MARATHA VIDYA PRASARAK SAMAJ'S

Karmaveer Adv. Baburao Ganpatrao Thakare College of Engineering, Nashik

Department of Electronics & Telecommunication Engineering

NOTICE

Date: 18.02.25

Subject: Implementation of "Inquiry-Based Learning" Method.

Dear Students,

This is to inform you that, in this semester the Inquiry-Based Learning (IBL) method will be introduced for the topic Cell Splitting & Sectoring, of the subject Cellular Network (304192), as part of our continuous evaluation process across selected topics. IBL emphasizes student-led exploration, critical thinking, and problem solving. Instead of traditional teaching, students will participate in discussions to demonstrate their comprehension. You are advised to become part of IBL. I will instruct you all to comprehend the approach, organization, and expectations, as well as the assessments and rubrics.

Look forward to your active participation and unique contributions.

Use the rubrics below to assess your activity participation.

Rubrics	4	3	2	1
1. Questions Formulation & Inquiry	Clearly defines a question with insightful, open-ended questions guiding the inquiry.	Defines a relevant question and frames meaningful questions.	Question is defined but lacks depth; questions are too broad or narrow.	Question unclear & irrelevant.
2. Investigation	Uses diverse, credible sources and engineering methods.	Uses appropriate sources with minor gaps.	Basic data collection; lacks coherence.	Poor: lacks understanding
3. Analysis & Interpretation	Demonstrates critical thinking; and draws insightful conclusions.	Interprets data correctly with logical conclusions.	Interpretation is basic or somewhat flawed; lacks deeper analysis.	Answer misinterpreted.
4. Teamwork & Collaboration	Works collaboratively, and supports team members effectively.	Works well in a group, but with occasional imbalance in roles.	Participates but with minimal engagement; depends on others.	Rarely contributes; hinders group progress.
5. Communication & Delivery	Communicates findings clearly and professionally engaging answers.	Information is mostly clear; structure and delivery are satisfactory.	Basic clarity, but answers are unclear.	Unclear answers & poor communication.
6. Reflection & Lifelong Learning	Thoughtful reflection on learning process; identifies strengths, challenges, and future learning needs.	Reflects on learning with some insight; basic understanding of learning strategies.	Superficial reflection; lacks specific insights or learning goals.	No meaningful reflection; no awareness.

Mr. A. R. Chaudhari
Course Teacher

Roll No.	Name	Sign
1	Shubham Aher	
2	Anurag Aher	
3	Priyanka Bavne	
4	Lalit Bhamare	
5	Sanjana Burkul	
6	Aadit Darole	
7	Nilam Daware	
8	Shraddha Desai	
9	Sanika Devkar	
10	Krushna Hatkar	
11	Sneha Jadhav	
12	Avdhut Joshi	
13	Kaushal Joshi	
14	Akshada Kakade	
15	Dhanshree Kedar	
16	Lokesh Khairnar	
17	Monika Kshirsagar	
18	Nikita Kulkarni	
19	Divya Mahajan	
20	Vivek Malunjkar	
21	Itesh More	
22	Prajakta More	
23	Yash Nikam	
24	Rutik Padol	
25	Tanushree Pagare	
26	Aastha Patil	
27	Vedanti Patil	
28	Vedehi Patil	
29	Suyash Pawar	
30	Vaibhav Sarode	

Roll No.	Name	Sign
31	Prathamesh Shejwal	
32	Tejas Shelke	
33	Tejaswini Shelke	
34	Kaushalya Shete	
35	Prajakta Shinde	
36	Shreya Belhekar	
37	Vidya Somvanshi	
38	Abhishek Sonawane	
39	Sarthak Sonawane	
40	Aryan Suri	
41	Sanika Tile	
42	Varad Vispute	
43	Dipti Wagh	
44	Kanchan Abhang	
45	Sarvesh Aher	
46	Prerna Akhade	
47	Tanmay Dhamane	
48	Piyush Jagtap	
49	Sneha Kardile	
50	Harshal Kumbhare	
51	Sakshi Memane	
52	Om Ahirrao	
53	Vrushali Pawar	
54	Omkar Shinde	
55	Sanika Shinde	
56	Sakshi Shirude	
57	Om Tagad	
58	Dipali Wagh	
59	Shrushti Yeole	

