Gandhi-led mass movements, socialist and left trends, and the integration of princely states. They will comprehend the complexities and strategies involved in India's journey to independence. (BL2-Understand) CO5-5. Students will analyze the trajectory of India after independence, examining the making of the Indian Constitution, the post-independent Nehru era, India's experiences facing wars, and its economic transition. They will evaluate India's achievements and challenges in the 21st century, gaining insights into its socio-economic and political landscape. (BL3-Apely) SCH1(No poverty) SCH2(No poverty) SCH3(No poverty) SCH3(Reduced inequalities) SDG4(Quality education) SDG5(Gender equality) SDG1(Reduced inequalities) SDG1(Reduced inequalities)	Pre-Requisite/s	1. "Understanding of Indian Culture and History": Before delving into the idea of India in a historical perspective, readers should have a foundational understanding of Indian culture, including its commonalities, diversities, and the concept of unity in diversity. Familiarity with cultural accommodations and conflicts within India's historical context is essential, along with an understanding of the role of Indian intelligentsia in shaping these concepts. 2. "Knowledge of Indian Nationalisms, readers should have a context for understanding of growth of Indian nationalism, and the hard of growth of Indian nationalism, and the dynamics of communalism and nationalism. Understanding revivalism, Enlightenment values, and the influence of European nationalism, and the dynamics of communalism and nationalism. Understanding revivalism, Enlightenment values, and the influence of European nationalism and nationalism provides crucial context. 3. "Awareness of Social Reform Movements": Before studying social reform movements in India, readers should have a grass of colon and imperialism, particularly their impact on Indian Nationalism provides context of understanding of global history and movements. To understanding of global history and movements. The Indian Nationalism provides crucial context. 3. "Awareness of Social Reform Movements": Before studying social reform movements in India, readers should have a grass of cool. The Indian Nationalism provides context of understanding of global history and movements. To understanding of the prisonal provides crucial context. 3. "Awareness of Social Reform Movements": Before studying social reform movements in India, readers should have a understanding of the British clonial reforms. 2. "Familiarity with key flight movements, and the introspection it prompted. Familiarity with key flight movements and the caste system is necessary. 4. **Co-Requisite/s** **Co-Requisite/s** **Co-Requisite/s** **Co-Requisite/s** **Co-Requisite/s** **Co-Requisite/s** **Indian National Movem					reform of colonialism n India. ed and of colonialism n India. ed and txt for st sentiments arity with Global have a basic nents, including le rise of loader totical of political and rhillosophy and alism and the be familiar with as liberalism, these senomic and the seno			
Entrepreneurship X Employability X Professsonal Ethics X Gender X Human Values Entrepreneurship X Employability X SDG (Goals) SDG4(No poverty) SDG3(Good health and well-being) SDG4(Quality education) SDG5(Gender equality) SDG10(Reduced inequalities) SDG1(Educed inequalities)		the Indian intelligentsia. They will grasp how these factors shaped the idea of India, particularly in the context of British rule. (BL2-Inderstand) CO2-2.: Students will critically analyze the development of Indian nationalism, exploring its anti-colonial basis, economic nationalism, communalism, revivalism, and the influence of Enlightenment values and European nationalism. They will understand the complex factors contributing to the emergence and growth of Indian nationalism. (BL4-Analyze) CO3-3. Students will appreciate the significance of social reform movements in 19th-century India, understanding the contributions of key figures such as Raja Rammohan Roy and Swami Vivekananda. They will recognize the importance of addressing issues like women's rights and the caste system within the context of British rule and Indian introspection. (BL5-Evaluate) CO4-4.: Students will understand the dynamics of the Indian National Movement, including early revolts, the 1857 revolt, the role of early nationalists, Gandhi-led mass movements, socialist and left trends, and the integration of princely states. They will comprehend the complexities and strategies involved in India's journey to independence.(BL2 Understand) CO5-5. Students will analyze the trajectory of India after independence, examining the making of the Indian Constitution, the post-independent Nehru era, India's experiences facing wars, and its economic transition. They will evaluate India's achievements and challenges in the 21st century, gaining insights into its socio-economic and political landscapi						d the influences Analyze) mohan Roy and ntrospection. nass endence.(BL2-		
	Coures Elements	Entrepreneurship X Employability X Professsonal Ethics X Gender X Human Values ✓ Entrepreneurship X SDG (Goals) SDG3(Good health and well-being) SDG4(Quality education) SDG5(Gender equality) SDG10(Reduced inequalities) SDG15(Life on land)								

Modules	Contents	Pedagogy	Hours
1	Idea of India in historical perspective a) Indian culture, b) cultural commonness, c)cultural diversities, d)unity in diversity, e) cultural accommodations ,f) cultural conflicts, g)Idea of India and British Rule , h) Role of Indian Intelligentsia.		6
2	Emergence and growth of Indian Nationalism a) Anti-colonial basis, b) Economic Nationalism, c) communalism and nationalism, d) revivalism and Indian nationalism, e)Enlightenment values, f)European Nationalism and Indian Nationalism.		6
3	Social Reform Movements (a) British Rule and Indian introspection, (b) Raja Rammohan Roy, (c) social reform movements in 19th century, (d)Swami Vivekanand, (e)The women issue, (f)Caste system.		6
4	Indian National Movement (a) Early Revolts and 1857 Revolt, (b)Early Nationalists, (c) Bang Bhang Movement ,(d) Gandhi led Mass Movements, (e) Socialist and Left trends, (f) Princely States and their integration into nation, (h)Partition and Independence .		6
5	India after independence a) Making of Indian Constitution, (b) Post Independent Nehru Era, (c) India facing Wars, (d) Indian economy- From Planning to LPG, (e) Achievements, (f) Challenges in 21st century India.		6

Part D(Marks Distribution)

	Theory									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	40	40	12	60	28					
			Practical							
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
	0	0								

Part E

Books	Bipan Chandra and others: India's Struggle For Independence , Penguine Publishers. 2. Bipan Chandra: History Of Modern India, Orient Blackswan publishers. 3. Sunil Khilnani: The Idea of India, Penguine publishers. 4. Shekhar Bandopadhyay: From Plastic to Partition and After, A History of Modern India, Orient Blackswan publishers. 5. Rakesh Batabyal: The Penguine Book of Modern Indian Speeches,1878 to Present, Penguine Publishers. 6. A R Desai:Social Background of Indian Nationalism, Popular Prakashan . 7. B R Nanda: Mahatma Gandhi, A Biography,London.
Articles	
References Books	B.R.Nanda:Gandhi and His Critics, Oxford 2. Girja Shankar: Socialist Trends in Indian National Movement ,Meerut 3. Urmila Phadnis:Towards the integration of Indian States, 1919-1947,Mumbai 4. Bimal Prasad: Gandhi,Nehru and JP,A Study in Leadership,New Delhi 5. Bipan Chandra and others:India Since Independence ,Penguine 6. Ramchandra Guha:Makers of Modern India, Penguine. 7. Austin Granville: The Indian Constitution, Oxford.
MOOC Courses	
Videos	

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	2	-	1	-	-	-	-	-	-	-	-	1	2	1
CO2	-	-	2	-	-	1	-	1	-	-	-	-	1	1	1
CO3	-	-	-	-	-	-	1	-	-	1	-	-	-	1	-
CO4	-	-	-	-	-	-	-	-	2	-	-	2	1	-	-
CO5	-	-	-	-	-	-	-	-	-	-	2	-	-	1	1
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-



BTech-ElectricalEngineering

Title of the Course	Environmental Pollution and global issues
Course Code	MCL0201

	•		Part A	1				,
Year	1st Semester		2nd	Credits	L	Т	Р	С
rear	131	Semester	Ziiu	Oreuts	2	1	0	3
Course Type	Theory only							
Course Category	Foundation	core						
Pre-Requisite/s		edge of natural resources, biod energy flow, environmental iss		Co-Requisite/s				environment and and challenges.
Course Outcomes & Bloom's Level	CO1- CO1. Develop environmental scientists and engineers and sensitize them towards environmental issues.(BL2-Understand) CO2- CO2. To acquire analytical skills in assessing environmental impacts through a multidisciplinary approach(BL3-Appty) CO3- CO3. Ability to distinguish between various methods of various pollution analysis(BL4-Analyze) CO4- CO4. Acquire expertise and skills needed for the Environmental Management Systems and techniques of monitoring, Environment audit, Environmental Impact Analysis, environment instrumentation and control systems and for the projects development, implementation, and maintenance.(BL5-Evaluate) CO5- CO5. Students acquire skills for to communicate, prepare, plan and implement the environmental management project(BL6-Create)							
Coures Elements	Skill Develo Entrepreneu Employabilit Professsona Gender X Human Valu Environmen	urship X ty √ al Ethics X ues √	SDG (Goals)	SDG2(Zero hunger) SDG3(Good health and well-being) SDG3(Gender equality) SDG6(Clean water and sanitation) SDG7(Affordable and clean energy) SDG8(Decent work and economic growth) SDG10(Reduced inequalities) SDG11(Sustainable cities and economies) SDG12(Responsible consuption and produc SDG13(Climate action) SDG14(Life below water) SDG15(Life on land) SDG16(Pacae Justice and strong institutions SDG17(Partnerships for the goals)				

Part B

Modules	Contents	Pedagogy	Hours
Unit – 1 (Environment, Ecosystem and Environmental Education)	Environment – Definition and its segments, (Lithosphere, Hydrosphere, Atmosphere and Biosphere), Multidisciplinary nature of Environmental Science, Ecology and Ecosystem: Basic concepts, functions of ecosystem. Energy Flow, Food chain, food web, Ecological Pyramids, Ecological Successions. Environmental Education- Definition, scope, importance, Need for Public Awareness, Environmental Ethics. Environmental Impact Assessment: Screening, Scoping, Base line Analysis, Impact Mitigation, Documentation, Review, Public hearing, Post Project Monitoring.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, discussion (questions & answers section)	8
Unit – 2 (Natural Resources Management)	Natural Resources – Classification, Water Resources (availability, quality, water budget), Mineral Resources (distribution, availability and future perspectives), and Forest Resources. Energy Resources- Classification and alternatives of conventional energy resources- Solar, working of solar photovoltaic cells, Geothermal, Wind energy, Nuclear Energy, Biomass and Bio-gas	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	8
Unit – 3 (Water, Soil & Noise Pollution)	Water pollution – sources & effects, characteristics and treatment of waste water, engineered systems for water purification: Aeration, solid separation, settling operations, filtration and disinfection. Soli - formation of soil, elementary and mineral composition, types of soil in India, soil pollution, effects and abatements. Noise Hazards: Continuous and impulse noise, Effect of noise on man, Measurement and evaluation of Noise, noise isolation and absorption techniques, silencers, practical aspects of noise.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	8
Unit –4 (Atmospheric chemistry and Air Pollution)	Classification, sources and toxic effects of air pollutants, dispersal of air pollutants, engineered systems for air purification: Atmospheric cleansing process, approaches to contamination control. Air pollutants with emphasis on reactive intermediates in atmosphere like hydroxyl radical, ozone and nitrate radical, types of hydrocarbon in the troposphere, reaction of organic compounds in the atmosphere. (Green house gas effect, Global warming, Climate change).	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	8
Unit – 5 (Waste Management)	Solid waste: Generation and waste characterization. Collection, storage and transport. Waste disposal, waste processing techniques, reduction, reuse and recycling, resource recovery and utilization. Physical and chemical treatment methods and composting. Hazardous waste management and treatment.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion. Field visits. Industrial Visit (MSW/BMW/STP/ETP)	8

