



# P.S.R. ENGINEERING COLLEGE

(An Autonomous Institution, Affiliated to Anna University, Chennai)  
Approved by AICTE, New Delhi & Accredited by National Board of Accreditation (NBA)  
Accredited by NAAC, Recognized under 12(B) of the UGC Act, 1956  
Sevalpatti (P.O), Sivakasi - 626140, Tamilnadu.



## DEPARTMENT OF ECE

### INNOVATIVE PRACTICES

Programme:	B.E.	Branch	Electronics and Communication Engineering
Academic Year:	2022-2023	Year/Semester	III/V
Course Code:	191EC52	Course Name	ANTENNAS AND MICROWAVE ENGINEERING
Date of activity:	10.08.11	Duration	30 mins
Course Tutor:	Ms.P.A.MathinaAP/ECE		

<b>Unit / Topic</b>	<b>Unit1/ Antenna Pattern Characteristics, Gain and Efficiency</b>							
<b>Course Outcome</b>	CO2: Interpret radiation mechanism of antenna (US)							
<b>Activity Chosen</b>	<b>Dump charades</b>							
<b>Activity Implementation</b>	Three to four students make a team among themselves and they will be given the antenna characteristics name and members of team should guess that through miming.							
<b>Type of Activity</b>	Individual / Group / Both							
<b>CO – PO -PSO Mapping</b>								
<b>CO's</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO12</b>	<b>PSO1</b>	<b>PSO3</b>	<b>PSO4</b>
CO2	3	3	3	2	2	3	2	2

**Images / Screen shot of the practice:**





*[Handwritten Signature]*  
Course Tutor

*[Handwritten Signature]*  
Programme Co-ordinator

*[Handwritten Signature]*  
HOD/ECE



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<b>Unit / Topic</b>	Unit 4/ Microwave Passive components: Directional Coupler, Power Divider, Magic Tee
<b>Course Outcome</b>	CO4: Explain the principles of active microwave devices. (UN) CO5: Infer about passive microwave devices. (UN)
<b>Activity Chosen</b>	<b>Model Demonstration</b>
<b>Activity Implementation</b>	Bring the various types of Passive components such as Directional Coupler, Power Divider, Magic Tee to the class for Demonstration. Students Explored about the types and practices lead to permanent learning
<b>Type of Activity</b>	Individual / Group / Both

#### CO – PO -PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO12	PSO1	PSO2	PSO3	PSO4
CO4	3	3	2	2	2	-	2	3	2	2	2
CO5	3	2	3	2	2	2	2	3	2	2	2

#### Images / Screen shot of the practice:





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**DEPARTMENT OF ECE**

**INNOVATIVE PRACTICES**

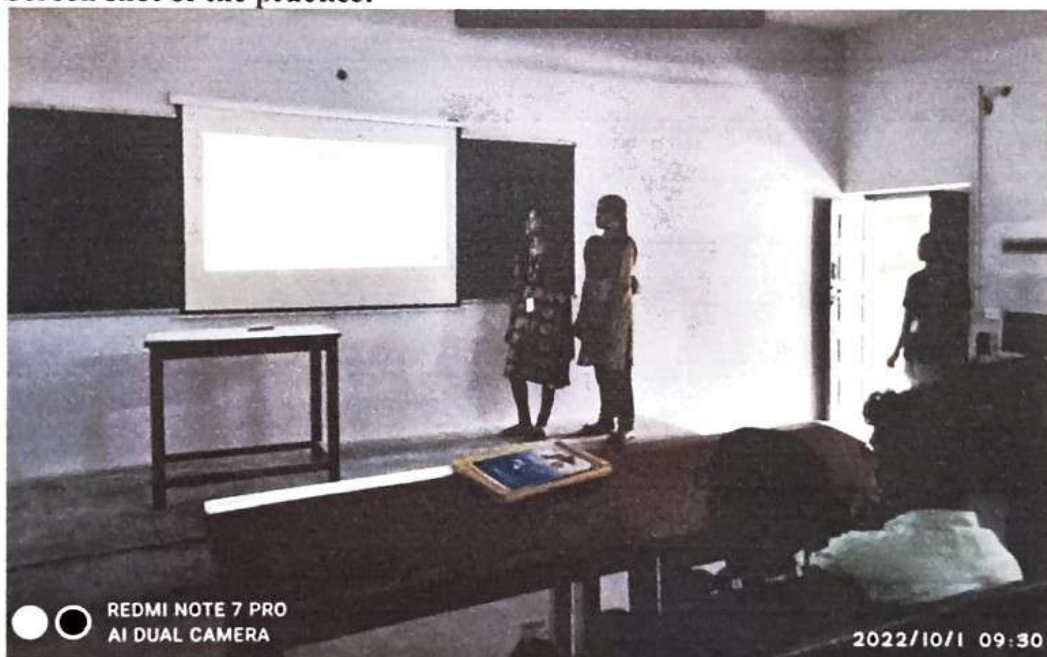
Programme:	B.E.	Branch	Electronics and Communication Engineering
Academic Year:	2022-2023	Year/Semester	III/V
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Course Tutor:	Ms.P.A.MathinaAP/ECE		

