



B.TECH: ELECTRICAL ENGINEERING

Specialization in

HYBRID & ELECTRIC VEHICLES

Department of Electrical Engineering

University of Engineering & Management Jaipur

SCHEME – SEMESTER WISE COURSE ALLOCATION

First Semester Syllabus

Sl No.	Type	Subject Code	Topic	L	T	P	Credit Points
1	BSC	BSC006	Chemistry	3	1	3	5.5
2	BSC	BSC---	Mathematics	3	1	0	4
3	GE	EEC101	Basic Electrical Engineering	3	0	2	4
4	GE	MEC101	Engineering Graphics & Design	1	0	4	3
5	CC	ECC101	Basic Electronics Engineering	2	0	0	2
6	GS	GSC101	ESP & SDP - I	0	1	0	1
Total							19.5

Students will undergo a mandatory induction program

Suggestive Choice Based Subjects

Sl No.	Type	Subject Code	Topic	L	T	P	Credit Points
1	BSC	BSC001	Physics - Semiconductor physics	3	1	3	5.5
2	BSC	BSC002	Physics - Introduction to Electromagnetic Theory	3	1	3	5.5
3	BSC	BSC003	Physics - Introduction to Mechanics	3	1	3	5.5
4	BSC	BSC004	Physics - Quantum Mechanics for Engineers	3	1	3	5.5
5	BSC	BSC005	Physics - Oscillation, Waves and Optics	3	1	3	5.5
6	BSC	BSC006	Chemistry	3	1	3	5.5
7	BSC	BSC007	Mathematics - Calculus and Vector Calculus	3	1	0	4
8	BSC	BSC008	Mathematics - Calculus & Differential Equation	3	1	0	4
9	BSC	BSC009	Mathematics - Probability and Statistics	3	1	0	4
10	BSC	BSC010	Mathematics - Discrete Mathematics	3	1	0	4
11	BSC	BSC011	Mathematics - Transform Calculus, Numerical Methods & Complex Variable	3	1	0	4
12	BSC	BSC012	Mathematics - Probability, Statistics & Stochastic Process	3	1	0	4
13	BSC	BSC013	Mathematics - Graph Theory	3	1	0	4

Second Semester Syllabus

Sl No.	Type	Subject Code	Topic	L	T	P	Credit Points
1	BSC	BSC---	Physics	3	1	3	5.5
2	BSC	BSC---	Mathematics	3	1	0	4
3	GE	CSC201	Programming for Problem Solving (C Programming)	3	0	3	4.5
4	GE	MEC202	Workshop/Manufacturing Practices	1	0	4	3
5	HSM	HSM001	English	2	0	2	3
6	NPT	NPT201	(NPTEL)	0	0	0	1
7	GS	GSC202	ESP & SDP - II	0	2	0	2
8	INT	INT201	Inter/Intra Institutional Activity	0	0	6	3
Total							26

NPTEL courses are based on the respective year's offered course

Suggestive Choice Based Subjects

Sl No.	Type	Subject Code	Topic	L	T	P	Credit Points
1	BSC	BSC001	Physics - Semiconductor physics	3	1	3	5.5
2	BSC	BSC002	Physics - Introduction to Electromagnetic Theory	3	1	3	5.5
3	BSC	BSC003	Physics - Introduction to Mechanics	3	1	3	5.5
4	BSC	BSC004	Physics - Quantum Mechanics for Engineers	3	1	3	5.5
5	BSC	BSC005	Physics - Oscillation, Waves and Optics	3	1	3	5.5
6	BSC	BSC006	Chemistry	3	1	3	5.5
7	BSC	BSC007	Mathematics - Calculus and Vector Calculus	3	1	0	4
8	BSC	BSC008	Mathematics - Calculus & Differential Equation	3	1	0	4
9	BSC	BSC009	Mathematics - Probability and Statistics	3	1	0	4
10	BSC	BSC010	Mathematics - Discrete Mathematics	3	1	0	4
11	BSC	BSC011	Mathematics - Transform Calculus, Numerical Methods & Complex Variable	3	1	0	4
12	BSC	BSC012	Mathematics - Probability, Statistics & Stochastic Process	3	1	0	4
13	BSC	BSC013	Mathematics - Graph Theory	3	1	0	4

Third Semester Syllabus (EE)

Sl No.	Type	Subject Code	Topic	L	T	P	Credit Points
1	CC	EEC301	Electrical Circuit Analysis	3	1	2	5
2	CC	EEC302	Electrical Machine-I	3	0	2	4
3	BSC	BSC---	Mathematics	3	0	0	3
4	GE	EEC303	Analog Electronics	3	1	2	5
5	GE	CSC303	Data Structure & Algorithms	3	0	0	3
6	NPT	NPT301	(NPTEL)	0	0	0	1
7	GS	GSC303	ESP & SDP - III	0	1	0	1
Total							22

NPTEL courses are based on the respective year's offered course

Suggestive Choice Based Subjects

Sl No.	Type	Subject Code	Topic	L	T	P	Credit Points
1	BSC	BSC007	Mathematics - Calculus and Vector Calculus	3	1	0	4
2	BSC	BSC008	Mathematics - Calculus & Differential Equation	3	1	0	4
3	BSC	BSC009	Mathematics - Probability and Statistics	3	1	0	4
4	BSC	BSC010	Mathematics - Discrete Mathematics	3	1	0	4
5	BSC	BSC011	Mathematics - Transform Calculus, Numerical Methods & Complex Variable	3	1	0	4
6	BSC	BSC012	Mathematics - Probability, Statistics & Stochastic Process	3	1	0	4
7	BSC	BSC013	Mathematics - Graph Theory	3	1	0	4

