

# KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE, WARANGAL - 15

(An Autonomous Institute under Kakatiya University, Warangal)

## SCHEME OF INSTRUCTIONS & EVALUATION FOR B.TECH. 4-YEAR DEGREE PROGRAMME

BRANCH : COMMON FOR ALL BRANCHES

SEMESTER : FIRST

S. No.	Course Code	Course Name	Periods			Credits (C)	Evaluation Scheme				
			L	T	P		CIE			ESE	Total Marks
							TA	MSE	Total		
1	U14MH101	Engineering Mathematics-I	3	1	-	4	15	25	40	60	100
2	U14CS102	Programming in C	3	1	-	4	15	25	40	60	100
3	U14PH103	Engg. Physics /	3	1	-	4	15	25	40	60	100
	U14CH103	Engg. Chemistry	3	1	-	4	15	25	40	60	100
4	U14MH104	English for Communication /	2	2	-	3	15	25	40	60	100
	U14ME104	Engineering Drawing	2	4	-	4	15	25	40	60	100
5	U14EI105	Basic Electronics Engg./	3	-	-	3	15	25	40	60	100
	U14EE105	Basic Electrical Engg.	3	-	-	3	15	25	40	60	100
6	U14ME106	Basic Mechanical Engg.	3	-	-	3	15	25	40	60	100
	U14CE106	Basic Engg. Mechanics	3	1	-	4	15	25	40	60	100
7	U14CS107	Programming in "C" Lab	-	-	3	2	40	-	40	60	100
8	U14PH108	Engg. Physics Lab /	-	-	3	2	40	-	40	60	100
	U14CH108	Engg. Chemistry Lab	-	-	3	2	40	-	40	60	100
9	U14ME109	Engg. Workshop Practice /	-	-	3	2	40	-	40	60	100
	U14CH109	Environmental Studies #	2	-	-	2	15	25	40	60	100
10	U14EA110	EAA: Physical Education & NSS #	-	-	2	1	100	-	100	-	100
		<b>Total</b>	<b>17/ 19</b>	<b>5/ 8</b>	<b>11/ 8</b>	<b>28/ 30</b>					<b>1000</b>

*Note:* L - Lectures; T- Tutorials; P - Practicals; CIE - Continuous Internal Evaluation; TA - Teachers Assessment;

MSE - Mid Semester Examination; ESE - End Semester Examination; EAA - Extra Academic Activity;

# indicates Mandatory Course

Student Contact Hours / Week : Stream - I = 33 (periods/week); Stream-II = 35 (periods/week)

Total Credits (C) : Stream - I = 28 Credits; Stream-II = 30 Credits

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**SCHEME OF INSTRUCTIONS & EVALUATION FOR B.TECH. 4-YEAR DEGREE PROGRAMME**

BRANCH : COMMON FOR ALL BRANCHES

SEMESTER : SECOND

S. No.	Course code	Course Name	Periods			Credits (C)	Evaluation Scheme				
			L	T	P		CIE			ESE	Total Marks
							TA	MSE	Total		
1	U14MH201	Engineering Mathematics-II	3	1	-	4	15	25	40	60	100
2	U14CS202	Object Oriented Programming through C++	3	1	-	4	15	25	40	60	100
3	U14CH203	Engg. Chemistry /	3	1	-	4	15	25	40	60	100
	U14PH203	Engg. Physics	3	1	-	4	15	25	40	60	100
4	U14ME204	Engineering Drawing /	2	4	-	4	15	25	40	60	100
	U14MH204	English for Communication	2	2	-	3	15	25	40	60	100
5	U14EE205	Basic Electrical Engg. /	3	-	-	3	15	25	40	60	100
	U14EI205	Basic Electronics Engg.	3	-	-	3	15	25	40	60	100
6	U14CE206	Basic Engg. Mechanics	3	1	-	4	15	25	40	60	100
	U14ME206	Basic Mechanical Engg.	3	-	-	3	15	25	40	60	100
7	U14CS207	Object Oriented Programming (OOP) Lab	-	-	3	2	40	-	40	60	100
8	U14CH208	Engg. Chemistry Lab /	-	-	3	2	40	-	40	60	100
	U14PH208	Engg. Physics Lab	-	-	3	2	40	-	40	60	100
9	U14CH209	Environmental Studies #	2	-	-	2	40	-	40	60	100
	U14ME209	Engg. Workshop Practice	-	-	3	2	15	25	40	60	100
10	U14EA210	EAA: Physical Education & NSS #	-	-	2	1	100	-	100	-	100
		<b>Total</b>	<b>19/ 17</b>	<b>8/ 5</b>	<b>8/ 11</b>	<b>30/ 28</b>					<b>1000</b>