Part D(Marks Distribution)

	Theory								
Total Marks	al Marks Minimum Passing Marks External Evaluation		Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation				
100		60	30	40	20				
			Practical						
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation				
	0								

Part E

Books	Environmental Science by B. S. Chauhan; Firewall Media, 2008 • Environmental Science by Cuningham and Cuningham; McGraw-Hill Education; 13th edition (16 February 2014) • Environmental Engineering by S. K. Dhameja; S. K. Kataria & Sons, 2009 • Environmental Science by Richard T Wright; Benjamin-Cummings Pub Co.
Articles	
References Books	Environmental Engineering by Howards S Peavy, Donald R Rowe, T. George • Environmental Science & Engineering by Gilbert M. Master • Environmental Chemistry by Stanley
MOOC Courses	
Videos	

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	2	2	-	-	-	2	-	-	1	-	1
CO2	1	2	1	2	2	2	-	-	-	2	-	-	1	-	3
CO3	2	1	1	-	1	-	-	-	-	-	-	-	3	2	3
CO4	2	2	-	2	1	-	-	-	-	-	-	-	2	3	3
CO5	2	2	-	2	1	-	-	-	-	-	-	-	2	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-CivilEngineering

Title of the Course	Environmental Pollution and Global Issues
Course Code	MCL0201[T]

			Part A	4					
Year	1st Semester		2nd	Credits	L	Т	Р	С	
icai	151	Semester	Zilu	Orealts	2	1	0	3	
Course Type	Theory only	,							
Course Category	Foundation	core							
Pre-Requisite/s		ledge of natural resources, biod energy flow, environmental issu		Co-Requisite/s			e complexity of e these problems	environment and and challenges.	
Course Outcomes & Bloom's Level	CO2- CO2. CO3- CO3. CO4- CO4./ environmen	CO1- CO1. Develop environmental scientists and engineers and sensitize them towards environmental issues.(BL2-Understand) CO2- CO2. To acquire analytical skills in assessing environmental impacts through a multisciplinary approach(BL3-Apply) CO3- CO3. Ability to distinguish between various methods of various pollution analysis(BL4-Analyze) CO4- CO4. Acquire expertise and skills needed for the Environmental Management Systems and techniques of monitoring. Environment audit, Environmental Impact Analysis, environment instrumentation and control systems and for the projects development, implementation, and maintenance.(BL5-Evaluate) CO5- CO5. Students acquire skills for to communicate, prepare, plan and implement the environmental management project(BL6-Create)							
Coures Elements	Skill Develo Entreprenet Employabili Professsons Gender X Human Valu Environmen	urship X ty X al Ethics X ues √	SDG (Goals)	SDG2(Zero hunger) SDG3(Good health and well-being) SDG3(Gender equality) SDG6(Clean water and sanitation) SDG7(Affordable and clean energy) SDG8(Decent work and economic growth) SDG10(Reduced inequalities) SDG11(Sustainable cities and economies) SDG12(Responsible consuption and produc SDG13(Climate action) SDG14(Life below water) SDG15(Life on land) SDG17(Partnerships for the goals)	ction)				

Part B

Modules	Contents	Pedagogy	Hours
Unit – 1 (Environment, Ecosystem and Environmental Education)	Environment – Definition and its segments, (Lithosphere, Hydrosphere, Atmosphere and Biosphere), Multidisciplinary nature of Environmental Science, Ecology and Ecosystem: Basic concepts, functions of ecosystem, Energy Flow, Food chain, food web, Ecological Pyramids, Ecological Successions. Environmental Education- Definition, scope, importance, Need for Public Awareness, Environmental Ethics. Environmental Impact Assessment: Screening, Scoping, Base line Analysis, Impact Mitigation, Documentation, Review, Public hearing, Post Project Monitoring.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, discussion (questions & answers section)	8
Unit – 2 (Natural Resources Management)	Natural Resources – Classification, Water Resources (availability, quality, water budget), Mineral Resources (distribution, availability and future perspectives), and Forest Resources. Energy Resources- Classification and alternatives of conventional energy resources- Solar, working of solar photovoltaic cells, Geothermal, Wind energy, Nuclear Energy, Biomass and Bio-gas	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	8
Unit – 3 (Water, Soil & Noise Pollution)	Water pollution – sources & effects, characteristics and treatment of waste water, engineered systems for water purification: Aeration, solid separation, settling operations, filtration and disinfection. Soil - formation of soil, elementary and mineral composition, types of soil in India, soil pollution, effects and abatements. Noise Hazards: Continuous and impulse noise, Effect of noise on man, Measurement and evaluation of Noise, noise isolation and absorption techniques, silencers, practical aspects of noise.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	8
Unit –4 (Atmospheric chemistry and Air Pollution)	Classification, sources and toxic effects of air pollutants, dispersal of air pollutants, engineered systems for air purification: Atmospheric cleansing process, approaches to contamination control. Air pollutants with emphasis on reactive intermediates in atmosphere like hydroxyl radical, ozone and nitrate radical, types of hydrocarbon in the troposphere, reaction of organic compounds in the atmosphere. (Green house gas effect, Global warming, Climate change).	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures,Audio/Video clips, Group discussion.	8
Unit – 5 (Waste Management)	Solid waste: Generation and waste characterization. Collection, storage and transport. Waste disposal, waste processing techniques, reduction, reuse and recycling, resource recovery and utilization. Physical and chemical treatment methods and composting. Hazardous waste management and treatment.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion. Field visits. Industrial Visit (MSW/BMW/STP/ETP)	8

Part D(Marks Distribution)

	Theory								
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation				
100		60	30	40	20				
			Practical						
Total Marks	Minimum Passing Marks External Evaluation		Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation				
	0								

Part E

Books	Environmental Science by B. S. Chauhan; Firewall Media, 2008 • Environmental Science by Cuningham and Cuningham; McGraw-Hill Education; 13th edition (16 February 2014) • Environmental Engineering by S. K. Dhameja; S. K. Kataria & Sons, 2009 • Environmental Science by Richard T Wright; Benjamin-Cummings Pub Co.
Articles	
References Books	Environmental Engineering by Howards S Peavy, Donald R Rowe, T. George • Environmental Science & Engineering by Gilbert M. Master • Environmental Chemistry by Stanley
MOOC Courses	
Videos	

COs	PO1	PO2	PO3	PO4	PO5	P06	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	2	2	-	-	-	2	-	-	1	-	1
CO2	1	2	1	2	2	2	-	-	-	2	-	-	1	-	3
CO3	2	1	1	-	1	-	-	-	-	-	-	-	3	2	3
CO4	2	2	-	2	1	-	-	-	-	-	-	=	2	3	3
CO5	2	2	-	2	1	-	-	-	-	-	-	•	2	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



BTech-Electronics_and_Communication

Title of the Course	Environmental Pollution & Global Issues
Course Code	MCL0201[T]

			Part A	1					
Year	1st Semester		2nd	Credits	L	Т	Р	С	
tear	isi	Semester	2110	Credits	2	1	0	3	
Course Type	Theory only								
Course Category	Foundation	core							
Pre-Requisite/s		edge of natural resources, biod energy flow, environmental iss		Co-Requisite/s			e complexity of e these problems		
Course Outcomes & Bloom's Level	CO2- CO2. CO3- CO3. CO4- CO4. environment	To acquire analytical skills in as Ability to distinguish between va Acquire expertise and skills nee t instrumentation and control sy	sessing environmental imparious methods of various peded for the Environmental Nestems and for the projects of	tize them towards environmental issues. (BL2 acts through a multidisciplinary approach(BL3 ollution analysis(BL4-Analyze) Management Systems and techniques of mon development, implementation, and maintenan and implement the environmental managemen	roach(BL3-Apply) es of monitoring, Environment audit, Environmental Impact Analysis, maintenance (BL5-Evaluate)				
Coures Elements	Skill Develo Entrepreneu Employabilit Professsons Gender X Human Valu Environmen	rship X y ✓ al Ethics ✓ les ✓	SDG (Goals)	SDG2(Zero hunger) SDG3(Good health and well-being) SDG3(Good health and well-being) SDG5(Gender equality) SDG6(Clean water and sanitation) SDG7(Affordable and clean energy) SDG8(Decent work and economic growth) SDG10(Reduced inequalities) SDG11(Sustainable cities and economies) SDG112(Responsible consuption and produc SDG13(Climate action) SDG14(Life below water) SDG15(Life on land) SDG17(Partnerships for the goals)	tion)				

Part B

Modules	Contents	Pedagogy	Hours
Unit – 1 (Environment, Ecosystem and Environmental Education)	Environment – Definition and its segments, (Lithosphere, Hydrosphere, Atmosphere and Biosphere), Multidisciplinary nature of Environmental Science, Ecology and Ecosystem: Basic concepts, functions of ecosystem, Energy Flow, Food chain, food web, Ecological Pyramids, Ecological Successions. Environmental Education- Definition, scope, importance, Need for Public Awareness, Environmental Ethics. Environmental Impact Assessment: Screening, Scoping, Base line Analysis, Impact Mitigation, Documentation, Review, Public hearing, Post Project Monitoring.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, discussion (questions & answers section)	8
Unit – 2 (Natural Resources Management)	Natural Resources – Classification, Water Resources (availability, quality, water budget), Mineral Resources (distribution, availability and future perspectives), and Forest Resources. Energy Resources- Classification and alternatives of conventional energy resources- Solar, working of solar photovoltaic cells, Geothermal, Wind energy, Nuclear Energy, Biomass and Bio-gas	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	8
Unit – 3 (Water, Soil & Noise Pollution)	Water pollution – sources & effects, characteristics and treatment of waste water, engineered systems for water purification: Aeration, solid separation, settling operations, filtration and disinfection. Soil - formation of soil, elementary and mineral composition, types of soil in India, soil pollution, effects and abatements. Noise Hazards: Continuous and impulse noise, Effect of noise on man, Measurement and evaluation of Noise, noise isolation and absorption techniques, silencers, practical aspects of noise.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	8
Unit –4 (Atmospheric chemistry and Air Pollution)	Classification, sources and toxic effects of air pollutants, dispersal of air pollutants, engineered systems for air purification: Atmospheric cleansing process, approaches to contamination control. Air pollutants with emphasis on reactive intermediates in atmosphere like hydroxyl radical, ozone and nitrate radical, types of hydrocarbon in the troposphere, reaction of organic compounds in the atmosphere. (Green house gas effect, Global warming, Climate change).	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures,Audio/Video clips, Group discussion.	8
Unit – 5 (Waste Management)	Solid waste: Generation and waste characterization. Collection, storage and transport. Waste disposal, waste processing techniques, reduction, reuse and recycling, resource recovery and utilization. Physical and chemical treatment methods and composting. Hazardous waste management and treatment.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion. Field visits. Industrial Visit (MSW/BMW/STP/ETP)	8

Part D(Marks Distribution)

	Theory									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	40 60		18	40						
			Practical							
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					

