



**AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY**  
Approved by AICTE, Permanently Affiliated to JNT University, Kakinada, Tamaram, Makavarapalem,  
Narsipatnam (R D), Visakhapatnam Dist-531113

Program Name:	II B.TECH I SEM EEE	Academic Year	2023-2024	
Course Name:	EMF	Class / Sem	II	I
Faculty Name:	P V DORA			
S.No	Topic	No. of Lectures	Book / Web Reference	Teaching Method(s)
<b>UNIT 1: ELECTROSTATICS</b>				
1.	Coulomb's Law	1	T3,W3	BS
2.	Electric Field Intensity (EFI)	1	T3	C&T
3.	EFI due to a line and a surface charge	1	T2	S/P
4.	Tutorial 1	1		CPS. GD
5.	Work done in moving a point charge in an electrostatic field	1	T1	C&T
6.	Electric Potential	1	T1	C&T
7.	Potential Gradient	1	T1	C&T
8.	Tutorial 2	1		CPS. BS
9.	Gauss's Law	1	T1, W1	C&T
10.	Maxwell's First Law	1	T1, W2	C&T
11.	Laplace's and Poisson's Equations	1	T1	C&T
12.	Solution of Laplace's Equation in one variable.	1		CPS. ASG
13.	Tutorial 3	1		CPS. GD
<b>UNIT II: CONDUCTORS – DIELECTRICS AND CAPACITANCE</b>				
14.	Electric dipole – dipole moment	1	T1,W3	C&T
15.	Potential And Efi Due To An Electric Dipole	1	T1	C&T; OL
16.	Torque on an Electric dipole in an electric field	1	T1	C&T
17.	Tutorial 4	1		CPS. GD
18.	Conductors & Insulators behavior in electric field	1	T1	C&T; OL
19.	Polarization, boundary conditions between conductor to dielectric	1	T1	C&T

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Tamaram, Makavarapalem Md.,  
Anakapalli District., Pin: 531 113

<b>Total Number of Lectures</b>	<b>64</b>		
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### **\*\*\* Teaching Methods:**

C&T:-Chalk & Talk; S/P:-Slides/PPT;Videos; SEM: Seminar; Demo; CHART; ET/GL: Expert Talk/Guest Lecture; QUIZ; CPS: Class room problem solving; GD:-Group discussion; RTCS: Real time case studies; JAR:-Journal article review; PD:-Poster design; OL:-Online lecture/Google class room; Industrial Visit (IV), Assignment (ASG), Quiz/Puzzle (Q), Brain storming (BS), Think-Pair-Share (TPS), Certification(CERT), SIM: Simulation, P/G: Pledge/Greeting, Q/R: Quotes, references, LS: Literature Survey, RW: Report Writing, MM: Model making, PED: Professional/ethical dilemma, Coding, Activity/Event, FV: Filed Visit etc.

### **Text / Reference Books:**

T-1: "Engineering Electromagnetics" by William H. Hayt & John. A. Buck Mc. Graw-Hill, 7th Editon.2006.

T-2: "Principles of Electro Magnetics" by Sadiku, Oxford Publications, 6th edition, 2015.

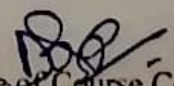
T-3: Electromagnetic Field Theory by Yaduvir Singh, Pearson India, 1st edition, 2011.

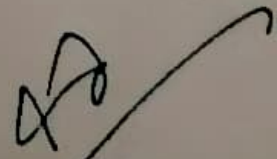
### **Web References:**

W-1: NOC:Electro Magnetic Fields, IIT Madras  
<https://archive.nptel.ac.in/courses/108/106/108106073/>

W-2: NOC: Electro Magnetic Theory, IIT Bombay  
<https://nptel.ac.in/courses/115101005>

W-3: Introduction to Electricity and Magnetism Specialization by Jason Hafner from RICE University, COURSERA  
[Physics 102 - Magnetic Fields and Faraday's Law | Coursera](#)

  
Signature of Course Coordinator

  
Principal  
**Avanthi Institute of Engg. & Technology,**  
**Tamarana, Maxavarapalem Md.,**  
**Ankapalli District., Pin: 531 113**





**AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY  
TAMARA M, MAKAVARIPALEM, NARSIPATNAM**

Lesson Plan Analysis

Academic Year: 2023-24  
Program: B.Tech (EEE)

