

# Transmission Electron Microscopy (TEM)



The first TEM was demonstrated by Max Knoll and Ernst Ruska in 1931.

**The image is then magnified and focused onto an imaging device, such as a fluorescent screen, a layer of photographic film, or a sensor such as a scintillator attached to a charge-coupled device.**

**Transmission electron microscopy (TEM) is a microscopy technique in which a beam of electrons is transmitted through a specimen to form an image. The specimen is most often an ultrathin section less than 100 nm thick or a suspension on a grid. An image is formed from the interaction of the electrons with the sample as the beam is transmitted through the specimen.**

## **Transmission Electron Microscopy**

**TEM can be used to study the growth of layers, their composition and defects in semiconductors. High resolution can be used to analyze the quality, shape, size and density of quantum wells, wires and dots.**

## **References-**

[https://en.wikipedia.org/wiki/Transmission\\_electron\\_microscopy](https://en.wikipedia.org/wiki/Transmission_electron_microscopy)

<https://warwick.ac.uk/fac/sci/physics/>



| TAE Assessment Sheet for FY B Tech |          |                  |                                      |                          |                     |
|------------------------------------|----------|------------------|--------------------------------------|--------------------------|---------------------|
| SR.NO                              | ROLL NO  | DIVISION         | NAME OF THE STUDENT                  | TAE NO                   | POSTER/PRESENTATION |
| 1                                  | A69      | A                | Soham Yugraj Tiwari                  | 1                        | Poster              |
| 2                                  | A70      | A                | Amaan Ayyub Nalband                  |                          |                     |
| 3                                  | A71      | A                | Shravan Vijaypratap Singh            |                          |                     |
| 4                                  | A72      | A                | Pratik Rajesh Jade                   |                          |                     |
| Rubrics For Assessment             |          |                  |                                      |                          |                     |
| CATEGORY                           | Contents | Presentati<br>on | Spelling and<br>pronunciation        | Oral<br>Presentatio<br>n | TOTAL               |
| Maximum<br>MARKS                   | 2        | 1                | 1                                    | 1                        | 5                   |
| Marks<br>obtained                  |          |                  |                                      |                          |                     |
|                                    |          |                  | Teacher sign<br>(With name and date) |                          |                     |