# DAILY ASSESSMENT REPORT

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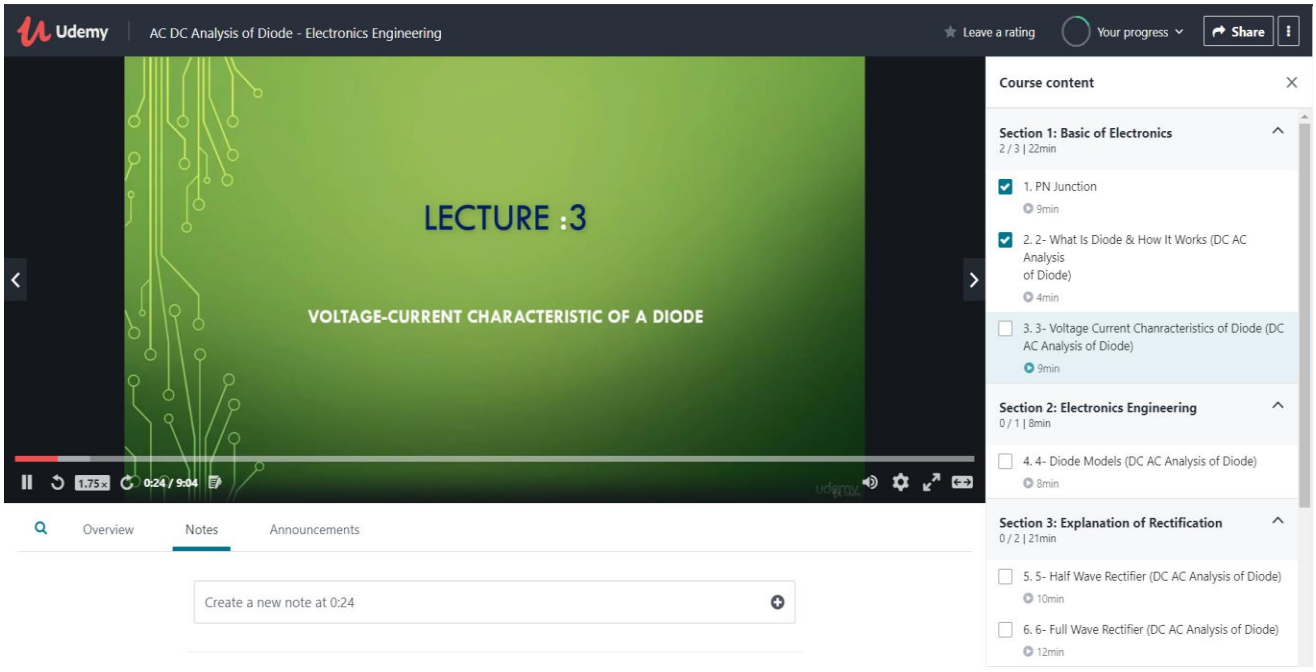
| **Date:** | **12 June 2020** | **Name:** | **Gagan M K** |
| **Course:** | **AC DC Analysis of Diode - Electronics Engineering** | **USN:** | **4AL17EC032** |
| **Topic:** | • Basic of Electronics<br>• PN Junction<br>• What Is Diode & How It Works (DC AC Analysis of Diode)<br>• Voltage Current Characteristics of Diode (DC AC Analysis of Diode)<br>• Electronics Engineering<br>• Diode Models (DC AC Analysis of Diode) | **Semester & Section:** | **6th sem & 'A' sec** |
| **GitHub Repository:** | **Alvas-education-foundation/Gagan-Git** | | |