SNO	Course Name	Teaching Methodology	Number of Text Books	Number of Reference Books	Number of Web References
1	BSC(M-4)	C&T,BS,PPT,SEM,S/P,CHART,CPS,GD,ASG,TPS,JAR,QUIZ,RTCS	2	3	6
2	PCC(EDC)	C&T,S/P,BS,ASG,SEM,OL,GD	2	1	3
3	PCC(ECA-2)	C&T,BS,LS,CPS,GD,RTCS,ASG,OL,SEM,S/P,ET,	2	9	4
4	PCC(DCMT)	BS,C&T,S/P,CPS,GD,ASG,OL,SEM	2	1	2
5	PCC(EMF)	BS,GD,RTCS,LS,/P,CPS,GD,C&T,OL,ASG, GD	2	1	3
6	MC(PEHV)	C&T,BS,S/P,ASG,OL,CPS,SEM,ASG,	2	1	2
7	ESC(PYTHON)	C&T,CPS,TPS,BS,GD,SEM,ASG,SIM,S/P,RTCS	2		4
8	PCC(DE)	BS,GD,S/P,C&T,CPS,ASG,OL,SEM,	3	3	2
9	PCC(PS-1)	BS,GD,RTCS,LS,S/P,CPS,C&T,OL,ASG,SEM,IV	2	2	3
10	PCC(ISM)	CPS,C&T,OL,S/P,BS,ASG,GD,SEM,	3	3	4
11	HSMC(MEFA)	C&T,BS,ASG,S/P,CPS,OL,	3	3	8
12	PCC(PS-2)	BS,C&T,S/P,CPS,GD,ASG,OL,SEM	1	1	2
13	PCC(PE)	C&T,BS,S/P,SIM,ASG	2	3	3
14	PCC(CS)	C&T,BS,S/P,CPS,ASG,OL,GD,SEM,	3	3	2
15	OEC(DBMS)	C&T,BS,S/P,CPS,GD,OL,SEM,	4	1	5
16	PEC(U EE)	C&T,S/P,BS,GD,SEM,CPS,OL,ASG,	2	1	3
17	MC(ES)	C&T,S/P,ASG,BS,	2	3	2
18	PCC(PSA)	BS,C&T,S/P,ASG,OL,GD,CPS,SEM	2	1	2
19	PCC(EMI)	BS,C&T,ET,CPS,GD,SEM,OL,QUIZ,ASG,S/P	2	1	1
20	PEC(MPMC)	C&T,BS,S/P,CPS,GD,ASG,OL,SEM	4	1	8
21	PEC(ED)	BS,C&T,S/P,GD,ASG,OL,	2	3	2
22	OEC(IOT)	C&T,BS,S/P,GD,CPS,OL,SEM,ASG	2	1	2
23	HVE	C&T,S/P,CPS,BS,ASG,GD,OL,SEM	1	2	3
24	ACS	C&T,S/P,CPS,ASG,OL,GD,SEM,	2		
25	RES	C&T,BS,S/P,GD,OL,SEM,ASG,CPS,LS	2	7	3

Faculty coordinator

Head of the Department

Principal

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Anaparthi District., Pin: 531 113



AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY  
TAMARA M, MAKAVARIPALEM, NARSIPATNAM

Lesson Plan Analysis

Academic Year: 2023-24

Program: B.Tech (EEE)

SN O	Course Name	TM 1	TM 2	TM 3	TM 4	TM 5	TM 6	TM7	TM 8	TM 9	TM 10	TM 11	TM 12	TM 13	TM 14
1	BSC(M-4)	✓	✓	✓	✓	✓		✓	✓		✓			✓	✓
2	PCC(EDC)	✓	✓	✓	✓	✓	✓	✓							
3	PCC(ECA-2)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
4	PCC(DCMT)	✓	✓	✓	✓	✓	✓	✓	✓						
5	PCC(EMF)	✓	✓	✓	✓	✓	✓	✓	✓		✓				
6	MC(PEHV)	✓	✓	✓	✓	✓	✓		✓						
7	ESC(PYTHON)	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓
8	PCC(DE)	✓	✓	✓	✓	✓	✓	✓	✓						
9	PCC(PS-1)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10	PCC(ISM)	✓	✓	✓	✓	✓	✓	✓	✓						
11	HSMC(MEFA)	✓	✓	✓	✓		✓		✓						
12	(PS-2)	✓	✓	✓	✓	✓	✓	✓	✓						
13	(PE)	✓	✓	✓	✓									✓	
14	PCC(CS)	✓	✓	✓	✓	✓	✓	✓							
15	OEC(DBMS)	✓	✓	✓		✓	✓	✓	✓						
16	PEC(UEE)	✓	✓	✓		✓	✓	✓	✓						
17	MC(ES)	✓	✓	✓	✓										
18	PCC(PSA)	✓	✓	✓	✓		✓	✓							
19	PCC(EMI)	✓	✓	✓	✓	✓	✓		✓			✓			✓
20	PEC(MPMC)	✓	✓	✓	✓		✓	✓	✓						
21	PEC(ED)	✓	✓	✓		✓	✓	✓	✓						
22	OEC(IOT)	✓	✓	✓			✓	✓	✓						
23	HVE	✓	✓	✓	✓	✓	✓	✓	✓						
24	ACS	✓	✓	✓	✓	✓	✓	✓	✓						
25	RES	✓	✓	✓	✓	✓	✓	✓	✓		✓				