*Note:* L - Lectures; T- Tutorials; P - Practicals; CIE - Continuous Internal Evaluation; TA - Teachers Assessment; MSE - Mid Semester Examination; ESE - End Semester Examination; EAA - Extra Academic Activity;

# indicates Mandatory Course

Student Contact Hours / Week : Stream - I = 35 (periods/week); Stream- II = 33 (periods /week)

Total Credits (C) : Stream - I = 30 Credits; Stream -II = 28 Credits

**KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE :: WARANGAL-15**

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**III SEMESTER OF 4 -YEAR B.TECH DEGREE PROGRAMME**

**ELECTRICAL & ELECTRONICS ENGINEERING**

**(6T+2L)**

Sl. No.	Course Category Code	Course Code	Course Name	Periods			Credits	Evaluation Scheme				
								CIE			ESE	Total Marks
				L	T	P		TA	MSE	Total		
1.	BS	U14MH 301	Engineering Mathematics-III	3	1	0	4	15	25	40	60	100
2.	PC	U14EE 302	Circuit Theory-I	3	1	0	4	15	25	40	60	100
3.	PC	U14IT 310	Data Structures	3	1	0	4	15	25	40	60	100
4.	PC	U14EC 304	Electronic Circuits	3	1	0	4	15	25	40	60	100
5.	PC	U14EE 305	Electrical and Electronic Measurements	3	1	0	4	15	25	40	60	100
6.	PC	U14EE 306	Electric and Magnetic Fields	3	1	0	4	15	25	40	60	100
7.	PC	U14IT 311	Data Structures Laboratory	0	0	3	2	40	-	40	60	100
8.	PC	U14EC 308	Electronic Devices and Circuits Laboratory	0	0	3	2	40	-	40	60	100
<b>Total</b>				<b>18</b>	<b>6</b>	<b>6</b>	<b>28</b>	-	-	-	-	<b>800</b>
9.	MC	U14MH 309	Compliance with Current English	2	0	0	1	100	-	100	-	100

Students Contact Hours/ Weeks : 32

Total Credits : 28

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**IV SEMESTER OF 4 -YEAR B.TECH DEGREE PROGRAMME**  
**ELECTRICAL & ELECTRONICS ENGINEERING**

(5T+3L)

Sl.No.	Course Category Code	Course Code	Course Name	Periods			Credits	Evaluation Scheme				
								CIE			ESE	Total Marks
				TA	MSE	Total						
1.	BS	U14MH 401	Engineering Mathematics-IV	3	1	0	4	15	25	40	60	100
2.	PC	U14EE 402	Electrical Machines-I	3	1	0	4	15	25	40	60	100
3.	PC	U14EE 403	Circuit Theory-II	3	1	0	4	15	25	40	60	100
4.	PC	U14EI 405	Linear Integrated Circuits	3	1	0	4	15	25	40	60	100
5.	PC	U14EI 410	Digital Electronics	3	1	0	4	15	25	40	60	100
6.	PC	U14EE 407	Electrical and Electronic Measurements Laboratory	0	0	3	2	40	-	40	60	100
7.	PC	U14EE 411	Circuits and Simulation Laboratory	0	0	3	2	40	-	40	60	100
8.	PC	U14EI 412	Integrated Circuits Laboratory	0	0	3	2	40	-	40	60	100
<b>Total</b>				<b>15</b>	<b>5</b>	<b>9</b>	<b>26</b>	-	-	-	-	<b>800</b>
9.	MC	U14MH 409	Soft and Interpersonal Skills	2	0	0	1	100	-	100	-	100
10.	MC #	U14CH 209	Environmental Studies	2	0	0	2	15	25	40	60	100

