

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech. in ELECTRONICS AND COMMUNICATION ENGINEERING
COURSE STRUCTURE, I & II YEAR SYLLABUS (R22 Regulations)
Applicable from AY 2022-23 Batch

I Year II Semester

S. No.	Course Code	Course Title	L	T	P	Credits
1.		Ordinary Differential Equations and Vector Calculus	3	1	0	4
2.		Engineering Chemistry	3	1	0	4
3.		Computer Aided Engineering Graphics	1	0	4	3
4.		Basic Electrical Engineering	2	0	0	2
5.		Electronic Devices and Circuits	2	0	0	2
6.		Applied Python Programming Laboratory	0	1	2	2
7.		Engineering Chemistry Laboratory	0	0	2	1
8.		Basic Electrical Engineering Laboratory	0	0	2	1
9.		Electronic Devices and Circuits Laboratory	0	0	2	1
		Total	11	3	12	20

II YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1		Analog Circuits	3	1	0	4
2		Network analysis and Synthesis	3	0	0	3
3		Digital Logic Design	3	0	0	3
4		Signals and Systems	3	1	0	4
5		Probability Theory and Stochastic Processes	3	0	0	3
6		Analog Circuits Laboratory	0	0	2	1
7		Digital logic Design Laboratory	0	0	2	1
8		Basic Simulation Laboratory	0	0	2	1
9		Constitution of India	3	0	0	0
		Total Credits	18	2	6	20


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CONSTITUTION OF INDIA

B.Tech. II Year I Sem.

L T P C
3 0 0 0**Course Objectives:** Students will be able to:

- Understand the premises informing the twin themes of liberty and freedom from a civil rights perspective.
- To address the growth of Indian opinion regarding modern Indian intellectuals' constitutional role and entitlement to civil and economic rights as well as the emergence of nationhood in the early years of Indian nationalism.
- To address the role of socialism in India after the commencement of the Bolshevik Revolution in 1917 and its impact on the initial drafting of the Indian Constitution.

Course Outcomes: Students will be able to:

- Discuss the growth of the demand for civil rights in India for the bulk of Indians before the arrival of Gandhi in Indian politics.
- Discuss the intellectual origins of the framework of argument that informed the conceptualization of social reforms leading to revolution in India.
- Discuss the circumstances surrounding the foundation of the Congress Socialist Party [CSP] under the leadership of Jawaharlal Nehru and the eventual failure of the proposal of direct elections through adult suffrage in the Indian Constitution
- Discuss the passage of the Hindu Code Bill of 1956.

Unit - 1 History of Making of the Indian Constitution- History of Drafting Committee.**Unit - 2 Philosophy of the Indian Constitution- Preamble Salient Features****Unit - 3 Contours of Constitutional Rights & Duties - Fundamental Rights**

- Right to Equality
- Right to Freedom
- Right against Exploitation
- Right to Freedom of Religion
- Cultural and Educational Rights
- Right to Constitutional Remedies
- Directive Principles of State Policy
- Fundamental Duties.

Unit - 4 Organs of Governance: Parliament, Composition, Qualifications and Disqualifications, Powers and Functions, Executive, President, Governor, Council of Ministers, Judiciary, Appointment and Transfer of Judges, Qualifications, Powers and Functions**Unit - 5 Local Administration: District's Administration head: Role and Importance, Municipalities: Introduction, Mayor and role of Elected Representative, CEO of Municipal Corporation. Panchayat raj: Introduction, PRI: Zila Panchayat. Elected officials and their roles, CEO Zila Panchayat: Position and role. Block level: Organizational Hierarchy (Different departments), Village level: Role of Elected and Appointed officials, Importance of grass root democracy****Unit - 6 Election Commission: Election Commission: Role and Functioning. Chief Election Commissioner and Election Commissioners. State Election Commission: Role and Functioning. Institute and Bodies for the welfare of SC/ST/OBC and women.****Suggested Reading:**

1. The Constitution of India, 1950 (Bare Act), Government Publication.
2. Dr. S. N. Busi, Dr. B. R. Ambedkar framing of Indian Constitution, 1st Edition, 2015.
3. M. P. Jain, Indian Constitution Law, 7th Edn., Lexis Nexis, 2014.
4. D.D. Basu, Introduction to the Constitution of India, Lexis Nexis, 2015.



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**JAWAHARLALNEHRUTECHNOLOGICALUNIVERSITYHYDERABAD M.TECH IN
ELECTRONICS AND COMMUNICATION ENGINEERING EFFECTIVE FROM
ACADEMIC YEAR 20122-23 ADMITTED BATCH**

R22COURSESTRUCTUREANDSYLLABUS

IYEARI-SEMESTER

CourseCode	CourseTitle	L	T	P	Credits
Professional Core-I	DigitalSystemDesignwithFPGAs	3	0	0	3
Professional Core-II	WirelessCommunicationsandNetworks	3	0	0	3
Professional Elective - I	1. PatternRecognitionandMachineLearning 2. VLSITechnologyandDesign 3. DesignofFaultTolerantSystems	3	0	0	3
Professional Elective - II	1. EmbeddedRealTimeOperatingSystems 2. OpticalCommunicationsandNetworks 3. WirelessMIMOCommunications	3	0	0	3
Lab-I	DigitalSystemDesignwithFPGAsLab	0	0	4	2
Lab-II	WirelessCommunicationsandNetworksLab	0	0	4	2
	ResearchMethodology&IPR	2	0	0	2
Audit-I	AuditCourse-I	2	0	0	0
	Total	16	0	8	18

IYEARII-SEMESTER

CourseCode	CourseTitle	L	T	P	Credits
Professional Core-III	Advanced DigitalSignalProcessing	3	0	0	3
Professional Core-IV	AdvancedCommunicationsandNetworks	3	0	0	3
Professional Elective - III	1. SoCDesign 2. CodingTheoryandTechniques 3. IOTArchitecturesandSystemDesign	3	0	0	3
Professional Elective-IV	1. CognitiveRadio 2. EmbeddedSystemDesign 3. VoiceandDataNetworks	3	0	0	3
Lab-III	AdvancedDigitalSignalProcessingLab	0	0	4	2
Lab-IV	AdvancedCommunicationsandNetworksLab	0	0	4	2
	MiniProjectwithSeminar	0	0	4	2
Audit- II	AuditCourse-II	2	0	0	0
	Total	14	0	12	18



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IIYEARI-SEMESTER

CourseCode	CourseTitle	L	T	P	Credits
Professional Elective - V	1. EmbeddedNetworks 2. Ad-hoc&WirelessSensorNetworks 3. 5GandBeyondCommunications	3	0	0	3
OpenElective	OpenElective	3	0	0	3
Dissertation	DissertationWorkReview-II	0	0	12	6
	TotalCredits	6	0	12	12

IIYEARI-SEMESTER

CourseCode	CourseTitle	L	T	P	Credits
Dissertation	DissertationWorkReview-III	0	0	12	06
Dissertation	DissertationViva-Voce	0	0	28	14
	Total	0	0	40	20

***OpenElectives:**

1. BusinessAnalytics
2. IndustrialSafety
3. OperationsResearch
4. CostManagementofEngineeringProjects
5. CompositeMaterials

AuditCourse&II:

1. EnglishforResearchPaperWriting
2. DisasterManagement
3. SanskritforTechnicalKnowledge
4. ValueEducation
5. ConstitutionofIndia
6. PedagogyStudies
7. StressManagementbyYoga
8. PersonalityDevelopmentThroughLifeEnlightenmentSkills

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