



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

**COURSE STRUCTURE-R19**

**IV Year – I SEMESTER**

S. No	Course Code	Subjects	Category	L	T	P	Credits
1		Switchgear & Protection	EE	3	--	--	3
2		OOPs through JAVA	ES	3	--	--	3
3		Renewable Energy Systems	EE	3	--	--	3
4		<b>Elective – II</b>	EL	3	--	--	3
5		<b>Elective - III</b>	EL	3	--	--	3
6		Linear & Digital IC Applications Laboratory	ES	--	--	2	1
7		Power Systems& Simulation Laboratory	EE	--	--	2	1
		<b>Industrial Training /Skill Development Programmes / Research Project</b>	Project	--	--	2	1
8		<b>Project-I</b>	Project			4	2
<b>Total Credits</b>				<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>

**IV Year – II SEMESTER**

S. No	Course Code	Subjects	Category	L	T	P	Credits
1		Power System Operation & Control	EE	3	--	--	3
2		<b>Open Elective - II</b>	OE	3	--	--	3
3		<b>Elective - IV</b>	EL	3	--	--	3
4		<b>Project-II</b>	Project	--	--	16	8
<b>Total Credits</b>				<b>09</b>		<b>16</b>	<b>17</b>

BS – Basic Sciences

HS – Humanity Sciences

ES – Engineering Sciences

EE – Electrical Engineering

OE – Open Elective

EL – Elective

Proj- Project

MC–Mandatory Course



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**Elective – I:**

1. Digital IC Applications
2. Communication Systems
3. Computer Networks
4. Internet of Things applications to Electrical Engineering
5. VLSI Design
6. Cloud Computing

**Elective – II:**

1. Utilization of Electrical Energy
2. Data Base Management System
3. Advanced Control Systems
4. Electrical Machine Design
5. Hybrid Electric Vehicles
6. Swayam Course

**Elective – III:**

1. Operating Systems
2. Neural Networks & Fuzzy Logic
3. High Voltage Engineering
4. Energy Auditing and Demand Side Management
5. Data Analytics with Python
6. Swayam Course

**Elective – IV:**

1. Electrical Distribution Systems
2. HVAC & DC Transmission
3. Flexible Alternating Current Transmission Systems
4. Power Quality
5. Smart Grid
6. Special Electrical Machines



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**COURSE STRUCTURE-R19**

**Open Electives offered by EEE Department for Other Branches( Except for EEE Branch)**

**Open Elective-I:**

1. Renewable Energy Sources
2. Essentials of Analog and Digital Electronics
3. Electrical Estimation and Costing
4. Power Electronic Devices & Circuits
5. Fundamentals of Electrical Machines

**Open Elective-II:**

1. Measurements & Instrumentation
2. Fundamentals of Utilization of Electrical Energy
3. Concepts of Power System Engineering
4. Basics of Control Systems
5. Energy Audit