**FORENOON SESSION DETAILS**

**Image of session**



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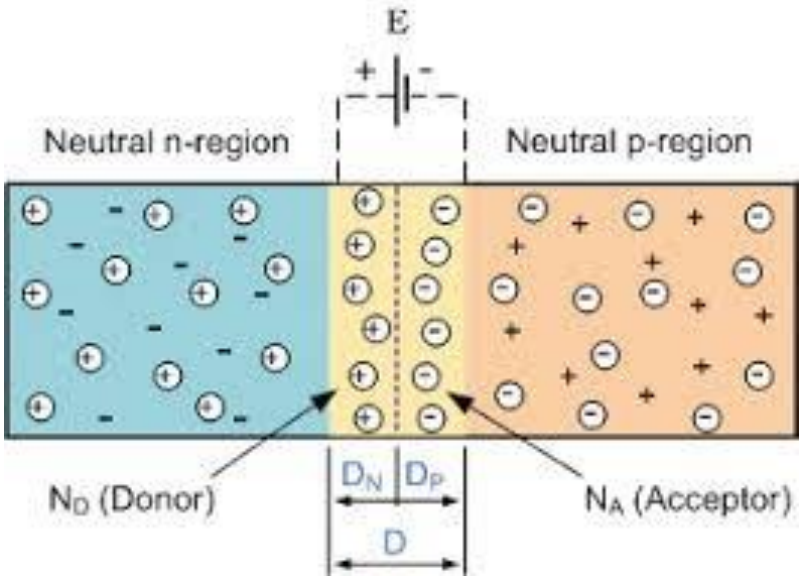
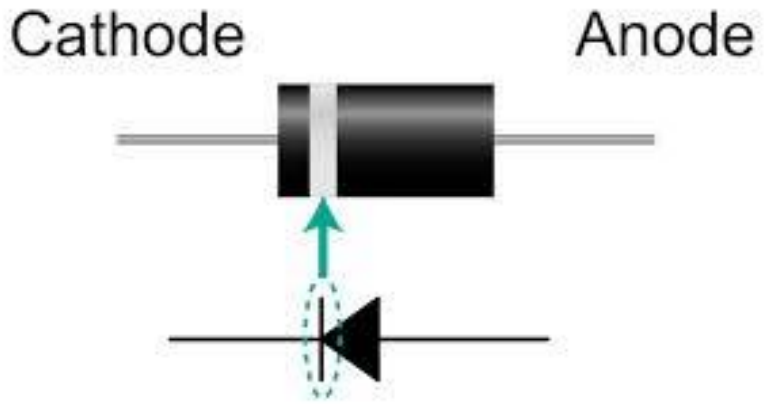
## Basic of Electronics:

- **PN Junction**

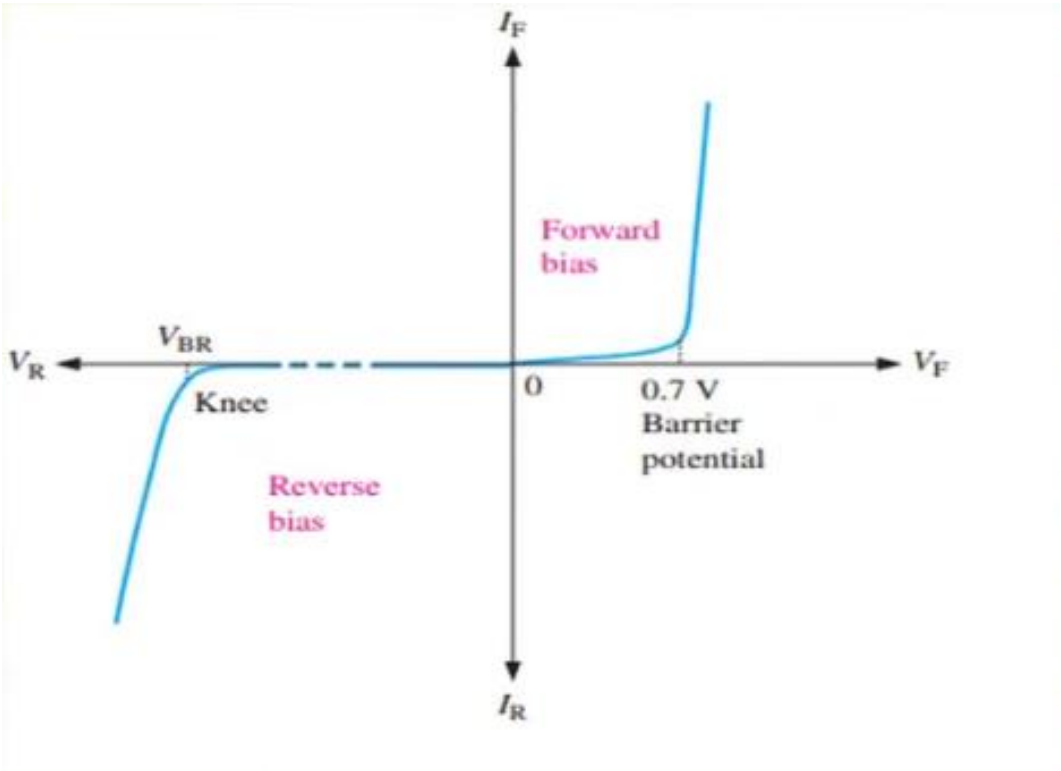



- **A p-n junction is an interface or a boundary between two semiconductor material types, namely the p-type and the n-type, inside a semiconductor. The p-side or the positive side of the semiconductor has an excess of holes and the n-side or the negative side has an excess of electrons.**
- **A diode is a two-terminal electronic component that conducts current primarily in one direction (asymmetric conductance)**




