



Electronics & Telecommunication Engineering

Academic Year – 2019-2020	Class: Second Year
Semester – II	Date : 12/03/2020
CO: 1,3,4	PO: 1,2,3,9, PSO-1

Innovative Teaching Methods

Title of Innovation method/activity: Synthesize the circuit.

1. Name of Faculty: Mr. A. R. Chaudhari

2. Subject: Integrated Circuit

3. Objective of Method:

1. Able to design circuit to specified response.
2. Able to select appropriate component with proper justification.
3. Simulate & analyze the designed circuit
4. Justify the method adopted for circuit design & analysis.

4. **Topic Covered through Activity:**

Waveform generation through Op-amp based circuit.

5. **Description of method with Benefits (8 – 10 lines) :**

Synthesis of circuit is defined as a process of generating netlist from a circuit design model. Synthesis means 'to generate'. It is a step to generate circuit hardware schematics. To design the electrical circuit, for desire response for this need to be able to predict the voltages and currents & component at all places within the circuit. Proteus software has been used to analyze circuit.

The method:

1. An assigned task completed by a team of @5 students.
2. Specification of expected result given to students..
3. Student have to design a circuit to achieve the desired response.
4. Student will simulate the design circuit in any simulation software (preferably proteus)
5. Analyze the circuit towards the desire response.

6. Questions on the design, simulation of circuit, to each group.

Roles and Responsibilities

- **Teacher**
 - Provide the Idea about this activity..
 - Aware the student about the depth of Topic
 - Provide the Study Material and appropriate guide lines.
 - Prepare & discuss assessment methodology.
- **Student**
 - Go through all the material provided on particular topic
 - identify the circuit with component value prepare the circuit.
 - Actively participate in group and contribute by means of discussion, hand-out
 - Share the expertise topic when joins a new group.
- **Group**
 - Develop the guidelines to establish group.(i.e. Decide the roll of all participants)
 - Every group should gain the expertise on particular topic.
 - Submit the circuit design.
 - Appropriate references should be given.

6. Assessment Tools & Rubrics:

1. Circuit Design [5 Mark]

- Identification of circuit towards result. (02 Marks)
- Proper design of circuit to achieve desire task. (03 Marks)

2. Simulation towards appropriate result [5 Mark]

- Simulation of circuit diagram in software. (03 Marks)
- Effective utilization of simulation tool. (02 Marks)

3. Verbal Interaction [5 Mark]

- Justify about the behavior of circuit & component selections. (02 Marks)
- With deep sense answering towards fact related to the identified problem. (02 Marks)
- Proper justification on remedies. (01 Marks)

Criteria	3- High	2- Moderate	1- Slight
Circuit Design	• Cover maximum related aspect. (1 Marks)	Cover the parameter with deep sense. But	Cover the design point but not

	<ul style="list-style-type: none"> Cover all design formulae about circuit design. (2 Marks) 	lack of sufficient & effective remedies.	with deep sense.
Simulation towards appropriate result	<ul style="list-style-type: none"> Proper circuit building. (01 Marks) Complete simulation of circuit diagram. (2 Marks) Analyze the circuit response. (2 Marks) 	Sufficient knowledge about the tool with moderate description & average related parameter towards result	Average knowledge about tool & analysis
Verbal Interaction	<ul style="list-style-type: none"> Full knowledge about the design, tool & can elaborate the analysis, with proper justification 	Good knowledge about design, simulation & analysis	Poorly design & answer