Part E

Books	Environmental Science by B. S. Chauhan; Firewall Media, 2008 • Environmental Science by Cuningham and Cuningham; McGraw-Hill Education; 13th edition (16 February 2014) • Environmental Engineering by S. K. Dhameja; S. K. Kataria & Sons, 2009 • Environmental Science by Richard T Wright; Benjamin-Cummings Pub Co.
Articles	
References Books	Environmental Engineering by Howards S Peavy, Donald R Rowe, T. George • Environmental Science & Engineering by Gilbert M. Master • Environmental Chemistry by Stanley
MOOC Courses	
Videos	

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	2	2	-	-	-	2	-	•	1	-	1
CO2	1	2	1	2	2	2	-	-	-	2	-	-	1	-	3
CO3	2	1	1	-	1	-	-	-	-	-	-	=	3	2	3
CO4	2	2	-	2	1	-	-	-	-	-	-	=	2	3	3
CO5	2	2	-	2	1	-	-	-	-	-	-	=	2	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-MechanicalEngineering

Title of the Course E	Environmental Pollution and global issues
Course Code M	MCL0201[T]

			Part A	1				
Year	1st Semester		2nd	Credits	L	Т	Р	С
Teal	Tat Geniester	ZIIU	Credits	3	1	0	4	
Course Type	Theory only							
Course Category	Foundation	core						
Pre-Requisite/s		edge of natural resources, biod energy flow, environmental iss		Co-Requisite/s			ne complexity of end these problems	
Course Outcomes & Bloom's Level	CO2- CO2. CO3- CO3- CO4- CO4. environment	To acquire analytical skills in as Ability to distinguish between va Acquire expertise and skills nee I instrumentation and control sy	sessing environmental imp arious methods of various p ded for the Environmental I estems and for the projects	tize them towards environmental issues. (BL acts through a multidisciplinary approach (BL ollution analysis(BL4-Analyze) // // // // // // // // // // // // //	.3-Apply) nitoring, Environ nce.(BL5-Evalu	ate)	ronmental Impac	t Analysis,
Coures Elements	Skill Develop Entrepreneu Employabilit Professsona Gender X Human Valu Environmen	rship X y √ ıl Ethics √ es √	SDG (Goals)	SDG5(Gender equality) SDG6(Clean water and sanitation) SDG7(Affordable and clean energy) SDG12(Responsible consuption and production) SDG13(Climate action) SDG15(Life on land)				

Part B

Modules	Contents	Pedagogy	Hours
1 (Environment, Ecosystem and Environmental Education)	Environment – Definition and its segments, (Lithosphere, Hydrosphere, Atmosphere and Biosphere), Multidisciplinary nature of Environmental Science, Ecology and Ecosystem: Basic concepts, functions of ecosystem. Energy Flow, Food chain, food web, Ecological Pyramids, Ecological Successions. Environmental Education- Definition, scope, importance, Need for Public Awareness, Environmental Ethics. Environmental Impact Assessment: Screening, Scoping, Base line Analysis, Impact Mitigation, Documentation, Review, Public hearing, Post Project Monitoring.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, discussion (questions & answers section)	8
2 (Natural Resources Management)	Natural Resources – Classification, Water Resources (availability, quality, water budget), Mineral Resources (distribution, availability and future perspectives), and Forest Resources. Energy Resources- Classification and alternatives of conventional energy resources- Solar, working of solar photovoltaic cells, Geothermal, Wind energy, Nuclear Energy, Biomass and Bio-gas	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	8
3 (Water, Soil & Noise Pollution)	Water pollution – sources & effects, characteristics and treatment of waste water, engineered systems for water purification: Aeration, solid separation, settling operations, filtration and disinfection. Soli - formation of soil, elementary and mineral composition, types of soil in India, soil pollution, effects and abatements. Noise Hazards: Continuous and impulse noise, Effect of noise on man, Measurement and evaluation of Noise, noise isolation and absorption techniques, silencers, practical aspects of noise.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	8
4 (Atmospheric chemistry and Air Pollution)	Classification, sources and toxic effects of air pollutants, dispersal of air pollutants, engineered systems for air purification: Atmospheric cleansing process, approaches to contamination control. Air pollutants with emphasis on reactive intermediates in atmosphere like hydroxyl radical, ozone and nitrate radical, types of hydrocarbon in the troposphere, reaction of organic compounds in the atmosphere. (Green house gas effect, Global warming, Climate change).	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures,Audio/Video clips, Group discussion.	8
5 (Waste Management)	Solid waste: Generation and waste characterization. Collection, storage and transport. Waste disposal, waste processing techniques, reduction, reuse and recycling, resource recovery and utilization. Physical and chemical treatment methods and composting. Hazardous waste management and treatment.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion. Field visits. Industrial Visit (MSW/BMW/STP/ETP)	8

Part D(Marks Distribution)

	Theory										
Total Marks Minimum Passing Marks External Evaluation Min. External Evaluation Internal Evaluation Min. Internal Eva											
100	40	40	12	60							
	Practical										
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation						
	0										

Part E

Books	Environmental Science by B. S. Chauhan; Firewall Media, 2008 • Environmental Science by Cuningham and Cuningham; McGraw-Hill Education; 13th edition (16 February 2014) • Environmental Engineering by S. K. Dhameja; S. K. Kataria & Sons, 2009 • Environmental Science by Richard T Wright; Benjamin-Cummings Pub Co.
Articles	
References Books	Environmental Engineering by Howards S Peavy, Donald R Rowe, T. George • Environmental Science & Engineering by Gilbert M. Master • Environmental Chemistry by Stanley
MOOC Courses	https://onlinecourses.swayam2.ac.in/cec21_ge08/preview
Videos	

	Course Articulation Matrix														
COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	2	2	-	-	-	2	-	-	1	-	1
CO2	1	2	1	2	2	2	-	-	-	2	-	-	1	-	3
CO3	2	1	1	-	1	-	-	-	-	-	-	-	3	2	3
CO4	2	2	-	2	1	-	-	-	-	-	-	-	2	3	3
CO5	2	2	-	2	1	-	-	-	-	-	-	-	2	2	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-ElectricalEngineering

Title of the Course	Making of modern	aking of modern India										
Course Code	MCL0202											
	·	F	Part A					•				
Year	1st	Semester 2nd Credits					P 0	C 2				
Course Type	Theory only	neory only										
Course Category	Humanities, Social	Humanities, Social Sciences and Management										
Pre-Requisite/s	Basic knowledge of	Basic knowledge of social sciences and political sciences. Co-Requisite/s										
Course Outcomes & Bloom's Level	CO2- The students	f this course, students would be intellectually w s will have an understanding of making of India udents to develop their personality and thinkin	as a nation and salient features of modern	n India(BL2-Understand)								
Coures Elements	Skill Development Entrepreneurship : Employability X Professsonal Ethic Gender X Human Values ✓ Environment X	×	SDG (Goals)	SDG4(Quality education) SDG5(Gender equality) SDG15(Life on land)								

Part B

Modules	Contents	Pedagogy	Hours
1	Idea of India in historical perspective a) Indian culture, b) cultural commonness, c)cultural diversities, d)unity in diversity, e) cultural accommodations ,f) cultural conflicts, g)Idea of India and British Rule , h) Role of Indian Intelligentsia.	Lecture Method	6
П	Emergence and growth of Indian Nationalism a) Anti-colonial basis, b) Economic Nationalism, c) communalism and nationalism, d) revivalism and Indian nationalism, e)Enlightenment values, f)European Nationalism and Indian Nationalism.	Lecture Method	6
III	Social Reform Movements (a) British Rule and Indian introspection, (b) Raja Rammohan Roy, (c) social reform movements in 19th century, (d)Swami Vivekanand, (e)The women issue, (f)Caste system.	Lecture Method	6
IV	Indian National Movement (a) Early Revolts and 1857 Revolt, (b)Early Nationalists, (c) Bang Bhang Movement, (d) Gandhi led Mass Movements, (e) Socialist and Left trends, (f) Princely States and their integration into nation, (h)Partition and Independence .	Lecture Method	6
V	India after independence a) Making of Indian Constitution, (b) Post Independent Nehru Era, (c) India facing Wars, (d) Indian economy- From Planning to LPG, (e) Achievements, (f) Challenges in 21st century India.	Lecture Method	6

Part D(Marks Distribution)

	Theory										
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation						
100	0	60		40							
	Practical										
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation						
	0	0									

Part E

Books	1. Bipan Chandra and others: India's Struggle For Independence , Penguine Publishers. 2. Bipan Chandra: History Of Modern India, Orient Blackswan publishers. 3. Sunil Khilnani: The idea of India, Penguine publishers. 4. Shekhar Bandopadhyay: From Plastic to Partition and After, A History of Modern India, Orient Blackswan publishers. 5. Rakesh Batabyal: The Penguine Book of Modern Indian Speeches, 1878 to Present, Penguine Publishers. 6. A R Desai: Social Background of Indian Nationalism, Popular Prakashan . 7. B R Nanda: Mahatma Gandhi ,A Biography,London.
Articles	
References Books	1. B.R.Nanda:Gandhi and His Critics, Oxford 2. Girja Shankar: Socialist Trends in Indian National Movement ,Meerut 3. Urmila Phadnis:Towards the integration of Indian States,1919-1947,Mumbai 4. Bimal Prasad: Gandhi,Nehru and JP,A Study in Leadership,New Delhi 5. Bipan Chandra and others:India Since Independence ,Penguine 6. Ramchandra Guha:Makers of Modern India, Penguine. 17. Austin Granville: The Indian Constitution, Oxford
MOOC Courses	https://ugcmoocs.inflibnet.ac.in/index.php/courses/view_ug/61
Videos	

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	2	-	1	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	2	-	-	1	-	-	1	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	2	1	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-CivilEngineering

Title of the Course	Making of Modern	faking of Modern India										
Course Code	MCL0202[T]	ACL0202[T]										
	Part A											
Year	1st	Semester	2nd	Credits		Т	Р	С				
rear	ist	Semester	ZIIQ			0	0	3				
Course Type	Theory only	Fheory only										
Course Category	Humanities, Socia	Humanities, Social Sciences and Management										
Pre-Requisite/s				Co-Requisite/s								
Course Outcomes & Bloom's Level												
Coures Elements	Skill Developmen Entrepreneurship Employability X Professsonal Ethi Gender ✓ Human Values ✓ Environment X	×	SDG (Goals)	SDG4(Quality education) SDG5(Gender equality) SDG15(Life on land)								

Part B

Part B										
Modules	Contents	Pedagogy	Hours							
1	Idea of India in historical perspective a) Indian culture, b) cultural commonness, c)cultural diversities, d)unity in diversity, e) culturall accomodations ,f) cultural conflicts, g)Idea of India and British Rule , h) Role of Indian Intelligentsia.	Lectures with Presentation and Case Studies	6							
2	Emergence and growth of Indian Nationalism a) Anti-colonial basis ,b) Economic Nationalism ,c) communalism and nationalism ,d) revivalism and Indian nationalism ,e)Enlightenment values ,f)European Nationalism and Indian Nationalism	Lectures with Presentation and Case Studies	6							
3	Social Reform Movements a) British Rule and Indian introspection ,b)Raja Rammohan Roy, c) social reform movements in 19th century , d)Swami Vivekanand ,e)The women issue ,f)Caste system	Lectures with Presentation and Case Studies	6							
4	Indian National Movement a)Early Revolts and 1857 Revolt, b)Early Nationalists ,c) Bang Bhang Movement , d) Gandhi led Mass Movements, e) Socialist and Left trends , f) Princely States and their integration into nation, h)Partition and Independence .	Lectures with Presentation and Case Studies	6							
5	India after independence a)Making of Indian Constitution ,b) Post Independent Nehru Era , c) India facing Wars , d) Indian econmy- From Planning to LPG ,e) Achievements, f) Challenges in 21st century India.	Lectures with Presentation and Case Studies	6							

