

1st Sem - IV
Paper 7
Unit IV
~~Expts~~

Polarized light

FEBRUARY '24

TUESDAY

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VA 08 DATE 051-315

It is light that vibrates in a single plane light or, by reflecting it off flat surfaces. Polarized light can be produced by transmitting unpolarized light through methods such as reflection.

Type of polarized light \rightarrow

(a) Linear polarized light \rightarrow : The electric field of light vibrates in a single plane. The electric field is limited to a single plane along the direction of ~~propagation~~ propagation. ex: linear polarizers include film, wire grid and crystal.

(b) Circularly polarized light \rightarrow : The electric field of light is made up of two linear components that are perpendicular to each other. The two

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THINGS TO DO linear components have equal amplitudes but a phase difference of $\pi/2$. Circular polarizers are made by combining a linear polarizer and a quarter wave plate.

a) Elliptically polarized light \rightarrow The electrical field of light propagates elliptically. The electric field has unequal amplitudes and phase differences between the two linear components. Elliptical polarizers are made by combining a linear polarizer and a retarder with a phase difference other than 90° .