

# SARASWATI MAHILA MAHAVIDHYALAYA, PALWAL

## LESSON-PLAN

Class: M.Sc-Physics - Final Year  
 Subject: Electronics - I

Semester: ODD/EVEN ✓  
 Session: 2020-21

Lecture Number	Topic
1.	Unit I: Introduction of BJT and its transistor operating modes.
2.	Transistor Biasing Configurations Explanation (CE, CB, CC) & their characteristics.
3.	Numericals of BJT & other transistor configuration & transistor actions
4.	The Eber-Moll model.
5.	Introduction to FET: Explanation & characteristics of JFET.
6.	Explanation & Characteristics and application of Tunnel diode.
7.	Explanation of Backward diode.
8.	Explanation of UJT & its applications
9.	Explanation of four layer devices n-p-n-p or p-n-p-n and their construction
10.	Explanation of SCR & SCS.
11.	Revision of Unit-I; Discussion; Assignment.
12.	<u>Unit-II</u> Transistor models and parameters
13.	Equivalent Circuit of above models & numericals
14.	Explanation of Two-port devices.
15.	Explanation of Parameters of two-port devices
16.	Numericals of parameter of two port devices
17.	Conversion of h-parameters

*Nisha Pagar*  
 Signature:

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Lecture Number	Topic
18	Numericals of h-parameters & their conversions
19	Analysis of a transistor amplifier circuit of CE, CB.
20	Analysis of a transistor amplifier circuit of CB.
21	Comparisons of above Analysis.
22	Linear analysis of a transistor circuit.
23	Milne's theorem. and its Dual.
24	Cascading transistor Amplifier.
25	Classifications of amplifiers.
26	Introduction to frequency Response.
27	Explanation of RC Coupled amplifier.
28	Explanation of RC coupled amplifier at its low frequency response.
29	Revision of Unit-II
30	Numericals class of Unit-II.
31	Numericals class of Unit-II.
32	<u>Unit-III</u> : Introduction of differential amplifier.
33	CMRR. & circuit Configuration
34	Emitter Coupled Supplied with constant current.

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Lecture Number	Topic
35	Explanation 2 characteristics of Op Amp.
36	Explanation of various types of Op Amp.
37	PSRR 2 Slew rate.
38	Universal Balancing techniques.
39	Inverting and non-inverting amplifier.
40	Application of above in Summing 2 scaling.
41	Current to voltage 2 voltage to Current Signal Conversion.
42	Differential DC amplifier, voltage follower.
43	Bridge amplifier, AC-coupled amplifier.
44	Integration, differentiation circuits
45	analog Computation, Butterworth active filter's Circuits
46	Revision of important topics 2 numericals of unit-III
47	Explanation of Comparators.
48	AC/DC Converter: Half 2 full wave rectifier.
49	Explanation of Clamping Circuits
50	Explanation of logarithmic 2 anti logarithmic Circuit.
51	Digital to analog Conversion - ladder 2 weighted resistor types.

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