

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Lesson Plan & Work-done Diary for AY: 2026-27, ODD Semester

Course with Code: Analog Electronic Circuits –1BEE302					Faculty: Shilpashri V N		Semester & Section: III	
Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
MODULE-1								
1		Course Orientation, CO-PO mapping, Delivery Awareness, Activity Discussion.	ICT					
2		Semiconductor Diode: Introduction, semiconductor materials, working principle and forward and reverse bias conditions	ICT + Chalk & Talk					
3		Resistance levels, diode equivalent circuit, transition and diffusion capacitance, reverse recovery time	ICT + Chalk & Talk					
4		Half-wave and full-wave rectifiers, necessity of clippers and clampers, different types of clippers and clampers	Chalk & Talk					
5		Zenor diode, power Supply and series and parallel Voltage Regulators. Light emitting diodes (LEDs)	Chalk & Talk					
6		Bipolar Junction Transistors: Introduction, NPN and PNP transistors, construction, operation	Chalk & Talk					
7		Characteristics of common base (CB), common emitter (CE) and common collector configuration, cut off region, active region, and saturation region	Chalk & Talk					
8		Relation between collector current, base current and emitter current	Chalk & Talk					
9		Summary of Module-1, VTU QP Discussion	ICT					

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	MODULE 4								
10		Feedback Amplifiers: Feedback concept, different types, Practical feedback circuits	ICT + Chalk & Talk						
11		Analysis and design of feedback circuits, Feedback amplifier; phase and frequency considerations	ICT + Chalk & Talk						
12		Oscillators operation, phase-shift, Wien-bridge oscillator	ICT +Chalk & Talk						
13		Tuned and crystal oscillators	ICT +Chalk & Talk						
14		Power Amplifiers: Classification, analysis and design of Class A – Directly Coupled and Transformer Coupled	Chalk & Talk						
15		Class B- Complementary Symmetry and Push Pull amplifiers	Chalk & Talk						
16		Class C and Class AB power amplifiers	Chalk Talk						
17		Summary of Module-4, VTU QP Discussion	ICT						



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MODULE 5								
18		Field Effect Transistors: Introduction to FET, Construction	ICT + Chalk & Talk					
19		Difference between FET, JFET and metal oxide Semiconductor Field Effect Transistor (MOSFET)	Chalk & Talk					
20		N-Channel and P-Channel MOSFET in the Enhancement Mode and Depletion Mode	Chalk & Talk					
21		Characteristics, Transfer Characteristics	Chalk & Talk					
22		Fixed Bias, Self Bias analysis	Chalk & Talk					
23		Voltage Divider Bias analysis	Chalk & Talk					
24		DC and AC analysis	ICT + Chalk & Talk					
25		Summary of Module-5, VTU QP Discussion	ICT					

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	MODULE-2							
26		BJT Biasing: Introduction to biasing, operating point, bias configurations; fixed-bias	Chalk & Talk					
27		Emitter bias, voltage divider bias, DC bias with voltage feedback	Chalk & Talk					
28		Design of bias circuits, effect of temperature on bias, thermal runaway	Chalk & Talk					
29		Bias stabilization, stability, stability factors of bias circuits.	ICT + Chalk & Talk					
30		BJT AC Analysis: Amplification in AC domain, Transistor modelling for small signal analysis	Chalk & Talk					
31		Resistance (r_e) model of CB, CE, and CC configurations	Chalk & Talk					
32		Hybrid equivalent model CB, CE, and CC configurations, hybrid π model	Chalk & Talk					
33		Low frequency analysis, high frequency analysis.	Chalk & Talk					
34		Summary of Module-2, VTU QP Discussion	ICT					

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MODULE 3								
35		BJT AC Analysis: Determination voltage and current gains, effect of R_L and R_S .	Chalk & Talk					
36		General frequency considerations, low frequency response	Chalk & Talk					
37		Miller's capacitance, high frequency response.	Chalk & Talk					
38		Amplifier operation, common emitter amplifier – DC analysis (base and voltage divider bias only)	Chalk & Talk					
39		common emitter amplifier – AC analysis (base and voltage divider bias only), multistage amplifier	Chalk & Talk					
40		Cascade and cascode connections, amplifier frequency response: decibel scale	Chalk & Talk					
41		Darlington circuits, analysis and design.	Chalk & Talk					
42		Summary of Module-3, VTU QP Discussion	ICT					



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Lab Session No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Class No.
Lab Sessions								
1		Orientation Class: Introduction of course Module, Device Usage Bread board, CRO, Signal Generator, Multimeter, Power Supply..etc	Practical Session					
2		Design and verify a full wave bridge rectifier with and without a capacitor filter for given output voltage obtainable from 230 V supply. Determine the performance parameters.	Practical Session					
3		Experiments on clippers and clampers.	Practical Session					
4		Conduct an experiment on a class B push-pull emitter-follower power amplifier to determine rms output power, DC supply power supplied to the amplifier and amplifier percent efficiency	Practical Session					
5		Design a BJT - Crystal Oscillator for a given frequency.	Practical Session					
6		Design a FET Hartley oscillator for a given frequency.	Practical Session					

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7		Static Transistor characteristics for CE, CB and CC modes and determination of h parameters.	Practical Session					
8		Single stage BJT RC coupled CE amplifier and determination of voltage gain, current gain, input and output impedances. Determine the bandwidth from the frequency response curve.	Practical Session					
9		Single stage FET RC coupled CE amplifier and determination of voltage gain, current gain, input and output impedances.	Practical Session					
10		Determination of gain, input and output impedance of BJT Darlington emitter follower with and without bootstrapping and determine gain and bandwidth from its frequency response curve.	Practical Session					
11		Conduct an experiment on BJT cascode configuration and determine the dynamic resistance, gain of each transistor and the overall no load gain.	Practical Session					



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	Activity	Planned	Actual	Remarks
1	Theory Classes	42		
2	Assignments/Quizzes/ Self study	MS Quiz: 5 Write up: 1 Group Assignment :1		
3	Tutorials/ Extra classes	-		
4	Internal Assessments	3		
5	ICT based Teaching (% of usage in Curriculum)	35%		
6	Laboratory Session	11 Practical Sessions/ batch		
Planning			Execution	
Faculty Signature:			Faculty Signature:	
HoD Signature:			HoD Signature:	



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