



K.S. SCHOOL OF ENGINEERING AND MANAGEMENT, BANGALORE - 560109
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

KSSEM

NAME OF THE STAFF : ARUN KUMAR M
 COURSE CODE/TITLE : 15EC73/POWER ELECTRONICS
 SEMESTER/YEAR : VII A / IV
 ACADEMIC YEAR : 2019-2020

Sl. No.	Topic to be covered	Mode of Delivery	Teaching Aid	No. of Periods	Cumulative No. of Periods	Proposed Date	Engaged Date
MODULE 1							
1	Introduction - Applications of Power Electronics	L+D	BB+LCD	1	1	5/8/2019	5/8/19
2	Power Semiconductor Devices	L+D	BB+LCD	1	2	6/8/2019	6/8/19
3	Control Characteristics of Power Devices	L+D	BB+LCD	1	3	7/8/2019	7/8/19
4	types of Power Electronic Circuits	L+D	BB+LCD	1	4	8/8/2019	8/8/19
5	Peripheral Effects	L+D	BB+LCD	1	5	10/8/2019	10/8/19
6	<i>Tutorial</i>	L+D	BB+LCD	0	5	13/8/2019	13/8/19
MODULE 2							
7	Thyristors - Introduction	L+D	BB+LCD	1	6	14/8/2019	14/8/19
8	Principle of Operation of SCR, Static Anode-Cathode Characteristics of SCR,	L+D	BB+LCD	1	7	16/8/2019	16/8/19
9	Two transistor model of SCR, Gate Characteristics of SCR	L+D	BB+LCD	1	8	17/8/2019	20/8/19
10	Turn-ON Methods, Turn-OFF Mechanism,	L+D	BB+LCD	1	9	19/8/2019	21/8/19
11	Turn-OFF Methods: Natural and Forced	L+D	BB		10	20/8/2019	22/8/19
12	<i>Tutorial</i>	L+D	BB	0	10	21/8/2019	-
13	Commutation - Class A	L+D	BB+LCD	1	11	22/8/2019	23/8/19
14	Class B types	L+D	BB	1	12	23/8/2019	26/8/19
15	Resistance Firing Circuit	L+D	BB	1	13	26/8/2019	27/8/19
16	<i>Tutorial</i>	L+D	BB	0	13	27/8/2019	28/8/19
17	Resistance capacitance firing circuit	L+D	BB	1	14	28/8/2019	30/8/19
18	UJT Firing Circuit	L+D	BB	1	15	29/8/2019	31/8/19
19	<i>Tutorial</i>	L+D	BB	0	15	30/8/2019	6/9/19
MODULE 3							
20	Controlled Rectifiers -	L+D	BB	1	16	31/8/2019	16/9/19

	Introduction						
21	Principle of Phase-Controlled Converter Operation	L+D	BB	1	17	6/9/2019	17/9/19
22	Single-Phase Full Converter with RL Load	L+D	BB	1	18	9/9/2019	18/9/19
23	Single-Phase Dual Converters	L+D		1	19	11/9/2019	19/9/19
24	Single-Phase Semi Converter with RL load.	L+D	BB	1	20	12/9/2019	20/9/19
25	<i>Tutorial</i>	L+D	BB	0	20	13/9/2019	23/9/19
26	AC Voltage Controllers - Introduction	L+D	BB	1	21	14/9/2019	24/9/19
27	Principles of ON-OFF Control	L+D	BB	1	22	16/9/2019	25/9/19
28	Principle of Phase Control	L+D	BB	1	23	17/9/2019	26/9/19
29	Single phase controllers with resistive	L+D	BB	1	24	18/9/2019	27/9/19
30	Single phase controllers inductive loads	L+D	BB	1	25	19/9/2019	30/9/19
31	<i>Tutorial</i>	L+D	BB	0	25	20/09/19	1/10/19
MODULE 1							
32	Power Transistors: Power BJTs: Steady state characteristics	L+D	BB	1	26	23/09/19	3/10/19
33	Power MOSFETs: device operation, switching characteristics	L+D	BB	1	27	24/9/2019	4/10/19
34	<i>Tutorial</i>	L+D	BB	0	28	25/9/2019	5/10/19
35	IGBTs: device operation	L+D	BB	1	28	26/9/2019	14/10/19
36	output and transfer characteristics	L+D	BB+LCD	1	29	27/9/2019	15/10/19
37	di/dt and dv/dt limitations.	L+D		1	30	30/9/2019	16/10/19
38	<i>Tutorial</i>	L+D		0	30	1/10/2019	17/10/19
MODULE 4							
39	DC-DC Converters - Introduction	L+D	BB	1	31	3/10/2019	21/10/19
40	Principle of step-down operation and it's analysis with RL load	L+D	BB	1	32	4/10/2019	22/10/19
41	Principle of step-up operation	L+D	BB	1	33	5/10/2019	28/10/19
42	<i>Tutorial</i>	L+D	BB	0	33	9/10/2019	30/10/19
43	Step-up converter with a resistive load	L+D	BB	1	34	10/10/2019	31/10/19
44	Performance parameters, Converter classification	L+D	BB	1	35	11/10/2019	4/11/19