Part D(Marks Distribution)

Theory									
Total Marks Minimum Passing Marks External Evaluation Min. External Evaluation Internal Evaluation									
100	40	40	12	60	0				
Practical									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation				
	0	0							

Part E

Books	
Articles	
References Books	
MOOC Courses	
Videos	

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	0	1	1	0	1	1	1	2	2	1	1	1	1	1	1
CO2	0	1	2	1	0	1	1	1	1	1	0	1	2	1	1
CO3	0	1	2	1	0	1	1	1	1	1	0	1	2	1	1
CO4	0	0	1	1	1	2	2	2	2	1	1	2	2	2	2
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-Electronics_and_Communication

Title of the Course	Making of Modern India											
Course Code	MCL0202[T]											
·	·		Part A									
Year	1st	Semester	2nd	Credits	L	Т	Р	С				
Tour	1st Semester 2nd Credits							2				
Course Type	Theory only			·	•		•					
Course Category	Humanities, Social Scien	anities, Social Sciences and Management										
Pre-Requisite/s	Basic knowledge of soci	ial sciences and political sciences.		Co-Requisite/s								
Course Outcomes & Bloom's Level	CO2- The students will h	have an understanding of making of	ally well equipped to have a sense of mode India as a nation and salient features of m inking horizon for being a good and concer		er)							
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics X Gender ✓ Human Values ✓ Environment X		SDG (Goals)	SDG4(Quality education) SDG5(Gender equality) SDG15(Life on land)								

Part R

Modules	Contents	Pedagogy	Hours
1	Idea of India in historical perspective a) Indian culture, b) cultural commonness, c)cultural diversities, d)unity in diversity, e) cultural accommodations ,f) cultural conflicts, g)Idea of India and British Rule , h) Role of Indian Intelligentsia.	Lecture Method	6
П	Emergence and growth of Indian Nationalism a) Anti-colonial basis, b) Economic Nationalism, c) communalism and nationalism, d) revivalism and Indian nationalism, e)Enlightenment values, f)European Nationalism and Indian Nationalism.	Lecture Method	6
III	Social Reform Movements (a) British Rule and Indian introspection, (b) Raja Rammohan Roy, (c) social reform movements in 19th century, (d)Swami Vivekanand, (e)The women issue, (f)Caste system.	Lecture Method	6
IV	Indian National Movement (a) Early Revolts and 1857 Revolt, (b)Early Nationalists, (c) Bang Bhang Movement, (d) Gandhi led Mass Movements, (e) Socialist and Left trends, (f) Princely States and their integration into nation, (h)Partition and Independence .	Lecture Method	6
V	India after independence a) Making of Indian Constitution, (b) Post Independent Nehru Era, (c) India facing Wars, (d) Indian economy- From Planning to LPG, (e) Achievements, (f) Challenges in 21st century India.	Lecture Method	6

Part D(Marks Distribution)

	Theory													
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation									
100	40	60	18	40										
	Practical													
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation									

Part E

Books	1. Bipan Chandra and others: India's Struggle For Independence, Penguine Publishers. 2. Bipan Chandra: History Of Modern India, Orient Blackswan publishers. 3. Sunil Khilnani: The Idea of India, Penguine publishers. 4. Shekhar Bandopadhyay: From Plastic to Partition and After, A History of Modern India, Orient Blackswan publishers. 5. Rakesh Batabyal: The Penguine Book of Modern Indian Speeches, 1878 to Present, Penguine Publishers. 6. A R Desai:Social Background of Indian Nationalism, Popular Prakashan. 7. B R Nanda: Mahatma Gandhi, A Biography, London.
Articles	
References Books	B.R.Nanda:Gandhi and His Critics, Oxford 2. Girja Shankar: Socialist Trends in Indian National Movement ,Meerut 3. Urmila Phadnis:Towards the integration of Indian States,1919-1947,Mumbai 4. Bimal Prasad: Gandhi,Nehru and JP,A Study in Leadership,New Delhi 5. Bipan Chandra and others:India Since Independence ,Penguine 6. Ramchandra Guha:Makers of Modern India, Penguine. 17. Austin Granville: The Indian Constitution, Oxford
MOOC Courses	https://ugcmoocs.inflibnet.ac.in/index.php/courses/view_ug/61
Videos	

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	2	-	1	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	2	-	-	1	-	-	1	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	2	1	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-MechanicalEngineering

Title of the Course	Making of Modern I	ndia										
Course Code	MCL0202[T]											
		F	Part A									
Year	1st	Semester	2nd	Credits				С				
					2	0	0	2				
Course Type	Theory only	only										
Course Category	Humanities, Social	nities, Social Sciences and Management										
Pre-Requisite/s	Basic knowledge of	f social sciences and political sciences.		Co-Requisite/s								
Course Outcomes & Bloom's Level	CO2- The students	this course, students would be intellectually v will have an understanding of making of India students to develop their personality and thinl	as a nation and salient features of modern	India.(BL2-Understand)								
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics ✓ Gender ✓ Human Values ✓ Environment X			SDG1(No poverty) SDG4(Quality education) SDG5(Gender equality) SDG15(Life on land)								

Part B

Modules	Contents	Pedagogy	Hours
5	I. Idea of India in historical perspective a) Indian culture, b) cultural commonness, c)cultural diversities, d)unity in diversity, e) cultural accomodations, f) cultural conflicts, g) Idea of Indian intelligentsia. 2. Emergence and growth of Indian Nationalism a) Anti-colonial basis, b) Economic Nationalism, c) communalism and nationalism and Indian Nationalism 3. Social Reform Movements a) British Rule and Indian introspection, b)Raja Rammohan Roy, c) social reform movements in 19th century, d)Swami Vivekanand, e)The women issue, f)Caste system 4. Indian National Movement, a) Barig Bhang Movement, d) Gandhi led Mass Movements, e) Socialist and Left trends, f) Princely States and their integration into nation, h)Partition and Independence. 5. India after independence a)Making of Indian Constitution, b) Post Independent Nehru Era, c) India facing Wars, d) Indian econmy-From Planning to LPG, e) Achievements, f) Challenges in 21st century India.	Class room Lecuters	24

Part D(Marks Distribution)

	Theory													
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation									
100	40	40	12	60										
			Practical											
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation									
	0	0												

Part E

	T GITE
Books	Bipan Chandra and others: India's Struggle For Independence , Penguine Publishers. 2. Bipan Chandra: History Of Modern India, Orient Blackswan publishers. 3. Sunil Khilnani: The Idea of India, Penguine publishers. 4. Shekhar Bandopadhyay: From Plastic to Partition and After, A History of Modern India, Orient Blackswan publishers. 5. Rakesh Batabyal: The Penguine Book of Modern Indian Speeches,1878 to Present, Penguine Publishers. 6. A R Desai:Social Background of Indian Nationalism, Popular Prakashan . 7. B R Nanda: Mahatma Gandhi ,A Biography,London
Articles	
References Books	B.R.Nanda:Gandhi and His Critics, Oxford 2. Girja Shankar: Socialist Trends in Indian National Movement, Meerut 3. Urmila Phadnis:Towards the integration of Indian States,1919-1947, Mumbai 4. Bimal Prasad: Gandhi, Nehru and JP,A Study in Leadership, New Delhi 5. Bipan Chandra and others:India Since Independence, Penguine 6. Ramchandra Guha:Makers of Modern India, Penguine. 17. Austin Granville: The Indian Constitution, Oxford
MOOC Courses	https://ugcmoocs.inflibnet.ac.in/index.php/courses/view_ug/61
Videos	

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	2	-	1	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	2	-	-	1	-	-	2	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	2	1	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-ComputerScience

Title of the Course	Universal Human Values
Course Code	MCL0402[T]

			Part A						
Year	2nd Semester		4th	Credits	L	Т	Р	С	
Teal	Zilu	Semester	401	Ciedits	2	0	0	2	
Course Type	Theory only								
Course Category	Humanities, So	ocial Sciences and Managemen	t						
Pre-Requisite/s				Co-Requisite/s					
Course Outcomes & Bloom's Level	aspirations of a CO2- CO2: To understanding CO3- CO3: To interactions wi	all human beings.(BL2-Underst facilitate the development of a l of the human reality and the res highlight plausible implications th nature. (BL3-Apply)	and) nolistic perspective among stu- st of existence. (BL2-Understor such a holistic understandi	etween "VALUES" and "SKILLS" to ensure sust idents towards life and profession as well as to and) ig in terms of ethical human conduct, trustful to the young enquiring minds.(BL4-Analyze)	owards happir	ness and prosp	erity based on	a correct	
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics X Gender X Human Values ✓ Environment X SDG (Goals) SDG (Gender equality) SDG 1((No poverty) SDG (Quality education) SDG (Gender equality) SDG 1((No poverty) SDG (Quality education) SDG (Goals) SDG 1((No poverty) SDG (Quality education) SDG (Goals) SDG (Goals)								

Part B

Modules	Contents	Pedagogy	Hours
I	Introduction to Value Education • Value education: Concept, Need and Process • Self- Exploration- what is it? – its content and process • The basic human aspirations- continuous happiness and prosperity • Method to fulfill the basic human aspiration • Right understanding, Relationship and Physical facility	Whiteboard, PPT, Video	6
II	Understanding Harmony in the Human Being- Harmony in Myself • Understanding human being as a co-existence of sentient 1" and material 'Body' • Understanding the needs of (1") and 'Body' – Sukh' and 'Suvidha' • Understanding body as an instrument of 'I' (I' being the seer, doer and enjoyer) • Understanding the Harmony of 'I' with the Body-Sanyam' and 'Swasthya' correct appriasal of physical needs, meaning of prosperity in detail. • Program to ensure Sanyam and Swasthya.	Whiteboard, PPT, Programming Labs	6
III	Understanding the Harmony in Family and Society- harmony in Human-Human Relationship • Family as basic unit of human interactions and values in Relationships. • Understanding the harmony in Society (society being extension of family): Resolution, Prosperity, fearlessness(trust) and co-existence as comprehensive Human Goals. • Vision of the Universal Human Order • Understanding the meaning of Trust; difference between Intention and Competence. • Understanding the meaning of Respect, difference between Respect and Differentiation; the other salient values in relationship.	Whiteboard, PPT, Programming Labs	6
IV	Understanding the Harmony in the Nature and Existence – Whole Existence as Coexistence • Understanding the harmony in Nature • Interconnectedness and mutual fulfilment among the four orders of nature recyclability and self-regulation in Nature • Understanding Existence as Co-existence of mutually interacting units in all-pervasive space • Holistic perception of harmony at all levels of existence	Whiteboard, PPT, Programming Labs	6
V	Professional Ethics • Definitiveness of Ethical Human Conduct • Providing the basis for Universal Human Values and ethical Human conduct • Professional ethics in the light of right Understanding • Competence in Professional ethics • Strategies for transition towards Value-based life and profession.	Whiteboard, PPT, Programming Labs	6

Part D(Marks Distribution)

