



B. Sc. (Physics) Semester IV
Paper-I (Solid state physics, X-ray and Laser)

Unit I

Introduction to solid state physics

<https://www.youtube.com/watch?v=5h5gXoFyo64&list=PLO1URmIbkyNvo-KmWWJkZb9LjUle-r6fU>

Unit Cell

<https://www.youtube.com/watch?v=o5fzn6at4IQ&list=PLO1URmIbkyNvo-KmWWJkZb9LjUle-r6fU&index=2>

Bravais lattices

<https://www.youtube.com/watch?v=qITzbUu6N6Q&list=PLO1URmIbkyNvo-KmWWJkZb9LjUle-r6fU&index=4>

NaCl, diamond, CsCl, ZnS etc

https://www.youtube.com/watch?v=Z9A5HGb_PaY

Unit II

Introduction to X-ray

https://www.youtube.com/watch?v=ulQIHmdPcPM&list=PL_wLIUCOfT6TIUVFu5VxsFJIy11yHWZeZ

Discrete and continuous X-ray spectra

https://www.youtube.com/watch?v=o8_tRqXdoFY

X-ray emission spectra

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

Auger effect

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

Unit III

Reciprocal lattice

<https://www.youtube.com/watch?v=mjqdUg1UCp0>

Laue's theory of X-ray diffraction

<https://www.youtube.com/watch?v=-o6GU7XV91Q>

<https://www.youtube.com/watch?v=dbaUDXr24sc>

Bragg's law

<https://www.youtube.com/watch?v=5aMPF9TovF0>



Unit IV

Introduction to Laser

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

<https://www.youtube.com/watch?v=iojNx6Gnx0o>

Einstein's relation

<https://www.youtube.com/watch?v=zsQ1U9TKHIg>

<https://www.youtube.com/watch?v=BIeSNVN5Ahg>

Ruby laser

https://www.youtube.com/watch?v=zCGspwB4_FE

<https://www.youtube.com/watch?v=KNdzT60U37g>

He-Ne laser

<https://www.youtube.com/watch?v=7Jvh7cMd4j4>

Application of laser in Physics

<https://www.youtube.com/watch?v=f-Za6hNMgBA>