Fourth Semester Syllabus (EE)

Sl No.	Type	Subject Code	Topic	L	T	P	Credit Points
1	CC	EEC401	Control System	3	0	2	4
2	CC	EEC402	Electrical Machine-II	3	0	2	4
3	CC	EEC403	Electrical Measurement and Instrumentation	3	0	2	4
4	DE	EED404	Digital Electronics	3	0	2	4
5	BSC	BSC---	Mathematics	3	0	0	3
6	BSC	BSC015	Biology	3	0	0	3
7	GS	GSC404	ESP & SDP - IV	0	1	0	1
8	INT	INT401	Internship/Industrial Training	0	0	8	4
9	NPT	NPT401	(NPTEL)	0	0	0	1
Total							28

NPTEL courses are based on the respective year's offered course

Suggestive Choice Based Subjects

Sl No.	Type	Subject Code	Topic	L	T	P	Credit Points
1	BSC	BSC007	Mathematics - Calculus and Vector Calculus	3	1	0	4
2	BSC	BSC008	Mathematics - Calculus & Differential Equation	3	1	0	4
3	BSC	BSC009	Mathematics - Probability and Statistics	3	1	0	4
4	BSC	BSC010	Mathematics - Discrete Mathematics	3	1	0	4
5	BSC	BSC011	Mathematics - Transform Calculus, Numerical Methods & Complex Variable	3	1	0	4
6	BSC	BSC012	Mathematics - Probability, Statistics & Stochastic Process	3	1	0	4
7	BSC	BSC013	Mathematics - Graph Theory	3	1	0	4

Fifth Semester Syllabus (EE)

Sl No.	Type	Subject Code	Topic	L	T	P	Credit Points
1	CC	EEC505	Power Electronics	3	0	2	4
2	CC	EEC506	Power System-I	3	0	2	4
3	DE	EED507	Electromagnetic Fields	3	0	0	3
4	GE	EED508	Sustainable and Renewable Energy Technology	3	0	2	4
5	GE	ECC408	Microprocessor & Microcontrollers	3	0	2	4
6	HSM	HSM---	Humanities	3	0	0	3
7	GS	GSC505	ESP & SDP - V	0	1	0	1
8	NPT	NPT501	(NPTEL)	0	0	0	1
9	MC	MC001	Environmental Science	0	0	0	0
10	CC	EEC598	Modelling and simulation lab	0	0	2	1
Total							25

NPTEL courses are based on the respective year's offered course

Suggestive Choice Based Subjects

Sl No.	Type	Subject Code	Topic	L	T	P	Credit Points
1	HSM	HSM004	Industrial Psychology	3	0	0	3
2	HSM	HSM013	Values and Ethics in Profession	3	0	0	3
3	HSM	HSM014	E-Commerce	3	0	0	3

Sixth Semester Syllabus (EE)

Sl No.	Type	Subject Code	Topic	L	T	P	Credit Points
1	CC	EEC601	Power System-II	3	0	2	4
2	CC	EEC602	Electrical Materials	3	0	0	3
3	DE	EED603	Electric and Hybrid Vehicle	3	0	0	3
4	DE	EED604	Signal & Systems	3	0	0	3
5	DE	CSC507	Electrical Machine Design	3	0	2	4
6	GE	CSD301	Smart Grid	3	0	2	4
7	GS	GSC606	ESP & SDP - VI	0	1	0	1
8	INT	INT601	Internship/ Industrial Training	0	0	0	4
9	NPT	NPT601	(NPTEL)	0	0	0	1
10	MC	MC002	Disaster Management	0	0	0	0
			Total				27

#Students will undergo project/training/internship in the industry / research organization / reputed Institute during the vacation

NPTEL courses are based on the respective year's offered course

Seventh Semester Syllabus (EE)

Sl No.	Type	Subject Code	Topic	L	T	P	Credit Points
1	CC	EEC701	Energy Storage Technology	3	0	0	3
2	DE	EED702	Power Quality and FACTS	3	0	0	3
3	DE	EED703	Industrial Automation and Robotics	3	0	2	4
4	DE	EED704	Electric Vehicle Technology	3	0	0	3
5	HSM	HSM---	Humanities	0	0	0	2
6	GS	GSC707	ESP & SDP - VII	0	1	0	1
7	DE	EED795	Computer Based Power System Lab	0	0	2	1
Total							17

Students will undergo project/training/internship in the industry / research organization / reputed Institute during the vacation

Suggestive Choice Based Subjects

Sl No.	Type	Subject Code	Topic	L	T	P	Credit Points
1	HSM	HSM010	Professional Practice, Law & Ethics	3	0	0	3
2	HSM	HSM011	Human Resource Development and Organizational Behavior	3	0	0	3
3	HSM	HSM003	Organizational Behavior	3	0	0	3
4	HSM	HSM006	Economics for Engineers	3	0	0	3

Eighth Semester Syllabus (EE)

Sl No.	Type	Subject Code	Topic	L	T	P	Credit Points
1	GE	EED807	Smart Electrical Networks and Intelligent Communication Systems	3	0	2	4
2	DE	EED801	ICT Enabled Power System Protection	3	0	0	3
3	DE	EED802	Electrical Energy Conservation and Auditing	3	0	0	3
4	GS	GSC808	ESP & SDP - VIII	0	1	0	1
5	INT	INT801	Internship/ Industrial Training	0	0	8	4
Total							15