Theory													
Total Marks	al Marks Minimum Passing Marks External Evaluation Min. External Evaluation Internal Evaluation Min. Internal Evaluation												
100		40	12	60	0								
			Practical										
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation								
	0												

Part E

Books	Naagarazan, R. S. (2020). A Textbook on Professional Ethics and Human Values (1st ed.). New Age International Private Limited. Gaur, R. R., Asthana, R., & Bagaria, G. P. (2019). A Foundation in Human Values and Professional Ethics (2nd ed.). Excel Books.
Articles	
References Books	Mazumdar, Prof. (2013). Values and Ethics in Profession (3rd ed.). Everest Publishing House. Tripathi, A. N. (2004). Human Values. New Age International Publishers.
MOOC Courses	
Videos	

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	-	-	-	-	-	-	-	2	-	-	1	1	1	2
CO2	-	2	-	-	-	-	-	-	-	-	2	2	1	2	-
CO3	1	-	-	-	-	-	-	-	2	-	-	1	-	1	1
CO4	-	2	-	-	-	-	-	-	-	-	2	2	1	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-MechanicalEngineering

Title of the Course	Total Quality Management
Course Code	MEL0727[T]

			Part A						
Year	4th	Semester	7th	Credits	L	Т	Р	С	
Teal	401	Semester	701	Credits	2	1	0	3	
Course Type	Theory only								
Course Category	Discipline Co	ore							
Pre-Requisite/s	Basic knowle	edge of Probability & Statistics		Co-Requisite/s					
Course Outcomes & Bloom's Level	CO2- To und CO3- To app CO4- To ana	all industrial engineering and op lerstand the history of TQM(BL2 ly the theories of TQM in real lif lyze the change in productivity t luate the different ways and the	-Understand) e industrial problems(BL3-Ap hrough principles of TQM.(BL	ply)					
Coures Elements	Skill Development Entrepreneurship Employability Professonal Ethics Gender Human Values Environment En								

Part B

Modules	Contents	Pedagogy	Hours
Unit-1	Evolution of Quality Historical Perspective, Basic Concepts of Quality, Vision, Mission and Objectives of an Organization, Corporate Structure in an Organization and Role of Quality	Lectures with whiteboard/PPT, Quiz, Group discussion	
Unit-2	Quality Quality Planning, Quality By Design, Quality Costs and Cost of Failure, Waste Control, How Quality Benefits Business, Quality and Competitiveness in Business, Zero Defects and Continuous Improvement	Lectures with whiteboard/PPT, Quiz, Group discussion	
Unit-3	Total Quality Concepts and Total Preventive Maintenance CWQC, Product Liability Difference in Western And Japanese Approach of TQM, Basic Philosophy and Fundamental Models of TQM, Total Quality and Ethics, Internal Politics and Total Quality Management, Quality Culture, Education and Training, Implementing Total Quality Management An Integrated System Approach, Total Preventive Maintenance—Self Assessment	Lectures with whiteboard/PPT, Quiz, Group discussion	
Unit-4	Leadership Leadership Role of Leadership and Commitment in Quality Deployment, Team Building, Motivation, and Rewards, Total Employee Empowerment, Quality Functions Measurement, Inspection, Testing, Calibration and Assurance	Lectures with whiteboard/PPT, Quiz, Group discussion	
Unit-5	Design Control and Conformity, Tolerance and Variability PDCA Cycle, Juran Trilogy, Crosby's 10 points and Deming's 14 Points Customers Requirements, Customer Supplier and Chain Links, Establishing Customer Focus Customer, Satisfaction, Measurement and Customer Retention	Lectures with whiteboard/PPT, Quiz, Group discussion	

Part D(Marks Distribution)

	Theory												
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation								
100	40	40	12	60									
			Practical										
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation								

Part E

Books	Joel E. Ross Total Quality Management: Text, Cases, and Readings Routledge
Articles	
References Books	R. Panneerselvam Total Quality Management: Key Concepts and Case Studies Prentice Hall India
MOOC Courses	https://onlinecourses.nptel.ac.in/noc20_mg34/preview
Videos	

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	-	2	3	-	-	2	1	-	2	2	-	3	-	3
CO2	3	2	2	3	-	2	3	1	3	3	3	-	3	3	3
CO3	3	3	2	3	-	2	3	1	3	3	3	-	3	3	3
CO4	3	3	3	3	2	2	3	1	3	3	3	1	3	3	3
CO5	3	3	3	3	2	2	3	1	3	3	3	1	3	3	3
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BCA

Title of the Course	NCC										
Course Code	NCC -0202 (T)	; -0202 (T)									
	"	Pa	art A								
Year	1st	Semester	2nd	Credits	L	Т	Р	С			
real	130	Gemester	Zild	oreans.	2	0	2	4			
Course Type	Theory only										
Course Category	Generic Elective										

Pre-Requisite/s

Should be acquainted with the basics knowledge of General Awareness about Leadership Quality,
Personality Development, Defense system etc.

Course Outcomes & Bloom's Level

CO1- Define thinking, reasoning, critical thinking and creative thinking, (BL1-Remember)
CO2- To think critically about different life related issues (BL2-Understand)
CO3- Think divergently and will try to break functional fixedness.(BL3-Apply)
CO4- Creatively in their real-life problems.(BL4-Analyze)

Skill Development ×
Entrepreneurship ×
Employability ×
Professonal Ethics ✓
Gender ×
Human Values ✓
Environment ×

Dort D

Modules	Contents	Pedagogy	Hours
Unit 1. Personality Development-I	Thinking- Meaning and Concept of thinking, Reasoning, Process of thinking. Critical Thinking- Meaning & concept of critical thinking, Features of critical thinking, Process of critical thinking.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 2. Personality Development-II	Creative thinking- Meaning & concept of creative thinking, Features of creative thinking, Process of creative thinking, levels of Creativity, Characteristics of creative person.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 3. Leadership Development-I	Leadership capsule. Important Leadership traits, Indicators of leadership and evaluation.	Whiteboard, PPT, Video Case Study, Project Based Activity, Application Based Activity	5
Unit 4. Leadership Development-II	Motivation- Meaning & concept, Types of motivation. Factors affecting motivation. Ethics and Honor codes.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 5. Social Service and Community Development	(i) Protection of Children & Women Safety. (ii) Road/Rail Safety. (iii) New Government Initiatives. (iv) Cyber and mobile Security Awareness.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5

Part D(Marks Distribution)

	Tarte marke brotheadern										
Theory											
Total Marks	Minimum Passing Marks External Evaluation		Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation						
0	0	0	0	0	0						
			Practical								
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation						

Part E

Books	R Gupta ; NCC National Cadet Corps A, B & C Certificate Examination Book; Ramesh Publishing House, 2018.
Articles	https://indiancc.mygov.in/activity/snehahoro/article-on-ncc-camp-and-training/
References Books	Cadets training handbook common subjects (2017), D.G NCC Delhi-110030
MOOC Courses	
Videos	https://www.youtube.com/watch?v=N7nNupMdS6c

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BCA

Title of the Course

NCC

Course Code	NCC 0505(P)												
	•	Part /	A										
Year	3rd	Semester	5th	Credits	L 0	T 0	P 1	C 1					
Course Type	Theory only	ry only											
Course Category	Generic Elective	ective											
Pre-Requisite/s	Should be acquainted Development, Defense	d with the basics knowledge of General Awarene se system etc.	Co-Requisite/s										
Course Outcomes & Bloom's Level	CO2- Improve commo	nam building exercise and value team work.() unication skills by public speaking activities. () execurity mechanism and management of Borde to join armed forces.()	r/Coastal areas. ()										
Coures Elements	Skill Development X Entrepreneurship X Employability X Professonal Ethics Gender X Human Values V Environment X	,	SDG (Goals)	SDG3(Good health and well-being) SDG4(Quality education)									

Dort D

Modules	Contents	Pedagogy	Hours
Unit 1. Personality Development	(i) Group Discussions –Team work. (ii) Public speaking.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 2. Border & Coastal Areas	Security Setup and Border/Coastal management in the area	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 3. Introduction to Infantry Battalion and its Equipment	Organisation of Infantry Battalion & its weapons	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 4. Military History	Study of Battles of Indo-Pak Wars 1965 & 1971.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 5. Health & Hygiene	(i) Yoga- Introduction, Definition, Purpose, Benefits. (ii) Asanas-Padamsana, Siddhasana, Gyan Mudra, Surya Namaskar, Shavasana, Vajrasana, Dhanurasana, Chakrasana, Sarvaangasana, Halasana etc. i) Hyglene & Sanitation (Hyglene- Personal & Camp Hyglene). (ii) First Aid in common medical emergencies. (iii) Treatment & Care of Wounds.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5

Part D(Marks Distribution)

	Theory										
Total Marks	Minimum Passing Marks External Evaluation		Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation						
0	0	0	0	0	0						
			Practical								
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation						
100	40	40	12	60							

Part E

Books	R Gupta; NCC National Cadet Corps A, B & C Certificate Examination Book; Ramesh Publishing House, 2018. Singh, Neeraj; A Hand Book of NCC; Kanti Prakashan Publisher Cadet training hand book specialised subjects (2017)
Articles	https://indiancc.mygov.in/
References Books	Cadets training handbook common subjects (2017), D.G NCC Delhi-110030 DG, NCC Training directive
MOOC Courses	
Videos	https://www.youtube.com/watch?v=eBA5t4iepAA

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BCA

Title of the Course	NCC							
Course Code	NCC 0505(T)							
		Part	A					
Voor	2rd	Semester	5th	Credits	L	Т	Р	С
Year	3rd	Semester	Sui	Credits	1	0	1	2

		rait	•								
V	3rd Semester		54	On the	L	Т	Р	С			
Year	310	Semester	5th	Credits	1	0	1	2			
Course Type	Theory only										
Course Category	Generic Elective										
Pre-Requisite/s	Should be acquainted Development, Defense	d with the basics knowledge of General Awarene se system etc.	ss about Leadership Quality, Personality	Co-Requisite/s							
Course Outcomes & Bloom's Level	CO2- Improve comm CO3- Understand the	CO1- Participate in team building exercise and value team work.() CO2- Improve communication skills by public speaking activities. () CO3- Understand the security mechanism and management of Border/Coastal areas. () CO4- Get motivated to join armed forces.()									
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics Gender X Human Values Environment X	,	SDG (Goals)	SDG3(Good health and well-being) SDG4(Quality education)							

Part B

Modules	Contents	Pedagogy	Hours
Unit 1. Personality Development	(i) Group Discussions –Team work. (ii) Public speaking.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 2. Border & Coastal Areas	Security Setup and Border/Coastal management in the area	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 3. Introduction to Infantry Battalion and its Equipment	Organisation of Infantry Battalion & its weapons	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 4. Military History	Study of Battles of Indo-Pak Wars 1965 & 1971.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 5. Health & Hygiene	(i) Yoga- Introduction, Definition, Purpose, Benefits. (ii) Asanas-Padamsana, Siddhasana, Gyan Mudra, Surya Namaskar, Shavasana, Vajrasana, Dhanurasana, Chakrasana, Sarvaangasana, Halasana etc. i) Hygiene & Sanitation (Hygiene- Personal & Camp Hygiene). (ii) First Aid in common medical emergencies. (iii) Treatment & Care of Wounds.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5

Part D(Marks Distribution)