Students Contact Hours/ Weeks : 31+2#

Total Credits : 26

# For Lateral Entry Students only

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**V SEMESTER OF 4 -YEAR B.TECH DEGREE PROGRAMME**

**ELECTRICAL & ELECTRONICS ENGINEERING**

**(5T+3L)**

Sl. No.	Course Category Code	Course Code	Course Name	Periods			Credits	Evaluation Scheme				
								CIE			ESE	Total Marks
				TA	MSE	Total						
1.	PC	U14EE 501	Electrical Machines-II	3	1	0	4	15	25	40	60	100
2.	PC	U14EE 502	Power Systems-I	3	1	0	4	15	25	40	60	100
3.	PC	U14EE 503	Power Electronics	3	1	0	4	15	25	40	60	100
4.	PC	U14EE 506	Control Systems Engineering	3	1	0	4	15	25	40	60	100
5.	PC	U14EC 510	Microprocessors and Microcontroller Systems	3	1	0	4	15	25	40	60	100
6.	PC	U14EE 507	Electrical Machines-I Laboratory	0	0	3	2	40	-	40	60	100
7.	PC	U14EE 508	Control Systems Laboratory	0	0	3	2	40	-	40	60	100
8.	PC	U14EC 511	Microprocessors and Microcontroller Laboratory	0	0	3	2	40	-	40	60	100
9.	PR	U14EE 509	Seminar	0	0	0	1	-	-	100	-	100
<b>Total</b>				<b>15</b>	<b>5</b>	<b>9</b>	<b>27</b>			<b>420</b>	<b>480</b>	<b>900</b>

Students Contact Hours/ Weeks : **29**

Total Credits : **27**

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**VI SEMESTER OF 4 -YEAR B.TECH DEGREE PROGRAMME**  
**ELECTRICAL & ELECTRONICS ENGINEERING**

(6T+2L)

Sl. No.	Course Category Code	Course Code	Course Name	Periods			Credits	Evaluation Scheme				
								CIE			ESE	Total Marks
				TA	MSE	Total						
1.	OE	U14 OE 601	Open Elective-I	4	0	0	4	15	25	40	60	100
2.	PC	U14EE 602	Power Systems-II	3	1	0	4	15	25	40	60	100
3.	PC	U14EI 603	Digital Signal Processing	3	1	0	4	15	25	40	60	100
4.	PC	U14EE 604	Power Semiconductor Drives	3	1	0	4	15	25	40	60	100
5.	PC	U14EE 605	Utilization of Electrical Energy	3	1	0	4	15	25	40	60	100
6.	PE	U14EE 606	Professional Elective-I	4	0	0	4	15	25	40	60	100
7.	PC	U14EE 607	Power Electronics and Simulation Laboratory	0	0	3	2	40	-	40	60	100
8.	PC	U14EE 608	Electrical Machines-II Laboratory	0	0	3	2	40	-	40	60	100
9.	PR	U14EE 609	Mini Project Work	0	0	0	2	-	-	100	-	100
<b>Total</b>				<b>20</b>	<b>4</b>	<b>6</b>	<b>30</b>	<b>-</b>	<b>-</b>	<b>420</b>	<b>480</b>	<b>900</b>

