Department of Electrical Engineering

B. Tech. 1st Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	IDC1	NMCI101	Engineering Mathematics - I	3-0-0	Theory	3
2	IDC2	NPHI101	Engineering Physics	3-0-0	Theory	3
3	IDC3	NPHI102	Engineering Physics Lab	0-0-2	Practical	1
4	DSC1	NEEC101	Basics of Electrical Engineering - I	3-0-0	Theory	3
5	DSC2	NEEC102	Basics of Electrical Engineering - I Lab	0-0-2	Practical	1
6	ESC1	NECE101	Basics of Electronics Engineering	3-0-0	Theory	3
7	AEC1	NHSA101	Communication Skills	1-0-0	Theory	1
8	AEC2	NHSA102	Communication Skills Lab	0-0-2	Practical	1
9	SEC1	NCES101	Engineering Graphics	1-0-3	Theory	2.5
10	VAC1	NESV101	Environmental Science	3-0-0	Theory	3
						21.5

B. Tech. 2nd Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	IDC4	NMCI102	Engineering Mathematics - II	3-0-0	Theory	3
2	DSC3	NEEC103	Basics of Electrical Engineering - II	3-0-0	Theory	3
3	DSC4	NEEC104	Basics of Electrical Engineering - II Lab	0-0-2	Practical	1
4	ESC2	NCSE102	Introduction to Algorithms	3-0-0	Theory	3
5	AEC3	NHSA103	Understanding Human Behaviour	2-1-0	Theory	3
6	SEC2	NMES101	Manufacturing Process	2-0-3	Theory	3.5
7	VAC2	NCSV101	Computer Programming	3-0-0	Theory	3
8	VAC3	NCSV102	Computer Programming Lab	0-0-2	Practical	1
						20.5

B. Tech. 3rd Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC3	NEEC201	Signals, Systems and Networks	3-1-0	Theory	4
2	DC4	NEEC202	Analog and Digital Electronics	3-1-0	Theory	4
3	DC5	NEEC203	Electromagnetic Theory and Applications	3-1-0	Theory	4
4	DP3	NEEC204	Networks Laboratory	0-0-2	Practical	1
5	DP4	NEEC205	Analog and Digital Electronics Laboratory	0-0-2	Practical	1
6	ESC3	NEEE201	Utilization of Electrical Energy	3-0-0	Theory	3
7	AEC4	NEEA201	Numerical Simulation in Electrical Engineering	3-0-0	Theory	3
						20

B. Tech. 4th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC6	NEEC206	Electrical Machines I	3-1-0	Theory	4
2	DC7	NEEC207	Control System Engineering	3-1-0	Theory	4
3	DC8	NEEC208	Power System Engineering	3-1-0	Theory	4
4	DP5	NEEC209	Control Systems Laboratory	0-0-2	Practical	1
5	DP6	NEEC210	Elelctrical Machines and Power Laboratory	0-0-2	Practical	1
6	ESC4	NEEE202	Applied Electrical Engineering	3-0-0	Theory	3
7	SEC4	NEES201	Applications of Modern Processors in Electrical Engineering	3-0-0	Theory	3
						20

B. Tech. 5th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC9	NEEC301	Electrical Machines II	3-1-0	Theory	4
2	DC10	NEEC302	Power Electronics	3-1-0	Theory	4
3	DE1		*To be chosen from the pool.*	3-0-0	Theory	3
4	DP7	NEEC303	Electrical Machine II Laboratory	0-0-2	Practical	1
5	DP8	NEEC304	Power Electronics Laboratory	0-0-2	Practical	1
6	HSSE1		*To be chosen from the HSS pool. HSS department to contribute courses to the pool below.*	3-0-0	Theory	3
7	DC1 (Minor)/ DC1 (Hons)			3-1-0	Theory	4
8	SDC1 (Minor)/ DP1 (Hons)			0-0-3	Practical	1.5
						21.5

B. Tech. 6th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC11	NEEC305	Power System Analysis and Control	3-1-0	Theory	4
2	DC12	NEEC306	Electric Drives and Applications	3-1-0	Theory	4
3	DE2		*To be chosen from the pool.*	3-0-0	Theory	3
4	DP9	NEEC307	Electrical Drives Lab	0-0-2	Practical	1
5	HSSE2		*To be chosen from the HSS pool. HSS department to contribute courses to the pool below.*	3-0-0	Theory	3
6	DC2 (Minor)/ DC2 (Hons)			3-1-0	Theory	4
7	SDC2 (Minor)/ DP2 (Hons)			0-0-3	Practical	1.5
						20.5