	Theory										
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation						
100	40	60	18	40							
			Practical								
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation						
100	50	60	30	40							

Part E

Books	R Gupta; NCC National Cadet Corps A, B & C Certificate Examination Book; Ramesh Publishing House, 2018. Singh, Neeraj; A Hand Book of NCC; Kanti Prakashan Publisher Cadet training hand book specialised subjects (2017)
Articles	https://indiancc.mygov.in/
References Books	Cadets training handbook common subjects (2017), D.G NCC Delhi-110030 DG, NCC Training directive
MOOC Courses	
Videos	https://www.youtube.com/watch?v=eBA5t4iepAA

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BCA

Title of the Course	NCC
Course Code	NCC 606(P)
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		Part	A					
Year	3rd	Semester	6th	2		Т	Р	С
tear	310	Semester	otri	Credits	2	0	2	4
Course Type	Lab only					•		•
Course Category	Generic Elective							
Pre-Requisite/s	Should be acquainte Development, Defen	d with the basics knowledge of General Awarene se system etc	Co-Requisite/s					
Course Outcomes & Bloom's Level	CO2- Aiming range a	ent knots and lashing in day-to-day life for differer	at purposes. ()					
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics Gender X Human Values ✓ Environment X		SDG (Goals)	SDG3(Good health and well-being) SDG4(Quality education) SDG6(Clean water and sanitation)				

Part P

Modules	Contents	Pedagogy	Hours
Unit 1. Drill	(i) Ceremonial Drill. (ii) Guard of Honour.		4
Unit 2. Weapon Training	Short Range firing.	Lecture, Tutorials, Group discussion, Collaborative work,self-study, individual and group tasks, team work, field-based assignments, Physical Training, endurance building and skill development practices	5
Unit 3. Map Reading(MR)	Google maps and Applications.	Lecture, Tutorials, Group discussion, Collaborative work,self-study, individual and group tasks, team work, field-based assignments, Physical Training, endurance building and skill development practices	3
Unit 4. Field Craft & Battle Craft(FCBC)	Knots, Lashing and Stretchers.	Lecture, Tutorials, Group discussion, Collaborative work,self-study, individual and group tasks, team work, field-based assignments, Physical Training, endurance building and skill development practices	4
Unit 5. Social Service and Community Development(SSCD)	Cadets will participate in various activities throughout the semester e.g., Blood donation Camp, Swachhata Abhiyan, Constitution Day, Jan Jeevan Hariyall Abhiyan, Beti Bachao Beti Padhao etc as per the requirement and similar announced days- National and State level.	Lecture, Tutorials, Group discussion, Collaborative work,self-study, individual and group tasks, learn work, field-based assignments, Physical Training, endurance building and skill development practices	4
Unit 6 Introduction of Infantry Weapons &Equipment(INF)	Characteristics of 5.56MM INSAS Rifle, Ammunition, Fire Power, Stripping, Assembling & Cleaning Practice.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, individual and group tasks, team work, field-based assignments, Physical Training, endurance building and skill development practices	4
Unit 7. Communication (COM)	(i) Basic Radio Telephony (RT) Procedure. (ii) Introduction, Advantages, Disadvantages, Need for standard procedures. 47 (iii) Types of Radio telephony communication. (iv) Radio telephony procedure, Documentation.	Lecture, Tutorials, Group discussion, Collaborative work,self-study, individual and group tasks, team work, field-based assignments, Physical Training, endurance building and skill development practices	6

Part D(Marks Distribution)

	Theory											
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation							
			Practical									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation							
0	0	0	0	0	0							

Part E

Books	R Gupta; NCC National Cadet Corps A, B & C Certificate Examination Book; Ramesh Publishing House, 2018. Singh, Neeraj; A Hand Book of NCC; Kanti Prakashan Publisher Cadet training hand book specialised subjects (2017)
Articles	https://indiancc.mygov.in/
References Books	Cadets training handbook common subjects (2017), D.G NCC Delhi-110030 DG, NCC Training directive
MOOC Courses	
Videos	https://www.youtube.com/watch?v=wnzPVZsm_PE

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-ComputerScience

	Title of the Course	*NCC							
	Course Code	NCC-0202[T]							
,		*	Pa	rt A					-
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			11.7.1									
Year	1st	Semester	2nd	Credits		Т	Р	С				
Tear	Jennester Jennester		2110	Credits	1	0	1	2				
Course Type	Theory only											
Course Category	Generic Elective	eric Elective										
		ed with the basics knowledge of General Aware ment, Defense system etc.	Co-Requisite/s									
Course Outcomes & Bloom's Level	CO2- To think critica CO3- Think diverger	g, reasoning, critical thinking and creative think ally about different life related issues.(BL2-Und ntly and will try to break functional fixedness.(B heir real-life problems.(BL4-Analyze)	erstand)									
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics Gender X Human Values ✓ Environment X		SDG (Goals)	SDG3(Good health and well-being) SDG4(Quality education) SDG5(Gender equality) SDG8(Decent work and economic growth)								

Part B

Modules	Contents	Pedagogy	Hours
Unit 1. Personality Development-I	Thinking- Meaning and Concept of thinking, Reasoning, Process of thinking. Critical Thinking- Meaning & concept of critical thinking, Features of critical thinking, Process of critical thinking.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 2. Personality Development-II	Creative thinking- Meaning & concept of creative thinking, Features of creative thinking, Process of creative thinking, levels of Creativity, Characteristics of creative person.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 3. Leadership Development-I	Leadership capsule. Important Leadership traits, Indicators of leadership and evaluation.	Whiteboard, PPT, Video Case Study, Project Based Activity, Application Based Activity	5
Unit 4. Leadership Development-II	Motivation- Meaning & concept, Types of motivation. Factors affecting motivation. Ethics and Honor codes.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 5. Social Service and Community Development	(i) Protection of Children & Women Safety. (ii) Road/Rail Safety. (iii) New Government Initiatives. (iv) Cyber and mobile Security Awareness.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5

Part D(Marks Distribution)

Theory										
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	40	60	18	40	0					
	Practical									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	50	60	30	40						

Part E

Books	R Gupta ; NCC National Cadet Corps A, B & C Certificate Examination Book; Ramesh Publishing House, 2018.	
Articles	https://indiancc.mygov.in/activity/snehahoro/article-on-ncc-camp-and-training/	
References Books Cadets training handbook common subjects (2017), D.G NCC Delhi-110030		
MOOC Courses		
Videos	https://www.youtube.com/watch?v=N7nNupMdS6c	

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BCA

Title of the Course	NCC							
Course Code	NCC-0303(T)							
Part A								
Voor	2nd	Samastar	2rd	Credite	L T P C			

		Pait /	7						
V	0-1	0	201	On the		Т	Р	С	
Year	2nd	Semester	3rd	Credits	2	0	2	4	
Course Type	Theory only								
Course Category	Generic Elective								
Pre-Requisite/s	Should be acquainted Development, Defense	with the basics knowledge of General Awarenes system etc	ss about Leadership Quality, Personality	Co-Requisite/s					
Course Outcomes & Bloom's Level	CO2- To think critically CO3- Think divergently CO4- Creatively in thei CO5- Understand the	CO1- Define thinking, reasoning, critical thinking and creative thinking.() CO2- To think critically about different life related issues.() CO3- Think divergently and will try to break functional fixedness.() CO4- Creatively in their real-life problems() CO5- Understand the organizations related to disaster management and Their functioning.() CO6- Appreciate the role of NCC cadests in disaster management.()							
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics ✓ Gender X Human Values ✓ Environment X		SDG (Goals)	SDG4(Quality education) SDG6(Clean water and sanitation) SDG13(Climate action) SDG15(Life on land)					

Part B

Modules	Contents	Pedagogy	Hours
Unit 1. Personality Development	(i) Group Discussions - Change your Mindset (ii) Public Speaking.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 2. Leadership Development	Case Studies – APJ Abdul Kalam, Deepa Malik, Maharana Pratap, N Narayan Murthy.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 3. Disaster management	(i) Disaster Management Capsule. (ii) Organisation. (iii) Types of Disasters. (iv) Essential Services. (v) Assistance. (vi) Civil Defence Organisation.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 4. Border & Coastal Areas	History, Geography & Topography of Border/ Coastal Areas.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 5. Adventure	Adventure activities.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5

Part D(Marks Distribution)

	Theory									
Total Marks	Minimum Passing Marks External Evaluation		Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	40	60	18	40						
	Practical									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	50	60	30	40						

Part E

Books	R Gupta ; NCC National Cadet Corps A, B & C Certificate Examination Book; Ramesh Publishing House, 2018.
Articles	
References Books	Singh, Neeraj; A Hand Book of NCC; Kanti Prakashan Publisher
MOOC Courses	
Videos	https://www.youtube.com/watch?v=kvdDHFALpTw

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-ComputerScience

Title of the Course	*NCC
Course Code	NCC-0303[T]

		Part A	4					
Year	2nd	Semester	3rd	Credits	L 1	T 0	P 1	C 2
Course Type	Theory only							
Course Category	Generic Elective							
Pre-Requisite/s	Should be acquainted Development, Defense	with the basics knowledge of General Awarenes system etc	Co-Requisite/s					
Course Outcomes & Bloom's Level	CO1- Define thinking, reasoning, critical thinking and creative thinking.() CO2- To think critically about different life related issues.() CO3- Think divergently and will try to break functional fixedness.() CO4- Creatively in their real-life problems() CO5- Understand the organizations related to disaster management and Their functioning.() CO6- Appreciate the role of NCC cadests in disaster management.()							
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics ✓ Gender X Human Values ✓ Environment X		SDG (Goals)	SDG4(Quality education) SDG6(Clean water and sanitation) SDG13(Climate action) SDG15(Life on land)				

Part B

Modules	Contents	Pedagogy	Hours
Unit 1. Personality Development	(i) Group Discussions - Change your Mindset (ii) Public Speaking.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 2. Leadership Development	Case Studies – APJ Abdul Kalam, Deepa Malik, Maharana Pratap, N Narayan Murthy.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 3. Disaster management	(i) Disaster Management Capsule. (ii) Organisation. (iii) Types of Disasters. (iv) Essential Services. (v) Assistance. (vi) Civil Defence Organisation.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 4. Border & Coastal Areas	History, Geography & Topography of Border/ Coastal Areas.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 5. Adventure	Adventure activities.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5

Part D(Marks Distribution)

	Theory							
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation			
100	40	60	18	40	0			
			Practical					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation			
100	50	60	30	40				

Part E

Books	R Gupta ; NCC National Cadet Corps A, B & C Certificate Examination Book; Ramesh Publishing House, 2018.
Articles	
References Books	Singh, Neeraj; A Hand Book of NCC; Kanti Prakashan Publisher
MOOC Courses	
Videos	https://www.youtube.com/watch?v=kvdDHFALpTw

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BCA

Title of the Course	NCC							
Course Code	NCC-0404 (T)							
		Part	A					
Year	2nd	Semester	4th	Credits	L	Т	Р	С
Tour	Ziid	Comester		Sicults	2	0	2	4
Course Type	Theory only							
Course Category	Generic Elective							
Pre-Requisite/s	Should be acquainted videously Development, Defense	with the basics knowledge of General Awarene system etc	Co-Requisite/s					
Course Outcomes & Bloom's Level	CO4- Contribute in env CO5- Keep abreast of o	ities of social skills.() o qualities. () c qualities. () erve the nation by joining Armed forces. () ironmental awareness and conservation activit zurrent affairs & general awareness.() oute in managing disaster relief tasks()	ies()					
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics ✓ Gender X Human Values ✓ Environment X		SDG (Goals)	SDG3(Good health and well-being) SDG4(Quality education) SDG6(Clean water and sanitation) SDG13(Climate action) SDG15(Life on land)				