- **Diodes can be used as rectifiers, signal limiters, voltage regulators, switches, signal modulators, signal mixers, signal demodulators, and oscillators. The fundamental property of a diode is its tendency to conduct electric current in only one direction.**
- **Different Types of Diodes. There are several types of diodes are available for use in electronics design, namely; a Backward diode, BARITT diode, Gunn Diode, Laser diode, Light emitting diodes, Photodiode, PIN diode, PN Junction, Schottky diodes, Step recovery diode, Tunnel diode, Varactor diode and a Zener diode.**

## Voltage Current Characteristics of Diode:




- **VI Characteristics of PN Junction Diode in forwarding Bias**
- **The slope of the PN junction diode in forwarding bias shows the resistance is very low. When a forward bias is applied to the diode then it causes a low impedance path and permits to conduct a large amount of current which is known as infinite current.**
- **VI Characteristics of PN Junction Diode in Reverse Bias**
- **The current in this biasing is low till breakdown is reached and hence the diode looks like an open circuit. When the input voltage of the reverse bias has reached the breakdown voltage, reverse current increases enormously.**
- **Diode models are used to approximate the diode characteristic curve as a series of linear segments. The real diode is modeled as 3 components in series: an ideal diode, a voltage source and a resistor. This shows a real diode I-V curve being approximated by a two-segment piece-wise linear model.**
- **An ideal diode is a diode that acts like a perfect conductor when voltage is applied forward biased and like a perfect insulator when voltage is applied reverse biased. So when positive voltage is applied across the anode to the cathode, the diode conducts forward current instantly.**

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| **Date:** | **12 June 2020** | **Name:** | **Gagan M K** |
| **Course:** | **Java Tutorial for Complete Beginners** | **USN:** | **4AL17EC032** |
| **Topic:** | • **Generics and Wildcards**<br>• **Anonymous Classes**<br>• **Reading Files Using Scanner**<br>• **Handling Exceptions**<br>• **Multiple Exceptions**<br>• **Runtime vs. Checked Exceptions**<br>• **Abstract Classes**<br>• **Reading Files With File Reader**<br>• **Try-With-Resources**<br>• **Creating and Writing Text Files** | **Semester & Section:** | **6th sem & 'A' sec** |

**AFTERNOON SESSION DETAILS**

**Image of session:**

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## Java:

- **Generics and Wildcards usage in program was seen.**
- **How to include "Anonymous Classes" was learnt.**
- **Reading Files Using Scanner was shown in Java.**
- **Handling Exceptions was practiced.**
- **Multiple Exceptions was shown.**
- **Runtime vs. Checked Exceptions was learnt.**
- **How to include "Abstract Classes" was taught.**
- **Reading Files with File Reader in Java.**
- **Try-With-Resources was practiced.**
- **Creating and Writing Text Files using Java was learnt.**

```
package one;

abstract class Base {
    abstract void fun();
}
class Derived extends Base {
    void fun() { System.out.println("Derived fun() called"); }
}
class abstractclass {
    public static void main(String args[]) {

        // Uncommenting the following line will cause compiler error as the
        // line tries to create an instance of abstract class.
        // Base b = new Base();

        // We can have references of Base type.
        Base b = new Derived();
        b.fun();
    }
}
```

- **Anonymous class Example:**

```
package one;

//Java program to demonstrate need for Anonymous Inner class
//Java program to demonstrate Anonymous inner class

interface Age
{
    int x = 21;
    void getAge();
}
class anonymous
{
    public static void main(String[] args) {

        // Myclass is hidden inner class of Age interface
        // whose name is not written but an object to it
        // is created.
        Age oj1 = new Age() {
            @Override
            public void getAge() {
                // printing age
                System.out.print("Age is "+x);
            }
        };
        oj1.getAge();
    }
}
```