

IV rth Sem Physics

Sr No	Topic	Link
Unit 1 Geometrical optics and interference		
1	Cardinal points of an optical system	https://www.youtube.com/watch?v=0z99OFTMEDM
2	equivalent focal length	https://www.youtube.com/watch?v=gr6WCldcipE
3	power of coaxial lens system and power of coaxial lens system	https://www.youtube.com/watch?v=kqoDmyFFyQQ
4	Interference in thin films due to reflected	https://www.youtube.com/watch?v=j6142NDLtqY
5	Interference in thin films due to transmitted light	https://www.youtube.com/watch?v=6b5oRv2OGs8
6	interference in wedge shaped thin film	https://www.youtube.com/watch?v=rihRJ0OTPRQ
7	Newton's ring by reflected light	https://www.youtube.com/watch?v=cA8g_pjoTrg
8	measurement of wavelength of monochromatic light by Newton's ring	https://www.youtube.com/watch?v=2pfWEmilLXI
9	determination of refractive index of liquid by Newton's rings.	https://www.youtube.com/watch?v=WApHdC7LMw
Unit II Diffraction		
1	Fresnel and Fraunhofer Diffraction	https://www.youtube.com/watch?v=Q-oQKSLhLKw
2	Fresnel half period zone	https://www.youtube.com/watch?v=K-uZmuxDdAc
3	zone plate construction and theory	https://www.youtube.com/watch?v=tKLOsGzZ8CA
4	Double slit diffraction	https://www.youtube.com/watch?v=P06r7KcxdKo
5	Plane diffraction grating	https://www.youtube.com/watch?v=F6dZjuw1KUo
6	determination of wavelength of monochromatic light by using grating	https://www.youtube.com/watch?v=desLn3tMLcc
7	Rayleigh's criteria for resolution	https://www.youtube.com/watch?v=vzpcUw11k
8	R . P. of grating	https://www.youtube.com/watch?v=KMtTo5ZtGS4
Unit III Polarization		
1	Concept of polarization	https://www.youtube.com/watch?v=SuvESIXB8Yk
2	optic axis	https://www.youtube.com/watch?v=a9UkfP97bx8
3	double refraction	https://www.youtube.com/watch?v=NDyt2Th4tjY
4	polarization by double refraction	https://www.youtube.com/watch?v=erW6dIHOAnU
5	phase retardation plate Quarter wave plate, half wave plate	https://www.youtube.com/watch?v=hI0Zizj2fPQ
6	Theory of production of elliptically and circularly polarized light	https://www.youtube.com/watch?v=5U_5lktkB2w
7	Half shade polarimeter	https://www.youtube.com/watch?v=UGUhsZF0_u0
Unit IV Laser		
1	Introduction to Maser	https://www.youtube.com/watch?v=CzgHYb7bujA

- 2 Absorption, spontaneous and stimulated emission
- 3 population inversion
- 4 pumping characteristics of laser beam
- 5 Main components of laser system
- 6 three level and four level laser system
- 7 Ruby laser
- 8 He-Ne laser
- 9 semiconductor laser
- 10 application of laser
- 11 Holography-principle .

<https://www.youtube.com/watch?v=G2Mo46eLAFs>
<https://www.youtube.com/watch?v=A-vhg2kXvoY>
<https://www.youtube.com/watch?v=qmHpwRmWWJs>
<https://www.youtube.com/watch?v=61gQ3rFe0W4>
https://www.youtube.com/watch?v=QG93T_vbekY
<https://www.youtube.com/watch?v=6-7D3nl73pl>
<https://www.youtube.com/watch?v=be8VMm2hDAo>
<https://www.youtube.com/watch?v=Tio94pD-IPQ>
<https://www.youtube.com/watch?v=-W0pwzaJHu8>
<https://www.youtube.com/watch?v=qnglLxqGX0>

Unit V Fiber optics

- 1 introduction of fiber optics
- 2 Acceptance angle and numerical aperture
- 3 dispersion, fiber losses
- 4 fiber optic communication
- 5 Advantages and Disadvantages of optic fibers
- 6 application of fiber optics

<https://www.youtube.com/watch?v=BmgdG7tiquc>
<https://www.youtube.com/watch?v=q37CpocWZyw>
<https://www.youtube.com/watch?v=8oRaDSD0MDA>
<https://www.youtube.com/watch?v=g0rd8Zxv2cU>
<https://www.youtube.com/watch?v=WoSd1BYoSNk>
<https://www.youtube.com/watch?v=irB9KdjEwBw>

Unit VI Renewable Energy Sources

- 1 Introduction to various renewable energy sources
- 2 Hydrogen energy systems
- 3 Fuel cells.
- 4 Solar energy - Solar radiations on earth

<https://www.youtube.com/watch?v=jE16cXLqXIs>
<https://www.youtube.com/watch?v=9zgx-PIDEKA>
<https://www.youtube.com/watch?v=6oeN9VDFLig>
https://www.youtube.com/watch?v=C_U3e9744o4