Part B

Modules	Contents	Pedagogy	Hours
Unit 1. Personality Development	Group Discussions – Social Skills & Time management.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 2. Leadership Development	Case Studies – Case Studies – Ratan Tata, Rabindra Nath Tagore, Role of NCC cadets in 1965 war.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 3. Disaster management	(i) Initiative Trg, Organising Skills. (ii) Dos and Don'ts. (iii) Natural Disasters. (iv) Man Made Disasters. (v) Fire Services and Fire Fighting.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit-4.Environmental Awareness	Adventure Environmental Awareness and Conservation, Local and global approaches to conserve nature.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 5. General Awareness & Armed Forces	General Awareness, Army, Navy, Air Force and Central Armed Police Forces.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5

Part D(Marks Distribution)

	Theory							
Total Marks	I Marks Minimum Passing Marks External Evaluation		Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation			
100	40	60	18	40				
			Practical					
Total Marks	Total Marks Minimum Passing Marks External Evaluation		Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation			
100	50	60	30	40				

Part E

Books	R Gupta ; NCC National Cadet Corps A, B & C Certificate Examination Book; Ramesh Publishing House, 2018.
Articles	https://indiancc.mygov.in/
References Books Singh, Neeraj; A Hand Book of NCC; Kanti Prakashan Publisher Cadet training hand book specialised subjects (2017)	
MOOC Courses	
Videos	https://www.youtube.com/watch?v=eBA5t4iepAA

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	1	1	ı	-	-	-	i	1	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	į	i	-	-



BTech-ComputerScience

Title of the Course	*NCC / **MOOC
Course Code	NCC-0404[T]

		Part /	Α					
Year	2nd	Semester	4th	Credits	L	Т	Р	С
Total	Ziid	Comester	741	Greate	1	0	1	2
Course Type	Theory only							
Course Category	Generic Elective							
Pre-Requisite/s	Should be acquainted Development, Defense	with the basics knowledge of General Awarene e system etc	Co-Requisite/s					
Course Outcomes & Bloom's Level	CO1- Develop the qualities of social skills.() CO2- Imbibe leadership qualities. () CO3- Be motivated to serve the nation by joining Armed forces. () CO4- Contribute in environmental awareness and conservation activities() CO5- Keep abreast of current affairs & general awareness.() CO6- Effectively contribute in managing disaster relief tasks()							
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics ✓ Gender X Human Values ✓ Environment X		SDG (Goals)	SDG3(Good health and well-being) SDG4(Quality education) SDG6(Clean water and sanitation) SDG13(Climate action) SDG15(Life on land)				

Part B

Modules	Contents	Pedagogy	Hours
Unit 1. Personality Development	Group Discussions – Social Skills & Time management.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 2. Leadership Development	Case Studies – Case Studies – Ratan Tata, Rabindra Nath Tagore, Role of NCC cadets in 1965 war.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 3. Disaster management	(i) Initiative Trg, Organising Skills. (ii) Dos and Don'ts. (iii) Natural Disasters. (iv) Man Made Disasters. (v) Fire Services and Fire Fighting.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit-4.Environmental Awareness	Adventure Environmental Awareness and Conservation, Local and global approaches to conserve nature.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 5. General Awareness & Armed Forces	General Awareness, Army, Navy, Air Force and Central Armed Police Forces.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5

Part D(Marks Distribution)

	Theory									
Total Marks	Minimum Passing Marks External Evalua		Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	40	60	18	40	0					
	Practical									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	50	60	30	40						

Part E

Books	R Gupta ; NCC National Cadet Corps A, B & C Certificate Examination Book; Ramesh Publishing House, 2018.		
Articles	https://indiancc.mygov.in/		
References Books Singh, Neeraj; A Hand Book of NCC; Kanti Prakashan Publisher Cadet training hand book specialised subjects (2017)			
MOOC Courses			
Videos	https://www.youtube.com/watch?v=eBA5t4iepAA		

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-ComputerScience

Title of the Course	NCC / **MOOC
Course Code	NCC-0505[T]

	Part A											
Year	3rd Semester		5th	Credits		Т	Р	С				
Teal	Sid	Semester	Sui	oreans		0	1	2				
Course Type	Theory only	ory only										
Course Category	Generic Elective											
Pre-Requisite/s	Should be acquainted Development, Defense	d with the basics knowledge of General Awarene se system etc.	ss about Leadership Quality, Personality	Co-Requisite/s								
Course Outcomes & Bloom's Level	CO2- Improve comm CO3- Understand the	eam building exercise and value team work.() unication skills by public speaking activities. () e security mechanism and management of Borde to join armed forces.()	or/Coastal areas. ()									
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics Gender X Human Values ✓ Environment X		SDG (Goals)	SDG3(Good health and well-being) SDG4(Quality education)								

Part B

Modules	Contents	Pedagogy	Hours
Unit 1. Personality Development	(i) Group Discussions –Team work. (ii) Public speaking.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 2. Border & Coastal Areas	Security Setup and Border/Coastal management in the area	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 3. Introduction to Infantry Battalion and its Equipment	Organisation of Infantry Battalion & its weapons	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 4. Military History	Study of Battles of Indo-Pak Wars 1965 & 1971.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 5. Health & Hygiene	(i) Yoga- Introduction, Definition, Purpose, Benefits. (ii) Asanas-Padamsana, Siddhasana, Gyan Mudra, Surya Namaskar, Shavasana, Vajrasana, Dhanurasana, Chakrasana, Sarvanangasana, Halasana etc. i) Hyglene & Sanitation (Hyglene-Personal & Camp Hyglene). (ii) First Aid in common medical emergencies. (iii) Treatment & Care of Wounds.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5

Part C

Modules	Title	Indicative-ABCA/PBL/ Experiments/Field work/ Internships	Bloom's Level	Hours
I	Industrial Visit and Final Presentation and Report	Internships	BL5-Evaluate	150

Part D(Marks Distribution)

	Theory									
Total Marks	rks Minimum Passing Marks External Evaluation		Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	40	60	18	40	0					
			Practical							
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	50	60	30	40						

Part E

Books	R Gupta ; NCC National Cadet Corps A, B & C Certificate Examination Book; Ramesh Publishing House, 2018. Singh, Neeraj; A Hand Book of NCC; Kanti Prakashan Publisher Cadet training hand book specialised subjects (2017)
Articles	https://indiancc.mygov.in/
References Books	Cadets training handbook common subjects (2017), D.G NCC Delhi-110030 DG, NCC Training directive
MOOC Courses	
Videos	https://www.youtube.com/watch?v=eBA5t4iepAA

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-ComputerScience

Title of the Course	*NCC / **MOOC
Course Code	NCC-0606[T]

		Part	A						
Year	3rd	Semester	6th	Credits	L	Т	Р	С	
.54.	5.4	3031		- Ciouna	1	0	1	2	
Course Type	Theory only								
Course Category	Generic Elective								
Pre-Requisite/s	Should be acquainte Development, Defen	d with the basics knowledge of General Awarene se system etc	ss about Leadership Quality, Personality	Co-Requisite/s					
Course Outcomes & Bloom's Level	CO2- Write their CV CO3- Imbibe the feel CO4- Communicate	1- Understand individaul responsibilities & role in meetings the security challenges on Border/Coastal areas. () 2- Write their CV effective and appealing. () 3- Imbibe the feeling of patriotism. () 4- Communicate more effectively.() 5- Face SSB interview effectively in their future. ()							
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics Gender X Human Values ✓ Environment X		SDG (Goals)	SDG3(Good health and well-being) SDG4(Quality education) SDG6(Clean water and sanitation)					

Part B

Modules	Contents	Pedagogy	Hours
Unit 1. Personality Development	(i) Career Counselling. (ii) SSB Procedure. (iii) Interview Skills.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 2. Border & Coastal Areas	Security Challenges & Role of cadets in Border management.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 3. Armed Forces	Modes of Entry into Army, Police and CAPF.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 4. Military History	(i) Biographies of Renowned Generals. (ii) War Heroes : Param Veer Chakra Awardees. (iii) Study of Battles of Kargil. (iv) War Movies.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit-5.Communication	Introduction to Communication & Latest Trends.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5

Part C

Modules	Title	Indicative-ABCA/PBL/ Experiments/Field work/ Internships	Bloom's Level	Hours
1-2	PBL	PBL	BL5-Evaluate	20

Part D(Marks Distribution)

	Theory									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	40	60	18	40	0					
	Practical									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	50	60	30	40						

Part E

Books	R Gupta ; NCC National Cadet Corps A, B & C Certificate Examination Book; Ramesh Publishing House, 2018. Singh, Neeraj; A Hand Book of NCC; Kanti Prakashan Publisher
Articles	https://indiancc.mygov.in/
References Books	Cadets training handbook common subjects (2017), D.G NCC Delhi-110030 DG, NCC Training directive
MOOC Courses	
Videos	https://www.youtube.com/watch?v=08plJglsYUE

	Coulou / Haddidan Maaix														
COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BCA

Title of the Course	NCC											
Course Code	NCC-404 (P)											
		Pa	art A									
Year	2nd	Semester	4th	Credits	L	Т	Р	С				
rear	ZIId	Semester	401	Ciedits		0	2	4				
Course Type	Lab only	b only										
Course Category	Generic Elective	eneric Elective										
Pre-Requisite/s		with the basics knowledge of General Aware ent, Defense system etc	Co-Requisite/s									
Course Outcomes & Bloom's Level												
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics ✓ Gender X Human Values ✓ Environment X		SDG (Goals)	SDG3(Good health and well-being) SDG4(Quality education) SDG11(Sustainable cities and economies) SDG13(Climate action)								

Part B

Modules	Contents	Pedagogy	Hours
Unit 1. Drill	(i) Arm Drill. (ii) Salami Shastra. (iii) Squad Drill with Arms.		
Unit 2.Weapon Training	(i) Range procedure & Theory of group. (ii) Short Range firing.		
Unit 3. Map Reading	(i) Map to Ground. (ii) Ground to Map.		
Unit 4. Field Craft & Battle Craft	(i) Fire and Move Capsule. (ii) Field signal- with hand, with Weapons, Signal with Whistle. (iii) Field signals as means of giving orders. (iv) Field signals by day, Field signals by night. (v) Section Formation.		
Unit 5. Social Service and Community Development	Cadets will participate in various activities throughout the semester e.g., Blood donation Camp, Swachhata Abhiyan, Constitution Day, Jan Jeevan Hariyali Abhiyan, Beti Bachao Beti Padhao etc as per the requirement and similar announced days- National and State level.		

