FPYC-505 OPTICAL ELECTRONICS

Unit-I

Special frequency filtering-Introduction,The fourior transform and some of its properties,The fourior transforming property of a thin lens,Some elementary examples of the Fourior transforming properties of thin lens,applications

Unit-II

Laser:Introduction,The Einstein co-efficient,light amplification,The threshold condition,laser rate equation,variation of laser power around threshold,optimum output coupling,line broadening mechanisim,additional problems.the quality factor,mode selection,Q-switching,mode locking in Lasers.

Unit-III

Laser system:Introduction,Ruby Laser,The He-Ne Laser,The CO_2 Laser,Dye Laser,Semiconductor Laser,Applications

Unit-IV

Electrooptic effect:Introduction, Electrooptic effect in KDP crystal :longitudinal mode, Electrooptic effect in KDP crystal:transverse mode, The Electrooptic effect in Lithium niobate and lithium tantalite crystals,General consideration on modulator design,The index ellipsoid in the presence of an external electric field,additional problems.