<b>Unit / Topic</b>	Unit 3: Uniformly spaced arrays with uniform and non-uniform excitation amplitude
<b>Course Outcome</b>	CO3: Develop the applications of Antenna Arrays. (AP)
<b>Activity Chosen</b>	<b>Quiz/Connection Game</b>
<b>Activity Implementation</b>	Students form a group of 3 Teams such as A,B,C They discuss among themselves and answer the 'connection' questions.
<b>Type of Activity</b>	Individual / Group / Both

**CO – PO -PSO Mapping**

CO	PO1	PO2	PO3	PO4	PO5	PO 6	PO12	PSO1	PSO2	PSO4
CO3	3	3	3	3	2	2	2	3	2	2

**Images / Screen shot of the practice:**





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Programme Co-ordinator

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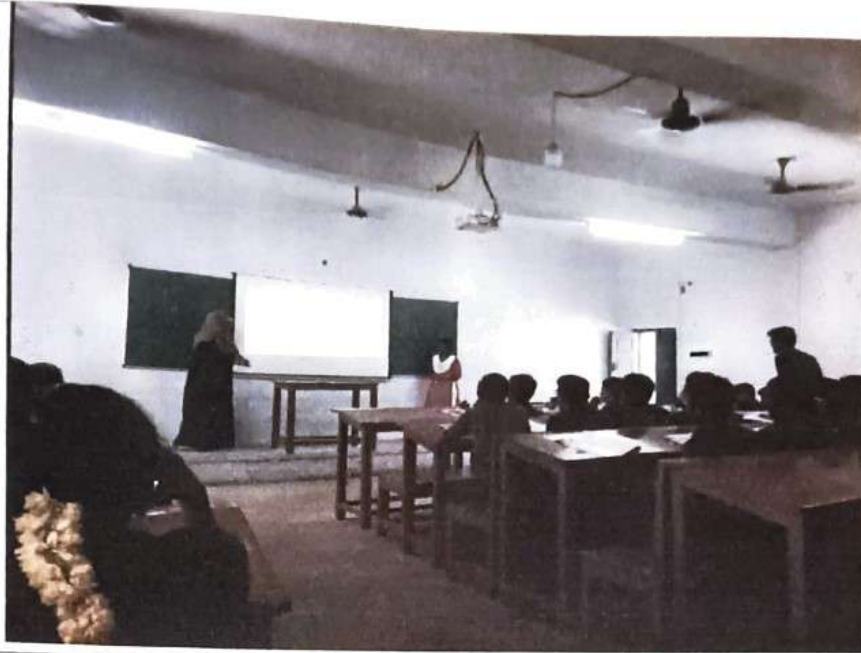
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Unit / Topic	Unit 5/ Microwave Power amplifier Design											
Course Outcome	CO6: Design of Microwave Amplifiers. (AP)											
Activity Chosen	Peer Learning											
Activity Implementation	Peer Tutor: A.Noojahan Rehana One or more peer tutors (student) teaching the students in the class in a supervised environment which results in better learning and retention.											
Type of Activity	Individual / Group / Both											
CO – PO -PSO Mapping												
CO	PO1	PO2	PO3	PO4	PO5	PO 6	PO12	PSO1	PSO2	PSO3	PSO4	
CO6	3	3	3	2	2	3	2	3	2	2	2	

