



List of Courses focuses on Professional Ethics, Gender, Human Values, Environment & Sustainability and other value framework

Department : *Electronics & Communication Engineering*

Programme Name : *B.Tech.*

Academic Year : 2019-20

Courses which focuses on Professional Ethics, Gender, Human Values, Environment & Sustainability and other value framework:

Sr. No.	Course Code	Name of the Course
02.	EC03THS03	Engineering Economics
03.	EC03TMC02	Constitution of India
04.	EC04THS03	Effective Technical Communication



Scheme and Syllabus

SCHEME OF EXAMINATION
B.TECH (FOUR YEAR) DEGREE COURSE
SECOND YEAR, ELECTRONICS & COMMUNICATION ENGINEERING
SCHOOL OF ENGINEERING & TECHNOLOGY, GGVV BILASPUR (CG) 495009
SEMESTER III (SECOND YEAR)
EFFECTIVE FROM SESSION 2019-20

Sr. No.	Course Code	Course Title	L	T	P	Periods/ week	Evaluation Scheme			Credit
							IA	ESE	Total	
Theory										
1	EC03TPC01	Electronic Devices	3	0	0	3	30	70	100	3
2	EC03TPC02	Digital System Design	3	0	0	3	30	70	100	3
3	EC03TPC03	Signals and Systems	3	0	0	3	30	70	100	3
4	EC03TPC04	Network Theory	3	0	0	3	30	70	100	3
5	EC03TBS05	Mathematics-III	3	1	0	4	30	70	100	4
6	EC03THS02	Engineering Economics	3	0	0	3	30	70	100	3
7	EC03TMC02	Constitution of India	2	0	0	2	0	0	0	0
Practical										
1	EC03PPC01	Electronics Devices Lab	0	0	3	3	30	20	50	1
2	EC03PPC02	Digital System Design Lab	0	0	3	3	30	20	50	1
									Total Credits	21

SEMESTER IV (SECOND YEAR)
EFFECTIVE FROM SESSION 2019-20

Sr. No.	Course Code	Course Title	L	T	P	Periods/ week	Evaluation Scheme			Credit
							IA	ESE	Total	
Theory										
1	EC04TPC05	Analog and Digital Communication	3	1	0	4	30	70	100	4
2	EC04TPC06	Analog Circuits	3	0	0	3	30	70	100	3
3	EC04TPC07	Microcontrollers	3	0	0	3	30	70	100	3
4	EC04TBS06	Numerical Methods	3	1	0	4	30	70	100	4
5	EC04TES05	Electronics Measurement & Instrumentation	3	0	0	3	30	70	100	3
6	EC04THS03	Effective Technical Communication	3	0	0	3	30	70	100	3
Practical										
1	EC04PPC03	Analog and Digital Communication Lab	0	0	2	2	30	20	50	1
2	EC04PPC04	Analog Circuits Lab	0	0	2	2	30	20	50	1
3	EC04PPC05	Microcontrollers Lab	0	0	2	2	30	20	50	1
									Total Credits	23

L : LECTURE T: TUTORIAL P: PRACTICAL IA: INTERNAL ASSESSMENT ESE: END SEMESTER EXAM



DEPARTMENT OF ECE ENGINEERING B.TECH. FIRST YEAR SYLLABUS W.E.F 2018-19

SYLLABUS	(SEMESTER-II)	Periods/Week			Internal Assessment (IA)			ESE	Grand Total	Credits
		L	T	P	CT-I	CT-II	TOTAL			
Subject Code:	EC02TMC01									
Subject:	ENVIRONMENTAL SCIENCES	3	0	0	--	--	--	--	--	00

Course Learning Objectives:

- To learn the importance of Ecosystems, Natural Resources and Energy resources
- To learn the importance of Biodiversity and Environmental pollution
- To understand the Environmental ethics

Course Content:

Introduction to environmental studies Multidisciplinary nature of environmental studies: scope and importance: Concept of sustainability and sustainable development. Ecosystems: structure and function of ecosystem: Energy flow in an ecosystem: food chains. Food webs and ecological succession a) Forces: ecosystem b) Grassland ecosystem c) Desert ecosystem d) Aquatic ecosystems (ponds, Streams lakes, rivers, Oceans, estuaries). Natural Resources Renewable and Non-renewable Resources: Land resources and land use change: Land degradation, soil erosion and desertification. Deforestations: Causes and impacts due to mining, dam building on environment, forests biodiversity and tribal populations. Water: Use and over-exploitation of surface and ground water, floods, droughts. Conflicts over water (international & inter-state) Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs, case studies Biodiversity and Conservation: Levels of biological diversity: genetic species and ecosystem diversity. Bio geographic zones of India.

Biodiversity patterns and global biodiversity hot spots India as a mega-biodiversity nation. Endangered and endemic species of India. Threats to biodiversity: Habitat loss poaching of wildlife man wildlife conflicts, biological invasions: Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and informational value. Environmental pollution: Environmental pollution types, causes, effects and controls: Air, Water, soil and noise pollution. Nuclear hazards and human health risks. Solid waste management: Control measures of urban and industrial waste. Pollution case studies. Environmental potencies & practices, Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture. Environment laws Environment protection Act: air (prevention & Control of pollution) Act: water (prevention and control of pollution) Act: wildlife protection Act: Forest Conservation Act; International agreements: Montreal and Kyoto protocols and Convention on Biological Diversity (CBD), Nature reserves. tribal populations and rights, human wildlife conflicts in Indian context. Human Communities and the Environment. Human population growth: Impacts on environment. Human health and welfare. Resettlement and rehabilitation of project affected persons: case studies. Disaster management: floods, earthquake, cyclones and landslides. Environmental movements Chipko, silent valley Bishnois of Rajasthan. Environmental ethics: role of Indian and other religions and cultures in environmental conservation. Environmental communication and public awareness, case studies (e. g.CNG vehicles in Delhi). Field work: visit to an area to document environmental assets. River/ forest/flora/fauna, etc. Visit to a local polluted site-urban/rural/Industrial/Agricultural. Study of common plants birds and basic principles of identification Study of simple ecosystems-pond river-etc.