B. Tech. 7th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DE3		*To be chosen from the pool.*	3-0-0	Theory	3
2	DE4		*To be chosen from the pool.*	3-0-0	Theory	3
3	DC3 (Minor)/ DC3 (Hons)			3-1-0	Theory	4
4	SDC3 (Minor)/ DP3 (Hons)			0-0-3	Practical	1.5
5	Project	NEEC401	Project - I	8-0-0	Project	8
6	Internship	NEES401	Internship	0-0-0	Internship	4
						23.5

B. Tech. 8th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC4 (Minor)/ DC4 (Hons)			3-1-0	Theory	4
2	DC5 (Minor)/ DC5 (Hons)			3-1-0	Theory	4
3	SDC4 (Minor)/ DP4 (Hons)			0-0-3	Practical	1.5
4	Project	NEEC402	Project - II	8-0-0	Project	8
						17.5

POOLS/TABLES

MINOR TABLE

Title of Minor			Electrical Technology				
Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**	**Semester**
1	DC1 (Minor)	NEEC201	Signals, Systems and Networks	3-1-0	Theory	4	5
2	SDC1 (Minor)	NEEM301	Computer Aided Simulation of Electrical Systems Laboratory	0-0-3	Practical	1.5	5
3	DC2 (Minor)	NEEC206	Electrical Machines I	3-1-0	Theory	4	6
4	SDC2 (Minor)	NEEM302	Embedded Systems and PCB Design Laboratory	0-0-3	Practical	1.5	6
5	DC3 (Minor)	NEEC302	Power Electronics	3-1-0	Theory	4	7
6	SDC3 (Minor)	NEEM401	Virtual Instrumentation using GUI based Programming Laboratory	0-0-3	Practical	1.5	7
7	DC4 (Minor)	NEEC207	Control System Engineering	3-1-0	Theory	4	8
8	DC5 (Minor)	NEEC208	Power System Engineering	3-1-0	Theory	4	8
9	SDC4 (Minor)	NEEM402	Software based Electromagnetic Design Laboratory	0-0-3	Practical	1.5	8
						26 - Minor	

HONORS TABLE

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC1 (Hons)	NEEH301	Microprocessors and Microcontrollers	3-1-0	Theory	4
2	DP1 (Hons)	NEEH302	Microprocessors and Microcontrollers Laboratory	0-0-3	Practical	1.5
3	DC2 (Hons)	NEEH303	Electrical Measurements	3-1-0	Theory	4
4	DP2 (Hons)	NEEH304	Electrical Measurements Laboratory	0-0-3	Practical	1.5
5	DC3 (Hons)	NEEH401	Modern Control	3-1-0	Theory	4
6	DP3 (Hons)	NEEH402	Modern Control Laboratory	0-0-3	Practical	1.5
7	DC4 (Hons)	NEEH403	Special Purpose Electric Machines and Drives	3-1-0	Theory	4
8	DC5 (Hons)	NEEH404	Reactive Power and Voltage Control	3-1-0	Theory	4
9	DP4 (Hons)	NEEH405	Power and Switchgear Laboratory	0-0-3	Practical	1.5
						26 - Hons.

POOL of ESC (except MS & HSS)

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits	Semester
1	ESC3	NEEE201	Utilization of Electrical Energy	3-0-0	Theory	3	3
2	ESC4	NEEE202	Applied Electrical Engineering	3-0-0	Theory	3	4

POOL of AEC (except HSS)

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	AEC	NEEA201	Numerical Simulation in Electrical Engineering	3-0-0	Theory	3
2	AEC			3-0-0	Theory	3

POOL of SEC (except HSS)

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits	Semester
1	SEC			3-0-0	Theory	3	3
2	SEC	NEES201	Applications of Modern Processors in Electrical Engineering	3-0-0	Theory	3	4

POOL of UG DE course

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits	Level of Course
1	DE	NEED301	Renewable Energy Systems and Energy Audit	3-0-0	Theory	3	**3**
2	DE	NEED302	High Voltage Engineering and Applications	3-0-0	Theory	3	**3**
3	DE	NEED303	Condition Monitoring of Electrical Machines	3-0-0	Theory	3	**3**
4	DE	NEED304	Instrumentation	3-0-0	Theory	3	**3**
5	DE	NEED305	Industrial Utilization of Electrical Power	3-0-0	Theory	3	**3**
6	DE	NEED306	Modern Sensors and Signal Conditioning Circuits	3-0-0	Theory	3	**3**
7	DE	NEED401	Industrial Power Electronics	3-0-0	Theory	3	**4**
8	DE	NEED402	Industrial Automation	3-0-0	Theory	3	**4**
9	DE	NEED403	Power System Protection and Switchgear	3-0-0	Theory	3	**4**
10	DE	NEED404	Digital Signal Processing	3-0-0	Theory	3	**4**
11	DE	NEED405	Hydrogen Energy Technologies	3-0-0	Theory	3	**4**