Department of Electronics & Telecommunication Engineering

Academic Year – 2024-2025	Class: Third Year
SEM-II	Date:- 15.04.2025 (Assessment)
CO: 1	PO: 1,2, 9, 10, 12

Innovative Teaching Methods

Title of Innovation method/activity: Inquiry-Based Learning (Structured Inquiry Approach)

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

2. **Subject**: Cellular Network (304192)

3. **Objective of Method:**

1. Understand how cell Sectoring & cell Splitting leads to improved signal quality and a higher signal-to-interference ratio.

4. **Topic Covered through Activity**:

1. Cell Sectoring & Splitting

5. **Description of method with Benefits:**

Inquiry-based learning (IBL) is a student-centered approach that encourages active engagement, critical thinking, and knowledge construction through exploration and questioning, rather than direct instruction. It shifts the focus from teachers delivering information to students actively investigating and finding answers to real-world questions. Begin lessons by posing real-world scenarios or open-ended questions that spark student curiosity, students to formulate their own questions or problems related to the topic that requires them to pitch their question using a constructed response, further inquiry, and citation.

- **The method** :

The teacher provides the question, but students design their investigation process, fostering critical thinking and problem-solving skills, Inquiry learning involves developing questions, making observations, doing research to find out what information is already an available, developing method for experiments, developing instruments for data collection, analyzing, and interpreting data, outlining possible explanations and creating predictions for future study.

Roles and Responsibilities

- **Teacher**

In a structural inquiry approach to Inquiry-based learning, the teacher serves as a facilitator and guide, structuring the learning process by providing a clear problem or

question, directing students and offering assistance and feedback, rather than simply delivering knowledge.

Setting the Stage:
The teacher introduces the topic and a central question, sparking curiosity and encouraging students to explore & assist for resource person.

Providing Structure:
The teacher designs the inquiry process and activities, to ensure students are guided effectively.

Guiding and Mentoring:
The teacher provides guidance and support throughout the inquiry process, offering feedback, clarifying misconceptions, and helping students stay focused and organized.

Promoting Critical Thinking:
Encourages students to analyze data, draw conclusions, and evaluate their findings, fostering critical thinking and problem-solving skills.

Assessing Learning:
Assesses student learning through various methods, including observation, questioning, and student presentations, providing feedback and instruction to meet individual needs.

- **Student**

Students (group of 3/4 students) become active researchers in inquiry-based learning, particularly when a structured approach is employed. They take ownership of their learning by finding the resource person and collect the answers of query in mind about the assign topic, by discussion with the resource person, investigating information, and collaborating to find solutions.

Questioning and Exploration:
Students are encouraged to ask questions, explore ideas, and investigate real-world problems.

Active Participation:
They actively participate in the learning process, rather than passively receiving information.

Critical Thinking and Problem-Solving:
Inquiry-based learning fosters critical thinking, problem-solving, and analytical skills.

Reflecting on Learning:
Students are encouraged to reflect on their learning process, identifying what they have learned and how they can apply it.

6. Assessment Tools & Rubrics:

Quiz (80 %)

Individual performance would be checked through the quiz.

Discussion (20 %)

Facilitate discussions to assess students' understanding of concepts by contributing to the inquiry process, their questioning, investigation, collaboration and their ability to articulate their ideas.