Students Contact Hours/ Weeks : 30

Total Credits : 30

**Open Elective-I**

OE 601A: Disaster Management

OE 601B: Project Management

OE 601C: Professional Ethics in Engineering

OE 601D: Rural Technology and Community Developments

**Professional Elective-I**

EE 606A: Advanced Control Systems

EE 606B: High Voltage Engineering

EE 606C: Switched Mode Power Conversion

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**VII SEMESTER OF 4 -YEAR B.TECH DEGREE PROGRAMME**  
**ELECTRICAL & ELECTRONICS ENGINEERING**

(5T+2L)

Sl. No.	Course Category Code	Course Code	Course Name	Periods			Credits	Evaluation Scheme				
								CIE			ESE	Total Marks
				L	T	P		TA	MSE	Total		
1.	HS	U14MH 701	Management , Economics and Accountancy	3	1	0	4	15	25	40	60	100
2.	PC	U14EE 702	Power System Operation and Control	3	1	0	4	15	25	40	60	100
3.	PC	U14EE 703	Power System Protection	3	1	0	4	15	25	40	60	100
4.	PE	U14EE 704	Professional Elective-II	4	0	0	4	15	25	40	60	100
5.	PE	U14EE 705	Professional Elective-III	4	0	0	4	15	25	40	60	100
6.	PC	U14EE 706	Electric Drives Laboratory	0	0	3	2	40	-	40	60	100
7.	PC	U14EE 707	Electrical Simulation Laboratory	0	0	3	2	40	-	40	60	100
8.	PR	U14EE708	Major Project Work <i>Phase-I</i>	0	0	8	4	-	-	100	-	100
<b>Total</b>				<b>17</b>	<b>3</b>	<b>14</b>	<b>28</b>	<b>-</b>	<b>-</b>	<b>380</b>	<b>420</b>	<b>800</b>

Students Contact Hours/ Weeks : 34

Total Credits : 28

**Professional Elective-II**

EE704A: AI Techniques in Electrical Engineering

EE704B: Embedded Systems

EE704C: Special Purpose Machines

**Professional Elective-III**

EE 705A: HVDC and FACTS

EE 705B: Power System Deregulation

EE 705C: Distribution System Planning and Automation

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**VIII SEMESTER OF 4 -YEAR B.TECH DEGREE PROGRAMME**

**ELECTRICAL & ELECTRONICS ENGINEERING**

(4T+2L)

Sl. No.	Course Category Code	Course Code	Course Name	Periods			Credits	Evaluation Scheme				
								CIE			ESE	Total Marks
				TA	MSE	Total						
1.	OE	U14 OE801	Open Elective-II	4	0	0	4	15	25	40	60	100
2.	PC	U14EE 802	Renewable Energy Systems	3	1	0	4	15	25	40	60	100
3.	PE	U14EE 803	Professional Elective-IV	4	0	0	4	15	25	40	60	100
4.	PE	U14EE 804	Professional Elective-V	4	0	0	4	15	25	40	60	100
5.	PC	U14EE 805	Power Systems Laboratory	0	0	3	2	40	-	40	60	100
6.	PC	U14EE 806	Renewable Energy Systems Laboratory	0	0	3	2	40	-	40	60	100
7.	PR	U14EE 807	Major Project Work <i>Phase-II</i>	0	0	13	7	-	-	40	60	100
<b>Total</b>				<b>15</b>	<b>1</b>	<b>19</b>	<b>27</b>	<b>-</b>	<b>-</b>	<b>280</b>	<b>420</b>	<b>700</b>

Students Contact Hours/ Weeks : **35**

Total Credits : **27**

**Open Elective-II**

OE 801A: Operations Research

OE 801B: Management Information Systems

OE 801C: Entrepreneurship Development

OE801D: Forex and Foreign Trade

**Professional Elective-V:**

EE 804A: Computer Methods in Power Systems

EE 804B: Smart Electric Grid

EE 804C: Design of Electrical Machines

**Professional Elective-IV:**

EE 803A: Digital Control Systems

EE 803B: Advance Power System Protection

EE 803C: Real Time Control of Power Systems