	Introduction						
21	Principle of Phase-Controlled Converter Operation	L+D	BB	1	17	6/9/2019	17/9/19
22	Single-Phase Full Converter with RL Load	L+D	BB	1	18	9/9/2019	18/9/19
23	Single-Phase Dual Converters	L+D		1	19	11/9/2019	19/9/19
24	Single-Phase Semi Converter with RL load.	L+D	BB	1	20	12/9/2019	20/9/19
25	<i>Tutorial</i>	L+D	BB	0	20	13/9/2019	23/9/19
26	AC Voltage Controllers - Introduction	L+D	BB	1	21	14/9/2019	24/9/19
27	Principles of ON-OFF Control	L+D	BB	1	22	16/9/2019	25/9/19
28	Principle of Phase Control	L+D	BB	1	23	17/9/2019	26/9/19
29	Single phase controllers with resistive	L+D	BB	1	24	18/9/2019	27/9/19
30	Single phase controllers inductive loads	L+D	BB	1	25	19/9/2019	30/9/19
31	<i>Tutorial</i>	L+D	BB	0	25	20/09/19	1/10/19
MODULE 1							
32	Power Transistors: Power BJTs: Steady state characteristics	L+D	BB	1	26	23/09/19	3/10/19
33	Power MOSFETs: device operation, switching characteristics	L+D	BB	1	27	24/9/2019	4/10/19
34	<i>Tutorial</i>	L+D	BB	0	28	25/9/2019	5/10/19
35	IGBTs: device operation	L+D	BB	1	28	26/9/2019	14/10/19
36	output and transfer characteristics	L+D	BB+LCD	1	29	27/9/2019	15/10/19
37	di/dt and dv/dt limitations.	L+D		1	30	30/9/2019	16/10/19
38	<i>Tutorial</i>	L+D		0	30	1/10/2019	17/10/19
MODULE 4							
39	DC-DC Converters - Introduction	L+D	BB	1	31	3/10/2019	21/10/19
40	Principle of step-down operation and it's analysis with RL load	L+D	BB	1	32	4/10/2019	22/10/19
41	Principle of step-up operation	L+D	BB	1	33	5/10/2019	28/10/19
42	<i>Tutorial</i>	L+D	BB	0	33	9/10/2019	30/10/19
43	Step-up converter with a resistive load	L+D	BB	1	34	10/10/2019	31/10/19
44	Performance parameters, Converter classification	L+D	BB	1	35	11/10/2019	4/11/19

