



**B. Sc. (Physics) Semester - IV**

**Paper-II (Solid state electronics, and Molecular physics)**

Unit I

Introduction to Solid state electronics-

<https://www.youtube.com/watch?v=qQm1VR8jsKY&list=PLh190Xdu5f-uFJoOBnXxPdQ2Hg05dMtQq>

LED

<https://www.youtube.com/watch?v=uPyzlAXTAik>

Solar Cell, Photovoltaic cell

<https://www.youtube.com/watch?v=qQYCSvX7jco>

Construction and working, transistor characteristics in CE and CB Mode

<https://www.youtube.com/watch?v=RoN-sXrFXZI>

Unit II

Construction and working principal of JFET

[https://www.youtube.com/watch?v=\\_DZ7baOhNFQ](https://www.youtube.com/watch?v=_DZ7baOhNFQ)

JFET as an amplifier

<https://www.youtube.com/watch?v=7Nqj2XstBkw>

MOSFET-

[https://www.youtube.com/watch?v=X4\\_8dh-J4ik](https://www.youtube.com/watch?v=X4_8dh-J4ik)

Unit III

Vibrational and rotational energies

[https://www.youtube.com/watch?v=A4fK4\\_z6PII](https://www.youtube.com/watch?v=A4fK4_z6PII)

Rigid diatomic molecules

<https://www.youtube.com/watch?v=Eusmh9m9KDA>

Diatomic molecules as harmonic and anharmonic oscillator

<https://www.youtube.com/watch?v=bRzE5IihLNo>

Born Oppenheimer approximation

[https://www.youtube.com/watch?v=ZUvySSs\\_apQ](https://www.youtube.com/watch?v=ZUvySSs_apQ)

Unit IV

Raman Effect

<https://www.youtube.com/watch?v=arjqjdtSQA>

Quantum explanation of Raman Effect

<https://www.youtube.com/watch?v=-yx8YiiCRM8>

Frank-Condon principle

<https://www.youtube.com/watch?v=MqjNSub1erA>



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Elementary ideas of NMR

<https://www.youtube.com/watch?v=HhV3H-m5f2c>