TM1: C&T:-Chalk & Talk;

T2: S/P:-Slides/PPT,;

T3: Brain storming (BS),

T4:Assignment (ASG),

T5:SEM: Seminar

T6:OL

T7:GD:-Group discussion;

T8:CPS Class room problem solving;

T9:LS

T10:RTCS:Real time case studies;

T11:ET,

T12:SIM :Simulation,

T13: Think-Pair-Share (TPS),

T:14 QUIZ

Faculty Coordinator

Head of the Department





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## Lesson Plan Analysis for Teaching Methodologies

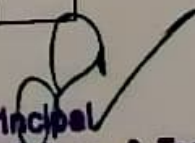
Academic Year: 2023-24

Program: B.Tech (ECE)

SN O	Course Name	T M 1	T M 2	T M 3	T M 4	T M 5	T M 6	T M 7	T M 8	T M 9	TM 10	TM 11	TM 12	TM 13	TM 14
1.	Electronic Devices and Circuits	✓	✓	✓	✓	✓	✓					✓			✓
2.	Switching Theory and Logic Design	✓	✓	✓	✓	✓	✓					✓			✓
3.	Signals and Systems	✓	✓	✓	✓	✓	✓		✓						✓
4.	Mathemati cs-III	✓		✓			✓		✓						
5.	Random Variables and Stochastic Processes	✓	✓	✓	✓	✓	✓					✓			✓
6.	Electronic Circuit Analysis	✓	✓	✓	✓	✓	✓					✓			✓
7.	Digital IC Design	✓	✓	✓	✓	✓	✓					✓			✓
8.	Analog Communi cations	✓	✓	✓	✓	✓	✓					✓			✓
9.	Linear control Systems	✓	✓	✓	✓	✓	✓		✓			✓			
10.	Managem ent and Organizati	✓	✓	✓	✓		✓								

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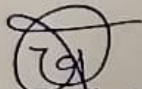
	onal Behavior																	
11.	Analog ICs and Applications	✓	✓	✓	✓	✓	✓							✓			✓	
12.	Electromagnetic Waves and Transmission Lines	✓	✓	✓	✓	✓	✓							✓			✓	
13.	Digital Communications	✓	✓	✓	✓	✓								✓			✓	
14.	Data Structures and Algorithms	✓	✓	✓	✓	✓	✓							✓			✓	✓
15.	Electronic Measurements and Instrumentation	✓	✓			✓	✓	✓	✓					✓	✓		✓	
16.	Microprocessor and Microcontrollers	✓	✓	✓	✓	✓								✓			✓	
17.	VLSI Design	✓	✓			✓	✓	✓			✓			✓			✓	
18.	Digital Signal Processing	✓	✓	✓	✓	✓								✓			✓	
19.	Mobile and Cellular Communication	✓	✓	✓			✓	✓						✓			✓	
20.	Computer networks	✓	✓	✓	✓	✓	✓							✓			✓	
21.	Optical Communication	✓	✓	✓	✓									✓				
22.	Introduction to Internet of Things	✓	✓	✓	✓	✓	✓							✓			✓	

  
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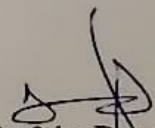


23.	Satellite Communications	✓	✓	✓	✓	✓						✓			
24.	Radar Engineering	✓	✓	✓	✓	✓	✓					✓		✓	

- TM1: C&T:-Chalk & Talk;
- TM2: SEM: Seminar;
- TM3: CPS Class room problem solving;
- TM4: GD:-Group discussion;
- TM5: Brain storming (BS),
- TM6: Assignment (ASG),
- TM7: RTCS: Real time case studies;
- TM8: Quiz/Puzzle (Q),
- TM9: SIM: Simulation,
- TM10: Think-Pair-Share (TPS),
- TM11: S/P:-Slides/PPT;
- TM12: IV
- TM13: OL:-Online lecture/Google class room;
- TM14: Expert talk ; Guest lecture

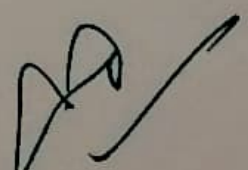


Faculty coordinator



Head of the Department

HEAD OF THE DEPARTMENT  
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