



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**  
(Established by Govt. of A.P., Act. No. 30 of 2008)  
ANANTHAPURAMU – 515 002 (A.P) INDIA

*Course Structure & Syllabus for B.Tech. (Regular)*  
*R13 Regulations*

**ELECTRICAL AND ELECTRONICS ENGINEERING**

**B.Tech. I Year**

Sl.No	Course code	Subject	Th	Tu/	Lab	Credits
1.	13A52101	Communicative English	2	-	-	3
2.	13A56101	Engineering Physics	2	-	-	3
3.	13A51101	Engineering Chemistry	2	-	-	3
4.	13A54101	Mathematics – I	3	1	-	5
5.	13A12101	Programming in C & Data Structures	3	1	-	5
6.	13A54102	Mathematics - II	3	1	-	5
7.	13A02101	Electrical Circuits	3	1	-	5
8.	13A12102	Programming in C & Data Structures Lab		-	3	4
9.	13A99102	Engineering Physics and Engineering Chemistry Lab *		-	3	4
10.	13A99103	Engineering & I.T. Workshop #		-	3	4
11.	13A52102	English Language Communication Skills Lab		-	3	4
Total Credits						45

Th = Theory; Tu = Tutorial & Lab = Laboratory

\* The students shall attend the Physics lab and Chemistry lab in alternate weeks. The end exam shall be conducted separately and average of the two exams shall be recorded by the University exam section.

# The students shall attend Engineering and IT work shop as a single lab every week and the end exam is conducted as a single lab. Sharing the Maximum marks and time for one task each from Engineering workshop and IT workshop. The sum of the marks awarded shall be recorded.

**B.Tech. II - I Semester**

S.No	Course code	Subject	Theory	Tu / Drg / Lab	Credits
1.	13A54302	Mathematics - III	3	1 - -	3
2.	13A01403	Environmental Science	3	1 - -	3
3.	13A01307	Fluid Mechanics and Hydraulic Machinery	3	1 - -	3
4.	13A04301	Electronic Devices and circuits	3	1 - -	3
5.	13A03304	Engineering Graphics	1	- 3 -	3
6.	13A02301	Electrical Machines –I	3	1 - -	3
7.	13A01406	Fluid Mechanics and Hydraulic Machinery lab	-	- - 3	2
8.	13A02302	Electric circuits and Simulation lab	-	- - 3	2
Total Credits					22

**B.Tech. II - II Semester**

S.No	Course code	Subject	Theory	Tu / Lab	Credits
1.	13A02401	Electromagnetic Fields	3	1 -	3
2.	13A02402	Control Systems Engineering	3	1 -	3
3.	13A04407	Analog Electronic Circuits	3	1 -	3
4.	13A04303	Switching Theory and logic design	3	1 -	3
5.	13A02403	Electrical Power Generating Systems	3	1 -	3
6.	13A02404	Electrical Machines –II	3	1 -	3
7.	13A02405	Electrical Machines Lab -I	-	- 3	2
8.	13A04305	Electronic Devices & Circuits lab	-	- 3	2
Total Credits					22

**B.Tech. III - I Semester**

S.No.	Course code	Subject	Theory	Tu / Lab	Credits
1.	13A52501	Managerial Economics and Financial Analysis	3	1 -	3
2.	13A02501	Electrical & Electronic Measuring Instruments	3	1 -	3
3.	13A04508	Linear & Digital IC Applications	3	1 -	3
4.	13A02502	Electrical Power Transmission Systems	3	1 -	3
5.	13A02503	Power Electronics	3	1 -	3
6.	13A02504	Electrical Machines – III	3	1 -	3
7.	13A02505	Electrical Machines Lab – II	-	- 3	2
8.	13A02506	Control Systems and Simulation Lab	-	- 3	2
9.	13A52301	Human Values & Professional Ethics (Audit course)	2	- -	-
Total Credits					22



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**Revised Course Structure for B.Tech.- R13 Regulations**

**ELECTRICAL AND ELECTRONICS ENGINEERING**

**III - II Semester**

S.No	Course code	Subject	Theory	Tu	Lab	Credits
1	13A02601	Power Semiconductor Drives	3	1	-	3
2	13A02602	Power System Protection	3	1	-	3
3	13A04601	Microprocessors and Microcontrollers	3	1	-	3
4	13A02603	Power System Operation and Control	3	1	-	3
5	13A02604	Power System Analysis	3	1	-	3
6	13A02605	<b>Choice Based Credit Courses</b> 1. Neural Networks & Fuzzy Logic	3	1	-	3
	13A02606	2. Programmable Logic Controller & Its Applications.				
	13A02607	3. Optimization Techniques				
7	13A02608	Power Systems and Simulation Lab	-	-	4	2
8	13A02609	Electrical Measurements Lab	-	-	4	2
	13A52502	Advanced English Communication Skills Lab (Audit course)			3	
9	13A02610	Comprehensive Online Examination-II	-	-	-	1
Total			18	6	11	23

  
**DIRECTOR**  
Academic & Planning  
JNT University Anantapur,  
Ananthapuramu-515 002.



## JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR

### Course Structure for Electrical and Electronics Engineering

#### B. Tech Course (2013-14)

#### IV B. Tech – I Sem

S.No.	Course Code	Subject	Theory	Tu	Lab	Credits
1	13A02701	Electrical Distribution Systems	3	1	-	3
2	13A04602	Digital Signal Processing	3	1	-	3
3	13A52702	Management Science	3	1	-	3
4	13A02702	Utilization of Electrical Energy	3	1	-	3
5	13A02703 13A02704 13A02705	CBCC-2 (Department) 1. Modern Control Theory 2. Switched Mode Power Converters 3. Energy Auditing & Demand Side Management	3	1	-	3
6	13A02706 13A02707 13A02708	CBCC -3 (Department) 1. Smart Grid 2. Flexible AC Transmission Systems 3. Power Quality	3	1	-	3
7	13A02709	Microprocessors and Microcontrollers Laboratory	-	-	4	2
8	13A02710	Power Electronics and Simulation Laboratory	-	-	4	2
<b>Total</b>			<b>18</b>	<b>06</b>	<b>08</b>	<b>22</b>



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**

**Course Structure for Electrical and Electronics Engineering**

**B. Tech Course  
(2013-14)**

**IV B. Tech – II Sem**

S.N o.	Course Code	Subject	Theory	Tu	Lab	Credits
1	13A02801 13A02802	MOOC – I* (i) Instrumentation (ii) Power System dynamics and control	3	1	-	3
2	13A02803 13A02804	MOOC – II* (i) HVDC Transmission (ii) Energy Resources & Technology	3	1	-	3
3	13A04703 13A02805	MOOC – III* (i) Embedded Systems (ii) Industrial Automation & Control	3	1	-	3
4	13A02806	Technical Seminar	-	-	4	2
5	13A02807	Project Work	-	-	24	12
		<b>Total</b>	<b>9</b>	<b>03</b>	<b>28</b>	<b>23</b>

**3 Theory + 1 Technical Seminar + 1 Project work**

**\*Either by MOOCS manner or Self study or Conventional manner**