Mechanical Engineering Department

Academic Year – 2020-21	Class: SE
Semester – I	Date : 17/08/2020
CO: CO1	PO: PO1, PO10

Innovative Teaching Methods

Title of Innovation method/activity: Innovative Teaching Learning Method (Preparation and presentation of Models)

Link shared to the students:

1. Name of Faculty: Mr. N.S. Gaikwad

2. Subject: Material Science

3. Objective of Method:

I. Prepared construction, working and application of crystal models

II. Describe the types of crystal structure

III. Identify no. of atoms per unit cell, coordination number.

IV. Determine atomic packing factor.

V. Develop practical and presentation skill

4. **Topic Covered through Activity**:
Understand construction and lattice parameters of crystal structures.

5. Description of method with Benefits (8 – 10 lines):
Different types of Crystal structures will be prepared by students by using available material and to give a presentation. The hands-on activity is designed for students to prepared different crystal structures.

Benefits of method:

- It helps students to better understanding crystal structure and how its parameters
- Students have to understand basic concepts of crystal structure and find Navg, Ligancy no .and APF.
- It helps to students to share his ideas with classmates and builds oral communication skills.

The method:

Monitor and support students as they work through the following in this method:

1. Ask students to make a model of any crystal structure by using available material

2. Prepared model is developed by individually.

3. All groups are asked to give presentation of prepared model.

4. Teacher examined the presentation of each group and asks questions related to type and Navg.,co-ordination number, APF and various parameters of crystal structure.

Roles and Responsibilities

- **Teacher**
    - Suggest available material for development of crystal model.
    - Provide the study material of different crystal structures and appropriate guide lines at every stage of making models.
    - Remain available during the completion of task.
    - Prepare assessment methodology.
- **Student**
    - Go through all the material provided on model.
    - Once model is selected, understand it and discuss individually
    - Actively participate in presentation and contribute by means of discussion

6. Assessment Tools

Sr. No.	Rubrics	Marks
1	Model preparation	4 M
2	Understanding	3 M
3	Presentation skill	3 M

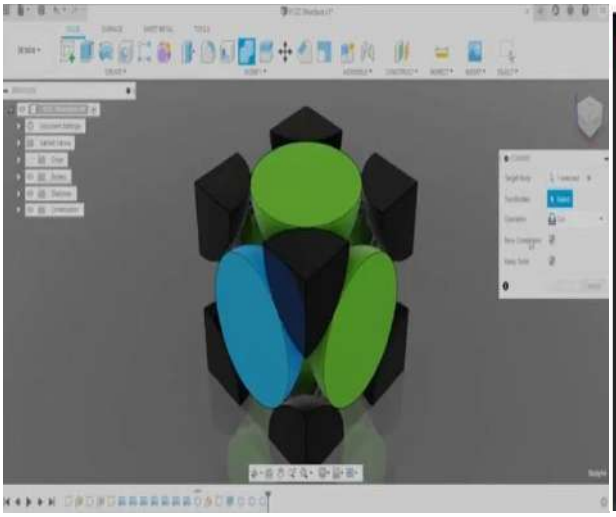
7. Evaluation sheet of attendee

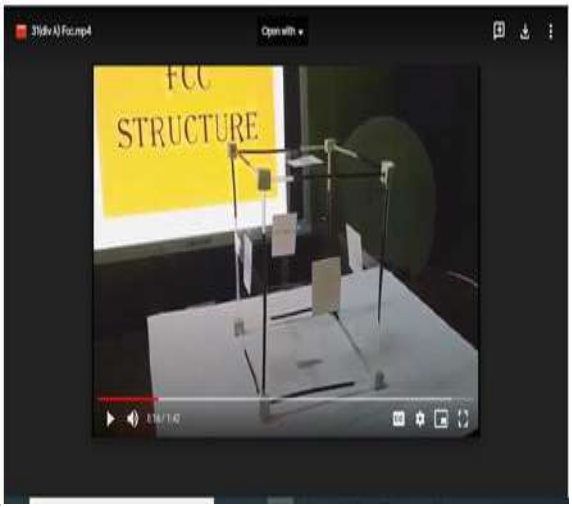
Sr. No.	Roll No.	Name of students	Model preparation(4)	Understanding (3)	Presentation skill (3)	Score out of 10
1	1	Harsh Dattatray Aher	3	2	2	7
2	2	Ganesh Umesh Ahirrao	3	2	2	7
3	5	Sidhhant Sunil Bachhav	3	2	2	7
4	7	Tejas Santosh Baviskar	3	2	2	7
5	10	Sushant Rajendra Bodke	3	2	2	7
6	11	Swapnil Tukaram Borade	4	3	3	10
7	12	Samarth Bhagwat Boraste	4	3	3	10
8	13	Vishal Ashok Budhawant	3	3	3	9
9	15	Rushikesh Manoj Chavan	3	3	2	8
10	16	Ankush Santosh Derle	3	3	2	8
11	19	Rohit Ramesh Dugaje	3	3	2	8
12	20	Sakshi Vishwas Gadakh	4	2	2	8
13	21	Vishwajeet Rajendra Gadakh	3	3	3	9
14	22	Onkar Hemant Gaikwad	3	3	3	9
15	25	Prasad Dipak Hire	3	3	3	9
16	26	Prathamesh Dinesh Jadhav	4	3	3	10
17	27	Umesh Shriram Jadhav	3	3	3	9

18	28	Amey Appasaheb Kadam	4	3	3	10
19	32	Rutuj Sanjay Khairnar	4	3	2	9
20	33	Yashodeep Arun Khairnar	3	3	3	9
21	36	Vaibhav Ashok Kirtiwar	4	3	3	10
22	37	Gaurav Murlidhar Kothawade	4	3	2	8
23	38	Pratik Ghotekar	2	3	2	7
24	39	Abhishek Sharad Kotkar	4	3	2	9
25	40	Vaibhav Dnyaneshwar Kushare	4	2	2	8
26	41	Yuvaraj Ramchandra Labhade	4	3	2	9
27	42	Aniket Kailas Lahane	4	3	2	9
28	43	Aniket Subhash Lawand	4	3	2	9
29	44	Jay Rajendra Mahale	4	3	3	10
30	45	Omkar Manoj Mali	4	3	3	10
31	48	Chaudhari Uday Yuvraj	4	3	3	10
32	51	Gunjal Shivraj Gajendra	3	3	3	9
33	53	Jagtap Himanshu Shekhar	4	3	3	10
34	56	Mondhe Purushottam	2	3	2	7
35	57	Patale Rohit	2	2	2	6
36	59	Shubham Panditrao Jadhav	4	2	2	8
37	60	Piyush Sonawane	4	3	2	9

Student responses: Uploaded as a separate excel sheet

8. Activity Picture





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