Part D(Marks Distribution)

	Theory									
Total Marks	Minimum Passing Marks External Evaluation		Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
			Practical							
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
0	0	0	0	0	0					

Part E

	1 417 2
Books	R Gupta ; NCC National Cadet Corps A, B & C Certificate Examination Book; Ramesh Publishing House, 2018. Singh, Neeraj; A Hand Book of NCC; Kanti Prakashan Publisher Cadet training hand book specialised subjects (2017)
Articles	https://indiancc.mygov.in/
References Books	Cadets training handbook common subjects (2017), D.G NCC Delhi-110030 DG, NCC Training directive
MOOC Courses	
Videos	https://www.youtube.com/watch?v=eBA5t4iepAA

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BCA

Title of the Course	NCC								
Course Code	NCC0101[P]								
Part A									
				L	ТР	С			

		raita	•									
V	4-4	0	4-4	One dite	L	Т	Р	O				
Year	1st	Semester	1st	Credits	0	0	1	1				
Course Type	Lab only											
Course Category	Generic Elective	eneric Elective										
Pre-Requisite/s	Should be acquainted Development, Defer	ed with the basics knowledge of General Awarene ase system etc.	ss about Leadership Quality, Personality	Co-Requisite/s								
Course Outcomes & Bloom's Level	CO2- Fire a weapon CO3- Undertake poi	CO1- Perform foot drill and follow the different word of command. (BL1-Remember) CO2- Fire a weapon effectively with fair degree of marksmanship(BL2-Understand) CO3- Undertake point to point navigation and take part in route marches by day and night. (BL4-Analyze) CO4- Perform the social services on various occasions for better community & social life(BL3-Apply)										
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics Gender X Human Values ✓ Environment X		SDG (Goals)	SDG3(Good health and well-being) SDG4(Quality education) SDG17(Partnerships for the goals)								

Part B

Modules	Contents	Pedagogy				
Unit 1. Drill	Foot Drill- Drill ki Aam Hidayaten, Word ki Command, Savdhan, Vishram, Aram Se, Murdna, Kadvar Sizing, Teen Line Banana, Khuli Line, Nikat Line, Khade Khade Salute Karna Parade Par, Visarjan, Line Tod, Tej Chal, Tham aur Dhire Chal, Tham.	Audio/Video clips, group discussion, lecture with ppt, quiz	12			
Unit 2. Weapon Training (WT)	Introduction & Characteristics of .22 rifle, Handling of .22 rifle.	Whiteboard, PPT, Video Case Study, Project Based Activity, Application Based Activity	5			
Unit 3. Map Reading (MR)	Definition of Map, Conventional signs, Scale and Grid System, Topographical forms and technical terms, Relief, Contours and gradients, Cardinal points and types of North, Magnetic Variation and Grid Convergence.	Whiteboard, PPT, Video Case Study, Project Based Activity, Application Based Activity	3			
Unit 4. Field Craft & Battle Craft (FC & BC)	Introduction of Field Craft & Battle craft, Judging Distance, Method of Judging Distance.	Whiteboard, PPT, Video Case Study, Project Based Activity, Application Based Activity	3			
Unit 5. Social Service and Community Development (SSCD)	Cadets will participate in various activities throughout the semester e.g., Blood donation Camp, Swachhata Abhiyan, Constitution Day, Jan Jeevan Hariyali Abhiyan, Beti Bachao Beti Padhao etc.	Whiteboard, PPT, Video Case Study, Project Based Activity, Application Based Activity	7			

Part D(Marks Distribution)

	Theory									
Total Marks	Total Marks Minimum Passing Marks External Evaluation Min. External Evaluation Internal Evaluation Min. Internal Evaluation									
	Practical									
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation					
100	40	40	12	60						

Part E

Books R Gupta; NCC National Cadet Corps A, B & C Certificate Examination Book; Ramesh Publishing House, 2018.						
Articles						
References Books Singh, Neeraj; A Hand Book of NCC; Kanti Prakashan Publisher						
MOOC Courses						
Videos	https://www.youtube.com/watch?v=iXzGjyk1wOw					

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BTech-ComputerScience

Title of the Course	NCC									
Course Code	NCC0101[T]	СС0101[П]								
	•	Part /	4							
Year	101	Semester	det	Credits		Т	Р	С		
Tear	1st	Semester 1st	ist			0	1	2		
Course Type	Course Type Theory only									
Course Category	Course Category Generic Elective									
Pre-Requisite/s	Pre-Requisite/s Should be acquainted with the basics knowledge of General Awareness about Leadership Quality, Personality Development, Defense system etc. Co-Requisite/s									

CO1- To Remember about the history of NCC, its organization, and incentives of NCC for their career prospects and the concept of national integration and its importance.(BL1-Remember)
CO2- To Understand the concept of critical & creative thinking and the concept of self-awareness and emotional intelligence.(BL2-Understand)
CO3- To Acquire knowledge of duties and conduct of NCC cadets.(BL3-Apply)
CO4- To analyze the concept of team and its functioning.(BL4-Analyze)
CO5- To Evaluate the process of decision making & problem solving.(BL5-Evaluate) Course Outcomes & Bloom's Level

Skill Development X Entrepreneurship X
Employability X
Professsonal Ethics
Gender X
Human Values
Environment X Coures Elements

SDG1(No poverty) SDG6(Clean water and sanitation) SDG15(Life on land) SDG (Goals)

Part B

Modules	Contents	Pedagogy		
Unit 1- NCC General (N)	History of NCC, Aims and Objectives of NCC. Organization &Training. NCC Song, Motto of NCC - Motivation of Cadets.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, discussion (questions & answers section)	6	
Unit 2- NCC Organization	NCC as Organization, Incentives of NCC, Duties of NCC Cadet. NCC Camps: Types & Conduct. Preparation and participation. Rank of officers and cadets.	Whiteboard, PPT, Video Case Study, Project Based Activity, Application Based Activity	6	
Unit 3- National Integration (NI) & Awareness	National Integration: Importance & Necessity, Factors Affecting National Integration, Unity in Diversity & Role of NCC in Nation Building, Threats to National Security	Audio/Video clips, group discussion, lecture with ppt, classroom presentations	6	
Unit 4- Personality Development	Intra & Interpersonal skills - Self-Awareness-&Analysis, Empathy, Critical & creative thinking, Decision making and problem solving.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	6	
Unit 5- Social Service and Community Development	Basics of social service and its need, Types of social service activities, Objectives of rural development programs and its importance, NGO's and their contribution in social welfare, contribution of youth and NCC in Social welfare.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	6	

Part D(Marks Distribution)

	Theory								
Total Marks	Total Marks Minimum Passing Marks External Evaluation Min. External Evaluation Internal Evaluation Min. Internal Evaluation								
100	40	60	18	40					
	Practical								
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation				
100	50	60	30	40					

Part E

Books Cadets training handbook common subjects (2017), D.G NCC Delhi-110030					
Articles https://indiancc.mygov.in/activity/snehahoro/article-on-ncc-camp-and-training/					
References Books DG, NCC Training directive					
MOOC Courses					
Videos https://www.youtube.com/watch?v=Am1Cs0DHMZ4					

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BCA

Title of the Course	NCC	c								
Course Code	NCC0101[T]	CC0101[T]								
	Part A									
Year	1st	Semester	1st	Credits	L T P C 2 0 1 3					
Course Type	Embedded theory and	bedded theory and field work								
Course Category	Disciplinary Minor									
Pre-Requisite/s	Should be acquainted with the basics knowledge of General Awareness about Leadership Quality, Personality Development, Defense system etc.									
Course Outcomes & Bloom's Level										
Skill Development X Entrepreneurship X Employability X Professsonal Ethics ✓ Gender X Human Values ✓ Environment X SDG (Goals) SDG6(Clean water and sanitation) SDG15(Life on land)										

Part F

Modules	Contents	Pedagogy	Hours
Unit 1- NCC General (N)	History of NCC, Aims and Objectives of NCC. Organization & Training. NCC Song, Motto of NCC - Motivation of Cadets.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, discussion (questions & answers section)	6
Unit 2- NCC Organization	NCC as Organization, Incentives of NCC, Duties of NCC Cadet. NCC Camps: Types & Conduct. Preparation and participation. Rank of officers and cadets.	Whiteboard, PPT, Video Case Study, Project Based Activity, Application Based Activity	6
Unit 3- National Integration (NI) & Awareness	National Integration: Importance & Necessity, Factors Affecting National Integration, Unity in Diversity & Role of NCC in Nation Building, Threats to National Security	Audio/Video clips, group discussion, lecture with ppt, classroom presentations	6
Unit 4- Personality Development	Intra & Interpersonal skills - Self-Awareness-&Analysis, Empathy, Critical & creative thinking, Decision making and problem solving.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	6
Unit 5- Social Service and Community Development	Basics of social service and its need, Types of social service activities, Objectives of rural development programs and its importance, NGO's and their contribution in social welfare, contribution of youth and NCC in Social welfare.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	6

Part D(Marks Distribution)

	Theory								
Total Marks	Total Marks Minimum Passing Marks External Evaluation Min. External Evaluation Internal Evaluation Min. Internal Evaluation								
100	40	60	18	40					
	Practical								
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation				
100	50	60	30	40					

Part E

Books	Cadets training handbook common subjects (2017), D.G NCC Delhi-110030					
Articles	https://indiancc.mygov.in/activity/snehahoro/article-on-ncc-camp-and-training/					
References Books DG, NCC Training directive						
MOOC Courses						
Videos	https://www.youtube.com/watch?v=Am1Cs0DHMZ4					

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



BCA

Title of the Course	NCC			
Course Code	NCC0606 (T)			
	•	Part A	ı.	

		rait.	¬							
				2 "		L T		С		
Year	3rd	Semester	6th	Credits	2	0	2	4		
Course Type	Theory only									
Course Category	Generic Elective									
Pre-Requisite/s		ould be acquainted with the basics knowledge of General Awareness about Leadership Quality, Personality relopment, Defense system etc								
Course Outcomes & Bloom's Level	CO2- Write their CV CO3- Imbibe the feel CO4- Communicate		urity challenges on Border/Coastal areas. ()							
Coures Elements	Skill Development X Entrepreneurship X Employability X Professsonal Ethics Gender X Human Values Environment X		SDG (Goals)	SDG3(Good health and well-being) SDG4(Quality education) SDG6(Clean water and sanitation)						

Modules	Contents	Pedagogy	Hours
Unit 1. Personality Development	(i) Career Counselling. (ii) SSB Procedure. (iii) Interview Skills.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 2. Border & Coastal Areas	Security Challenges & Role of cadets in Border management.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 3. Armed Forces	Modes of Entry into Army, Police and CAPF.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 4. Military History	(i) Biographies of Renowned Generals. (ii) War Heroes : Param Veer Chakra Awardees. (iii) Study of Battles of Kargil. (iv) War Movies.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit-5.Communication	Introduction to Communication & Latest Trends.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5

Part D(Marks Distribution)

	Theory										
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation						
100	40	60	18	40							
	Practical										
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation						
100	50	60	30	40							

Part E

Books	R Gupta; NCC National Cadet Corps A, B & C Certificate Examination Book; Ramesh Publishing House, 2018. Singh, Neeraj; A Hand Book of NCC; Kanti Prakashan Publisher				
Articles	https://indiancc.mygov.in/				
References Books Cadets training handbook common subjects (2017), D.G NCC Delhi-110030 DG, NCC Training directive					
MOOC Courses					
Videos	https://www.youtube.com/watch?v=O8plJglsYUE				

COs	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	1	ı	1	1	ı	-	1		i	1	-	-
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	•	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO6	-	-	-		ı			-	-	-	-	-	-	-	-