

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
 ACTIVITY BASED LEARNING**

**Course Code & Course Title** : 19EC302 & Electronic Devices  
**Year/Sem/Branch** : I / II / ECE  
**Name of Faculty** : Ms. Nancy Catherine. I  
**Designation** : Assistant Professor (SG)  
**Unit Title** : Semiconductor Diode  
**Topic** : Forward and Reverse Bias V-I Characteristics of PN Junction Diode  
**LO** : To understand the V-I characteristics of a PN junction diode under forward and reverse bias condition.  
**Bloom's Taxonomy Level** : Understand

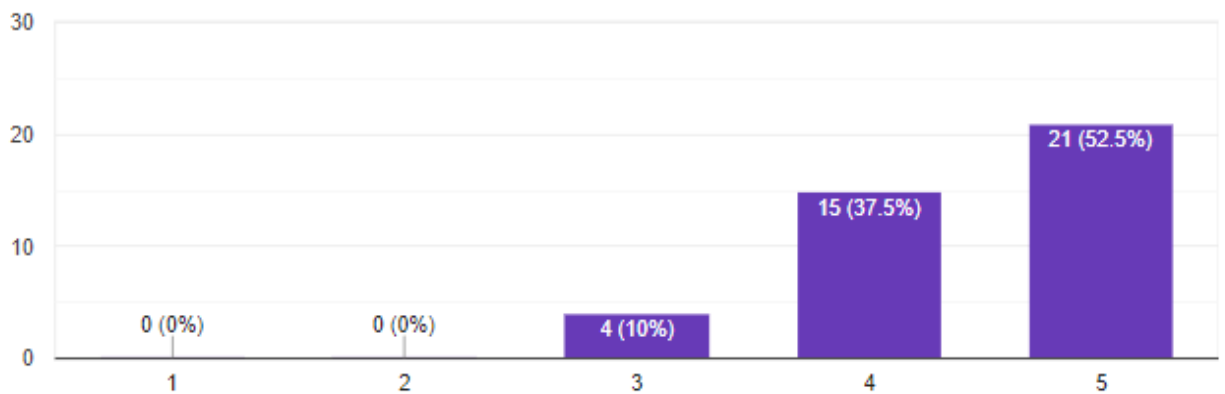
S.No.	Title	Description
1	<b>Concept</b>	<ul style="list-style-type: none"> <li>Learn about the effects of biasing on a diode.</li> <li>Gain a greater understanding of the difference between PN junction reverse bias and forward bias.</li> <li>Learn about the types and characteristics of forward and reverse bias in a PN junction diode.</li> </ul>
2	<b>Challenges Faced</b>	<ul style="list-style-type: none"> <li>The students struggled with both the macro-level behavior of a P-N junction diode and the underlying micro-level phenomena.</li> <li>Students expressed a need for micro-level visualizations during instruction to facilitate conceptual learning of semiconductor diode.</li> </ul>
3	<b>Name of the Activity</b>	Animation video + Quiz
4	<b>Description of the Activity</b>	<ul style="list-style-type: none"> <li>The animation video was taken from the internet in YouTube Videos and was used as a media in presenting the micro-level visualizations to students in a better way.</li> <li>The learning process was held online with appropriate devices such as laptop, supporting audio system such as speaker and through Google Meet.</li> <li>First of all, I gave the instruction to the students and then showed animation video and paused each part of animation video and explained the concepts of biasing of PN junction diode and its V-I characteristics.</li> <li>Quiz questions were posted in Moodle-LMS learning platform which helped to assess, how well the concept have reached the learners based on the Quiz score.</li> </ul>

5	Feedback from Learners (Consolidated)	<ul style="list-style-type: none"> <li>• Teaching the concept using animation video was very effective.</li> <li>• The entire session was very interesting.</li> <li>• Conducting quiz through Moodle-LMS helped testing the knowledge in an effective way of helping retain the information.</li> </ul>
6	Feedback of the Faculty about this activity	<ul style="list-style-type: none"> <li>• Some of the students get bored, lost their focus and lead to misconception of the concept when it was handled during conventional method of teaching.</li> <li>• During application of the video, the students seemed to pay attention, enjoyed and very enthusiastic in learning process.</li> <li>• The combination of watching videos with other task like conducting quiz had an impact on increasing student learning outcomes.</li> </ul>

**Analysis Report Chart :**

Relevance of the activity to the concept\*

40 responses

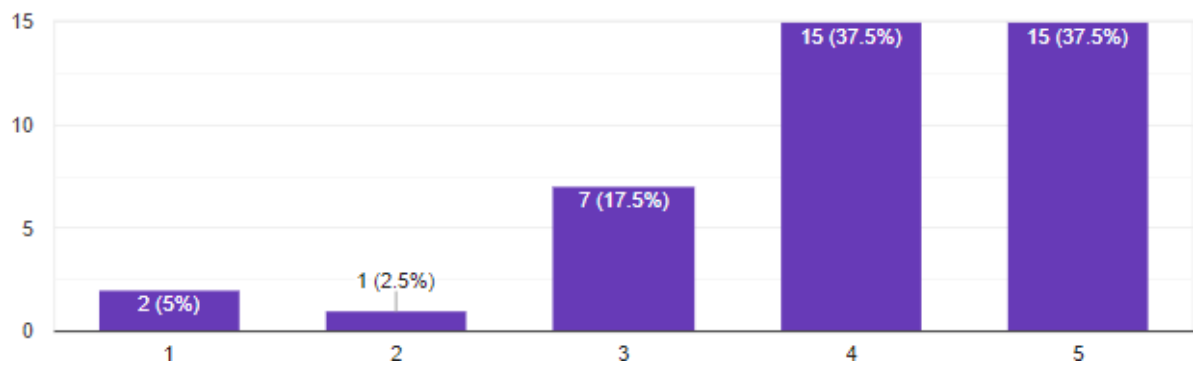


How far this activity is understandable when compared to chalk & board method of teaching \*



