LESSON PLAN

Subject Name: Electronic Devices and Circuits **Branch: II E.C.E-B**
Class / Semester: -SEM I **Academic Year:2013-14**

Period	Date (Tentative)	Topic	Unit No.	Teaching Methodology	Remarks	Corrective action upon review
1	9/11/13	Introduction	1	BB		
2	11/11/13	Electron Ballistics, Force on Charged Particles in Electric field	1	BB		
3	11/11/13	Constant Electric Field, Potential, Problem	1	BB		
4	12/11/13	Relationship between Field Intensity and Potential	1	BB		
5	13/11/13	Two Dimensional Motion, Problems and Solutions	1	BB		
6	16/11/13	Electrostatic Deflection in Cathode ray Tube	1	BB		
7	18/11/13	CRO block diagrams	1	BB		
8	18/11/13	Force in Magnetic Field, Motion in Magnetic	1	BB		
9	19/11/13	Magnetic Deflection in CRT, Magnetic Focusing	1	BB		
10	20/11/13	Parallel Electric and Magnetic Fields and Perpendicular Electric and Magnetic Fields.	1	BB		
11	23/11/13	Introduction ,Insulators, Semiconductors, and Metals classification Using Energy Band diagram	2	BB		
12	25/11/13	Mobility and Conductivity, Electrons and holes in Intrinsic Semi conductors, Problems and Solutions	2	BB		
13	25/11/13	Extrinsic Semi Conductor, (P and N Type semiconductor), EB diagrams	2	BB		
14	26/11/13	Generation & Recombination of Charges, drift current, current density	2	BB		
15	27/11/13	Continuity Equation, law of mass action	2	BB		
16	30/11/13	Fermi Dirac Function, Fermi level in Intrinsic and Extrinsic Semi conductor	2	BB		
17	2/12/13	Hall effect,, Problems and Solutions	2	BB		
18	2/12/13	Diffusion & Injected Minority Carriers	2	BB		
19	3/12/13	Open circuited P N Junction, Forward and Reverse Bias	3	BB		
20	4/12/13	Current components in PN Diode	3	BB		

21	7/12/13	Volt-Am per Characteristic, Temperature Dependence on V – I characteristic,	3	BB		
22	9/12/13	Step Graded Junction, and Diode Resistance (Static and Dynamic	3	BB		
23	9/12/13	Diffusion Capacitance , Energy Band Diagram of PN Diode	3	BB		
24	10/12/13	Problems and Solutions	3	BB		
25	11/12/13	Avalanche and Zener Break Down, Zener Characteristics Tunnel Diode, Problems and Solutions	3	BB		
26	14/12/13	Varactor Diode, LED, PIN Diode ,Photo Diode	3	BB		
27	16/12/13	Half wave rectifier, ripple factor, problems	4	BB		
28	16/12/13	Full wave rectifier(with and without Transformer), harmonic component Of a rectifier	4	BB		
29	17/12/13	Rectifier circuit, Inductor filter, Capacitor filter, problems and solutions	4	BB		
30	18/12/13	L-section filter, □-section filter & problems	4	BB		
31	21/12/13	Comparison Of various filter circuits in terms of ripple factors	4	BB		
32	23/12/13	Introduction to regulator, zener regulator	4	BB		
33	23/12/13	Series and Shunt voltage regulators	4	BB		
34	24/12/13	Problems and Solutions	4	BB		
35	25/12/13	Junction transistor, Transistor current components	5	BB		
36	28/12/13	PNP & NPN transistor operations & problems	5	BB		
37	30/12/13	Transistor as an amplifier, configurations CB,CE,CC characteristics	5	BB		
38	30/12/13	V-I characteristics of CB,CE,CC	5	BB		
39	31/12/13	Problems & solutions	5	BB		
40	4/01/14	Analytical expression for transistor characteristics	5	BB		
41	6/01/14	Punch Through/ Reach Through mechanism & problems	5	BB		
42	6/01/14	Photo Transistor, Typical transistor junction voltage values., problems	5	BB		

43	7/01/14	FET importance &BJT (Qualitative and Quantitative discussion)	6	BB		
44	08/01/14	FET characteristics input/output and explanation	6	BB		
45	11/01/14	Small signal model of JFET, current & voltage gains input and output resistance derivation	6	BB		
46	18/01/14	Problems and solutions	6	BB		
47	20/01/14	MOSFET comparisons MOSFET & JFET characteristics	6	BB		
48	20/01/14	Enhancement and depletion mode ,MOSFET explanation and problems	6	BB		
49	21/01/14	SR characteristics and explanation	6	BB		
50	22/01/14	UJT and their characteristics,	6	BB		
51	25/01/14	Problems and solutions,	6	BB		
52	27/01/14	Biasing and types of transistor biasing	7	BB		
53	27/01/14	Thermal Stabilization: Operating point	7	BB		
54	28/01/14	Stability analysis	7	BB		
55	29/01/14	Collector to Base Bias, Self Bias, Problems and solutions	7	BB		
56	1/02/14	Stabilization against variations in VBE, and β for the self bias circuit	7	BB		
57	3/02/14	Bias Compensation,Thermistor and Sensitor compensation	7	BB		
58	3/02/14	Problems and solutions,	7	BB		
59	4/02/14	Compensation against variation in V_{BE} and I_{CO} , Thermal runaway, Thermal stability	7	BB		
60	4/02/14	Two port devices and the Hybrid model, Transistor Hybrid model	8	BB		
61	8/02/14	Determination of h -parameters from characteristic Av, Ai, Ri and Ro etc..,	8	BB		
62	10/02/14	Measurement of h -parameters	8	BB		
63	10/02/14	Problems and solutions	8	BB		
64	11/02/14	Conversion formulas for the parameters of three transistor configurations CB ,CE ,CC	8	BB		

65	12/02/14	Transistor Amplifier circuit using h-parameter Problems and solutions	8	BB		
66	15/02/14	Comparison of Transistor Amplifier configurations	8	BB		
67	17/02/14	Problems and solutions	8	BB		

BB: BLACK BOARD **OHP: OVER HEAD PROJECTOR**

Text Books

1 .Electronic Devices and Circuits -J. Millman, C.C. Halkias, Tata Mv-Graw Hill
2. Electronic Devices and Circuits – K Satya Prasad, VG S Publications

Reference

1. Integrated Electronics –Jacob Millman, Chritos C. Halkies,, Tata Mc - Graw Hill, 2009
2. Electronic Devices and Circuits – Salivahanan, Kumar, Vallavaraj, TATA McGraw Hill, Second Edition