Overall Individual Performance
Final Marks Obtained = (Quiz Marks + Oral questions)

- **Rubrics for Assessment**

Rubrics	4	3	2	1
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7. Evaluation Sheet & Feedback

Sr. No	Name	Quiz (8)	Report (2)	Final Marks (10)	Sign
1	Aastha Patil	6	2	8	
2	Abhishek Sonawane	6	2	8	
3	Akshada Kakade	6	2	8	
4	Aryan Suri	7	2	9	
5	Avdhut Joshi	5	2	7	
6	Dhanshree Kedar	7	2	9	
7	Dipali Wagh	7	2	9	
8	Dipti Wagh	6	2	8	
9	Divya Mahajan	4	2	6	
10	Harshal Kumbhare	5	2	7	
11	Itesh More	6	2	8	
12	Kaushal Joshi	7	2	9	

Sr. No	Name	Quiz (8)	Report (2)	Final Marks (10)	Sign
13	Kaushalya Shete	6	2	8	
14	Krushna Hatkar	6	2	8	
15	Lalit Bhamare	7	2	9	
16	Lokesh Khairnar	2	2	4	
17	Monika Kshirsagar	7	2	9	
18	Nikita Kulkarni	7	2	9	
19	Nilam Daware	6	2	8	
20	Om Ahirrao	7	2	9	
21	Om Tagad	7	2	9	
22	Omkar Shinde	7	2	9	
23	Piyush Jagtap	7	2	9	
24	Prajakta More	6	2	8	
25	Prajakta More	4	2	6	
26	Prajakta Shinde	7	2	9	
27	Prathamesh Shejwal	7	2	9	
28	Prerna Akhade	7	2	9	
29	Priyanka Bavne	6	2	8	
30	Rutik Padol	7	2	9	
31	Sakshi Memane	5	2	7	
32	Sakshi Shirude	2	2	4	
33	Sanika Devkar	7	2	9	
34	Sanika Shinde	7	2	9	
35	Sanika Tile	1	2	3	
36	Sanjana Burkul	3	2	5	
37	Sarthak Sonawane	7	2	9	
38	Sarvesh Aher	6	2	8	
39	Shraddha Desai	6	2	8	
40	Shreya Belhekar	7	2	9	
41	Shrushti Yeole	5	2	7	
42	Shubham Aher	7	2	9	
43	Sneha Jadhav	7	2	9	
44	Sneha Kardile	7	2	9	
45	Suyash Pawar	5	2	7	
46	Tanmay Dhamane	7	2	9	
47	Tanushree Pagare	7	2	9	
48	Tejas Shelke	7	2	9	
49	Tejaswini Shelke	7	2	9	
50	Vaibhav Sarode	7	2	9	
51	Varad Vispute	4	2	6	

Sr. No	Name	Quiz (8)	Report (2)	Final Marks (10)	Sign
52	Vedanti Patil	7	2	9	
53	Vedehi Patil	6	2	8	
54	Vidya Somvanshi	7	2	9	
55	Vivek Malunjkar	7	2	9	
56	Vrushali Pawar	7	2	9	
57	Yash Nikam	7	2	9	

8. **Impact Analysis**

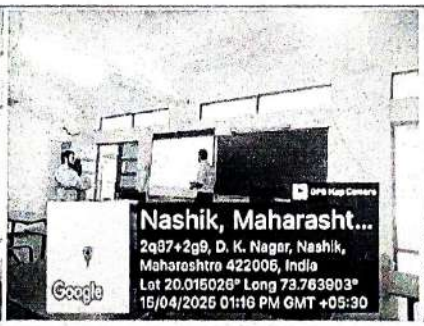
Sr. No	3- Yes	2- May be	1- No
Do you find Methodology Helpful	47	10	0

Analysis:-

- 87.71 % students score more than 60% in quiz conducted on the topic.
- 82.45 % agreed the method is helpful.

Conclusion:- By observation from students response & feedback (Oral) Inquiry-based learning is a powerful teaching method that actively engages students, fosters critical thinking, and connects classroom learning to real-world situations. By implementing the strategies and models discussed, that encourages exploration and deep understanding.

9. **Activity Picture**



10. **For review and critique contact: e-mail address of faculty and HOD**
Chaudhari.atul@kbtcoe.org

Mr. A. R. Chaudhari
Subject In charge

Mr. A. R. Chaudhari
Module Coordinator

HoD