	Introduction						
21	Principle of Phase-Controlled Converter Operation	L+D	BB	1	17	6/9/2019	17/9/19
22	Single-Phase Full Converter with RL Load	L+D	BB	1	18	9/9/2019	18/9/19
23	Single-Phase Dual Converters	L+D		1	19	11/9/2019	19/9/19
24	Single-Phase Semi Converter with RL load.	L+D	BB	1	20	12/9/2019	20/9/19
25	<i>Tutorial</i>	L+D	BB	0	20	13/9/2019	23/9/19
26	AC Voltage Controllers - Introduction	L+D	BB	1	21	14/9/2019	24/9/19
27	Principles of ON-OFF Control	L+D	BB	1	22	16/9/2019	25/9/19
28	Principle of Phase Control	L+D	BB	1	23	17/9/2019	26/9/19
29	Single phase controllers with resistive	L+D	BB	1	24	18/9/2019	27/9/19
30	Single phase controllers inductive loads	L+D	BB	1	25	19/9/2019	30/9/19
31	<i>Tutorial</i>	L+D	BB	0	25	20/09/19	1/10/19
MODULE 1							
32	Power Transistors: Power BJTs: Steady state characteristics	L+D	BB	1	26	23/09/19	3/10/19
33	Power MOSFETs: device operation. switching characteristics	L+D	BB	1	27	24/9/2019	4/10/19
34	<i>Tutorial</i>	L+D	BB	0	28	25/9/2019	5/10/19
35	IGBTs: device operation	L+D	BB	1	28	26/9/2019	14/10/19
36	output and transfer characteristics	L+D	BB+LCD	1	29	27/9/2019	15/10/19
37	di/dt and dv/dt limitations.	L+D		1	30	30/9/2019	16/10/19
38	<i>Tutorial</i>	L+D		0	30	1/10/2019	17/10/19
MODULE 4							
39	DC-DC Converters - Introduction	L+D	BB	1	31	3/10/2019	21/10/19
40	Principle of step-down operation and it's analysis with RL load	L+D	BB	1	32	4/10/2019	22/10/19
41	Principle of step-up operation	L+D	BB	1	33	5/10/2019	28/10/19
42	<i>Tutorial</i>	L+D	BB	0	33	9/10/2019	30/10/19
43	Step-up converter with a resistive load	L+D	BB	1	34	10/10/2019	31/10/19
44	Performance parameters, Converter classification	L+D	BB	1	35	11/10/2019	4/11/19


45	<i>Tutorial</i>	L+D	BB	0	35	12/10/2019	5/11/19
46	Switching mode regulators: Buck regulator	L+D	BB	1	36	17/10/2019	6/11/19
47	Boost regulator	L+D	BB	1	37	18/10/2019	7/11/19
48	Buck-Boost Regulators	L+D	BB	1	38	21/10/2019	8/11/19
49	Chopper circuit design	L+D	BB	1	39	22/10/2019	9/11/19
50	Chopper circuit design continued	L+D	BB+LCD	1	40	23/10/2019	12/11/19
51	<i>Tutorial</i>	L+D		0	40	24/10/2019	13/11/19
MODULE 5							
52	Pulse Width Modulated Inverters- Introduction	L+D	BB+LCD	1	41	25/10/2019	14/11/19
53	principle of operation, performance parameters	L+D	BB+LCD	1	42	26/10/2019	16/11/19
54	Single phase bridge inverters	L+D	BB+LCD	1	43	28/10/2019	16/11/19
55	<i>Tutorial</i>	L+D	BB+LCD	0	43	30/10/2019	-
56	Voltage control of single phase inverters	L+D	BB+LCD	1	44	31/10/2019	18/11/19
57	current source inverters	L+D	BB+LCD	1	45	4/11/2019	18/11/19
58	Variable DC-link inverter	L+D	BB+LCD	1	46	5/11/2019	15/11/19
59	<i>Tutorial</i>	L+D	BB	0	46	6/11/2019	20/11/19
60	Static Switches: Introduction	L+D	BB	1	47	7/11/2019	28/11/19
61	Single phase AC switches	L+D	BB	1	48	8/11/2019	28/11/19
62	DC Switches	L+D	BB	1	49	9/11/2019	29/11/19
63	Solid state relays, Microelectronic relays	L+D	BB	1	50	11/11/2019	29/11/19
64	<i>Tutorial</i>	L+D	BB	0	50	12/11/2019	30/11/19
REVISION							
65	REVISION-MODULE 2	L+D	BB	0	50	13/11/2019	-
66	REVISION-MODULE 2	L+D	BB	0	50	14/11/2019	-
67	REVISION-MODULE 3	L+D	BB	0	50	18/11/2019	-
68	REVISION-MODULE 3	L+D	BB	0	50	19/11/2019	-
69	REVISION-MODULE 4	L+D	BB	0	50	20/11/2019	-
70	REVISION-MODULE 4	L+D	BB	0	50	28/11/2019	-
71	REVISION-MODULE 5	L+D	BB	0	50	29/11/2019	-
72	REVISION-MODULE 5	L+D	BB	0	50	30/11/2019	-

Total Number of Lecture Hours = 50

Total Number of Tutorial Hours = 14

Total Number of Revision Hours = 08


Course In charge


Head - Dept


Principal