Suggested Readings:



Sub Code	L	T	P	Duration	IA	ESE	Credits
EC03THS02	3	0	0	3 hours	30	70	3

ENGINEERING ECONOMICS

Course Objectives:

Students will try to learn:

1. To Analyze Cost/Revenue Data And Carry Out Make Economic Analyses In The Decision Making Process
2. To Justify or Reject Alternatives/Projects On An Economic Basis.

UNIT - I: Basic Concepts and Definitions, Methodology of Economics, Demand and Supply – elasticity, Theory of the Firm and Market Structure, Price and output determinations in different types of market

UNIT - II: Public Sector Economics –Welfare economics, Central and commercial marks and their functions, Industrial policies, theory of localization, weber & surgent Florence theory, investment analysis-NPV, ROI, IRR, Payback period, SWOT analysis.

UNIT – III: Monetary and Fiscal Policy; Tools, impact on the economy, Inflation, Business Cycle, Cash Flow-2,3,4 Model.

UNIT – IV: Business Forecasting – Elementary techniques. Cost and Revenue Analysis, Capital Budget, Break Even Analysis.

UNIT – V: Indian economy; Urbanization, Unemployment–Poverty, Regional Disparities, Unorganized Sectors- Roll of Plans, Reforms-Post Independent period.

Text Books:

1. Mankiw Gregory N.(2002), Principles of Economics, Thompson Asia
2. V. Mote, S. Paul, G. Gupta(2004), Managerial Economics, Tata McGraw Hill
3. Misra, S.K. and Puri (2009), Indian Economy, Himalaya
4. Pareek Saroj (2003), Textbook of Business Economics, Sunrise Publishers

Recommended Books:

1. Kapila U. Indian economy since Independence. Academic Foundation, New Delhi
2. Misra, S. K. and Puri V. K. Indian Economy — Its Development Experience. Himalaya 3.Publishing House, Mumbai
3. Dutt R. and Sundharam K. P. M. Indian Economy. S. Chand & Company Ltd., New Delhi.
4. Mathur R. Indian Economic Policy and Reform. RBSA Publisher, Jaipur

Course Outcomes:

At the end of this course students will demonstrate the ability to

1. Aware of the basic theoretical framework underlying the field of Microeconomics, Macroeconomics, Indian Economy, Public Finance etc.
2. Understand the operations of money and banking and their interaction with the rest of the economy



Sub Code	L	T	P	Duration	IA	ESE	Credits
EC04THS03	3	0	0	3 hours	30	70	3

EFFECTIVE TECHNICAL COMMUNICATION

Course Objectives:

Students will try to learn:

1. To participate actively in writing activities (individually and in collaboration)
2. To understand how to apply technical information and knowledge in practical documents
3. To practice the unique qualities of professional writing style, including sentence conciseness, readability, clarity, accuracy, honesty, avoiding wordiness or ambiguity, previewing.
4. To recognize, explain, and use the genres of technical communication: technical abstracts, data based research reports, instructional manuals, technical descriptions, and web pages
5. To recognize and develop professional format features in print, html, and multimedia modes, as well as use appropriate nonverbal cues and visual aids.

UNIT-I: Information Design and Development- Different kinds of technical documents, Information development life cycle, Organization structures, factors affecting information and document design, Strategies for organization, Information design and writing for print and for online media.

UNIT-II: Technical Writing, Grammar and Editing- Technical writing process, forms of discourse, Writing drafts and revising, Collaborative writing, creating indexes, technical writing style and language. Basics of grammar, study of advanced grammar, editing strategies to achieve appropriate technical style. Introduction to advanced technical communication, Usability, Human factors, Managing technical communication projects, time estimation, Single sourcing, Localization.

UNIT-III: Self Development and Assessment- Self assessment, Awareness, Perception and Attitudes, Values and belief, Personal goal setting, career planning, Self-esteem. Managing Time; Personal memory, Rapid reading, Taking notes; Complex problem solving; Creativity

UNIT-IV: Communication and Technical Writing- Public speaking, Group discussion, Oral; presentation, Interviews, Graphic presentation, Presentation aids, Personality Development. Writing reports, project proposals, brochures, newsletters, technical articles, manuals, official notes, business letters, memos, progress reports, minutes of meetings, event report.

UNIT-V: Ethics- Business ethics, Etiquettes in social and office settings, Email etiquettes, Telephone Etiquettes, Engineering ethics, Managing time, Role and responsibility of engineer, Work culture in jobs, Personal memory, Rapid reading, Taking notes, Complex problem solving, Creativity.

Text/Reference Books:

1. David F. Beer and David McMurrey, Guide to writing as an Engineer, John Willey, NewYork, 2004.
2. Diane Hacker, Pocket Style Manual, Bedford Publication, New York, 2003. (ISBN0312406843)
3. Shiv Khera, You Can Win, Macmillan Books, New York, 2003.
4. Raman Sharma, Technical Communications, Oxford Publication, London, 2004.