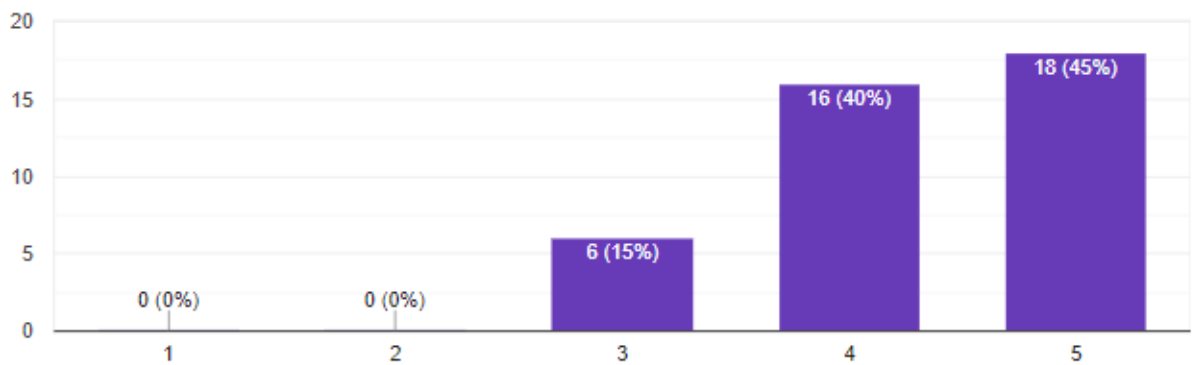
\*

40 responses



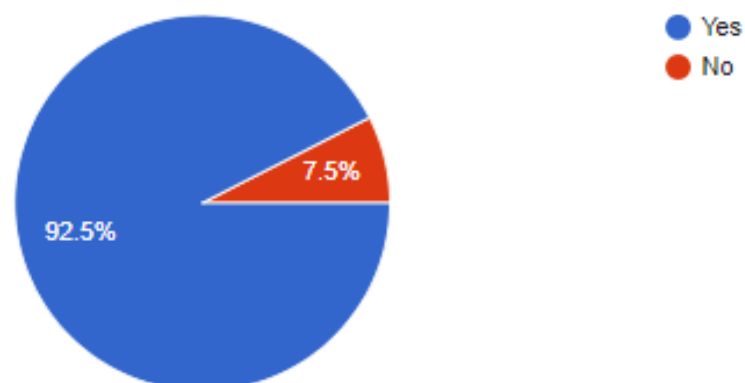
This activity helped me to have better understanding \*

40 responses



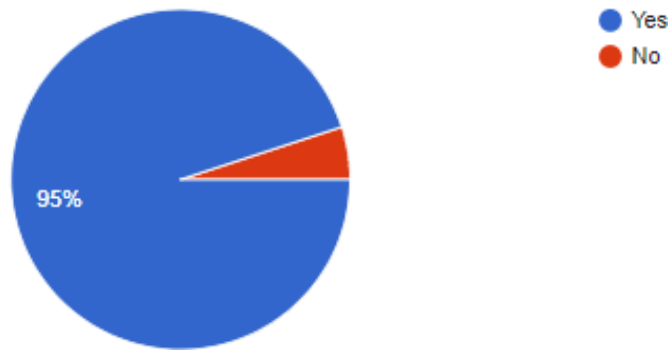
Was today's session very interesting? \*

40 responses



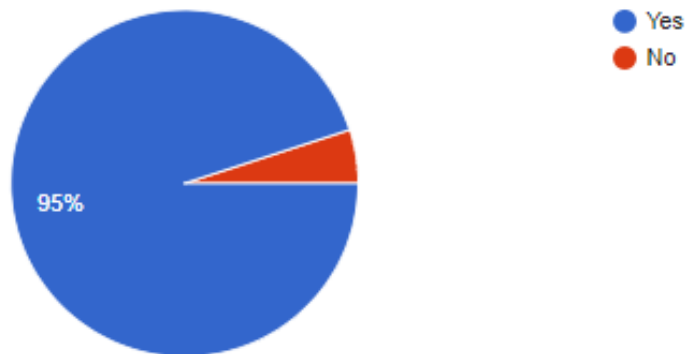
Teaching the concept using Animation video was very effective

40 responses



Conducting quiz after the session was really effective to retain the concept

40 responses



**Evidences/Proofs:**

<https://www.youtube.com/watch?v=HFq2ey6mZiM> – **V-I Characteristics of PN junction Diode Animation video Link**

<https://drive.google.com/file/d/1PxmzR5mVxt3nlNnJNRvtnDsQ1bvIiHj5/view> - **Gmeet online class Video Lecture recording Link**

[https://drive.google.com/drive/u/1/folders/1-xgh7\\_SRoWchHfunxfEEcSRdYNp98NOT](https://drive.google.com/drive/u/1/folders/1-xgh7_SRoWchHfunxfEEcSRdYNp98NOT) - **Quiz Questions Uploaded and Quiz Scores**

**Signature of the Course Faculty**

**Signature of HOD**