7. Evaluation Sheet (54)

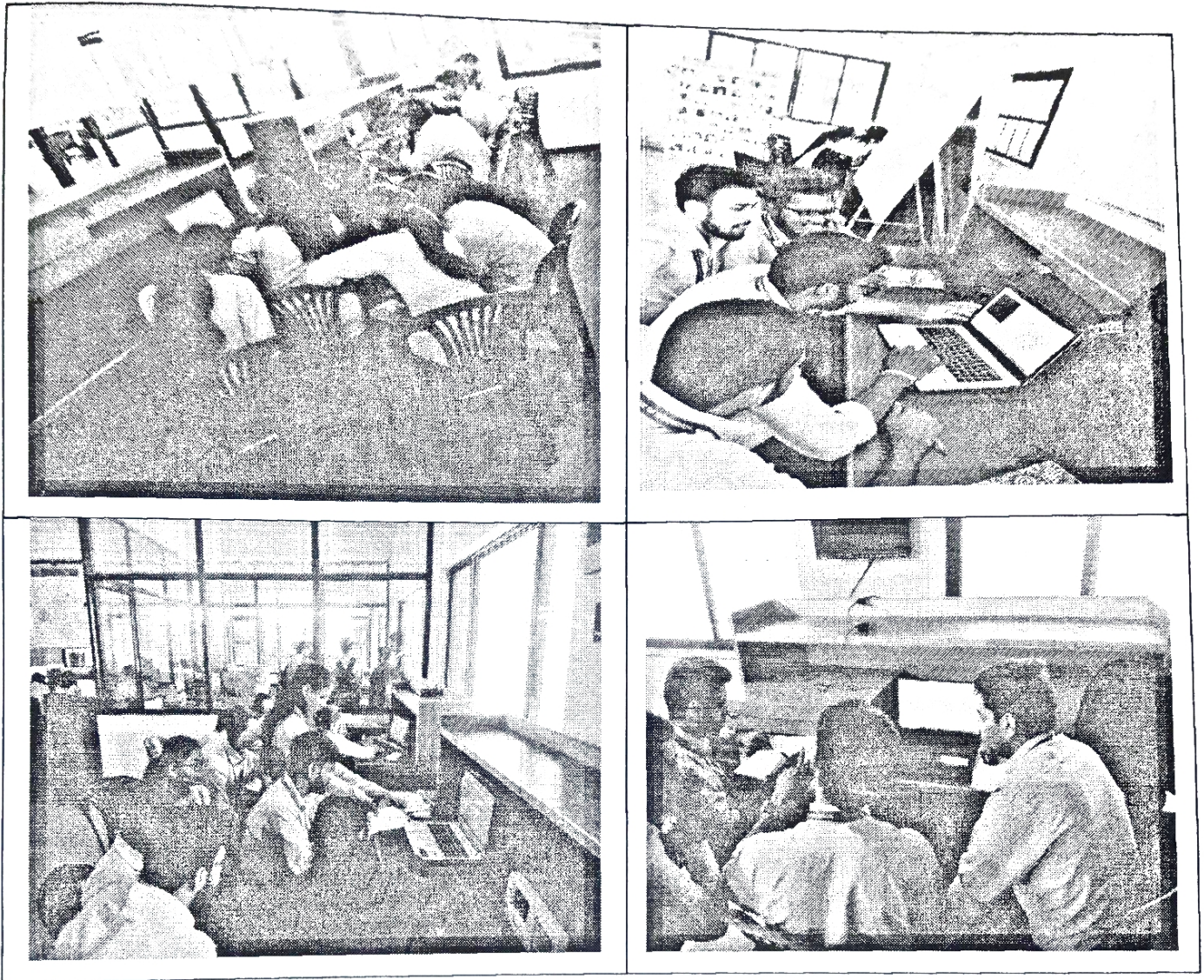
Gr. No.	Name of Student	Roll No	Circuit Design (5)	Simulation towards appropriate result (5)	Verbal Interaction (5)	Final Marks (15)
Group No 1	Priyanka A Shouche	62	4	4	3	11
	Renu S gurraddi	47	4	4	4	12
	Mahima S jehale	65	4	4	3	11
	Gayaatri Gunjal	46	4	3	3	10
Group No 2	Pragya B Rai	31	5	4	5	14
	Shwet V Baggade	11	5	4	5	14
	Pratiksha V Rajule	32	4	4	4	12
	Nimisha V Salunke	34	3	4	4	11
	Vrunda V Bankar	12	4	4	4	12
Group No 3	Shreyas P Barudwale	14	3	4	4	11
	Piyush Mahale	24	3	3	3	9
	Sarang Panse	26	3	4	4	11
	Prajwal Tikhe	41	4	3	3	10
Group No 4	Ritesh Jadhav	49	3	4	4	11
	Anisha Panpatil	54	3	3	3	9
	Anushka Sonawane	37	3	3	3	9
	Jay sonawane	38	3	4	3	10
Group No 5	Sakshi kapadnis	50	3	4	4	11
	Shubham Suryawanshi	40	4	3	3	10
	Rutu Raka	33	4	3	3	10
	Mallika Bhosale	44	3	3	3	9
Group No 6	Pradnya Patil	27	3	4	3	10
	Khyati Kshirsagar	21	4	4	3	11
	Vaidehi Sonavani	64	3	4	3	10
	Rutuja karate	67	4	3	4	11
	Saurabh Dighe	17	3	4	3	10
	Shubham Kulkarni	63	3	4	4	11

Group No 7	Shivam Junghare	19	5	5	5	15
	Pracheta kuwar	23	4	4	4	12
	Pratik Datir	45	4	5	5	14
	Saurabh Shewale	60	5	5	4	14
Group No 8	Sakshi Sonawane	39	3	3	4	10
	Anushka Chavan	3	2	4	4	10
	Bhagyashree Sonar	36	3	3	4	10
	Kanchan Kapase	20	3	4	3	10
	Sejal Pawar	30	3	3	4	10
	Prajakta Thakare	8	4	4	3	11
Group No 9	Vaishnavi Ganguerde	18	5	4	4	13
	Echa Chokar	16	4	4	4	12
Group No 10	Sonal More	5	4	3	5	12
	Rinku ahire	2	3	4	4	11
	Rohini Pendharkar	6	4	4	4	12
Group No 11	Shubham Avhad	10	5	4	4	13
	Himanshu Bhamare	15	5	5	5	15
	Parag Kulathe	51	5	5	5	15
	Shubham Patil	28	5	5	5	15
Group No 12	Rutik Admane	9	4	3	3	10
	Sunit Salke	57	4	4	4	12
	Mahesh Sawant	59	3	4	3	10
	Siddharth Todkar	66	3	3	4	10
Group No 13	Diksha Jadhav	48	4	4	3	11
	Kaveri Patil	55	3	3	4	10
	Rohini Sanap	58	2	4	4	10
	Tanuja Prajapati	56	3	3	4	10

8. Impact Analysis

Question	3- High/Excellent	2- Moderate /Average	1-Slight/Poor
1. Did you cover the objective during the activity	32	21	01
2. Do you find Methodology Helpful	31	23	00
3. Does this helps for building a good team	29	20	05
4. Does the content covered, are relevant	36	18	00

9. Activity Picture



10. For review and critique contact: e-mail address of faculty and HOD
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