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<b>Unit / Topic</b>	Unit I: Aperture antenna
<b>Course Outcome</b>	CO2: Interpret the radiation mechanism of Antenna. (UN)
<b>Activity Chosen</b>	Think pair share
<b>Activity Implementation</b>	Three to four students make a team among themselves and they will be given the Charts of Aperture antenna where students work together to solve a problem or answer a question about an assigned Charts.
<b>Type of Activity</b>	Individual / Group / Both

#### CO – PO -PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO12	PSO1	PSO2	PSO4
CO2	3	3	3	2	2	2	3	2	2

#### Images / Screen shot of the practice:



## Types of Antennas

with Properties of Antennas

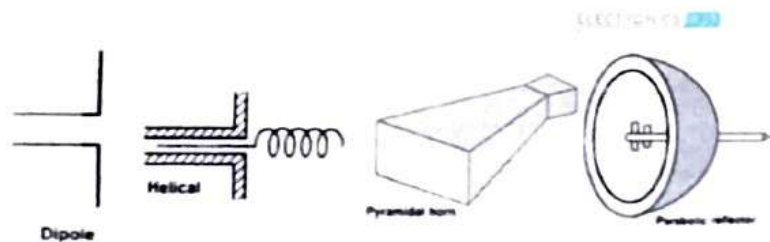


Chart -I

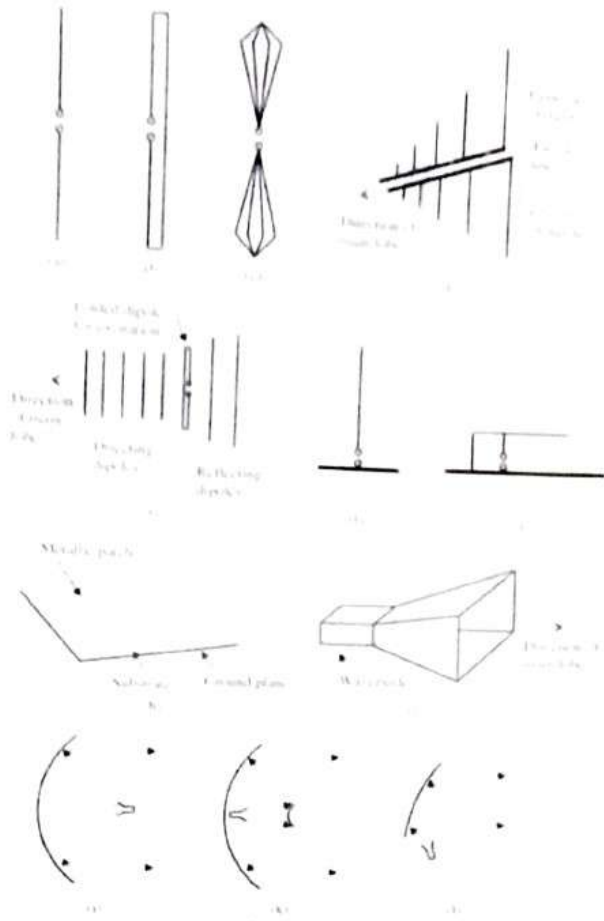


Chart - II

*[Signature]*  
**Course Tutor**

*[Signature]*  
**Programme Co-ordinator**

*[Signature]*  
**HOD/ECE**