

CL45_Q1. Distinguish between holography and photography.

Answer

S.NO	HOLOGRAPHY	PHOTOGRAPHY
1.	Holography is used to generate 3-dimensional images.	Photography is used to generate 2-dimensional images.
2.	Phenomenon used in holography is interference and diffraction of light.	It uses reflection of light from the object to the photographic film.
3.	Source of light should be monochromatic and coherent.	No special type of light source is needed.
4.	No lenses are required to generate the holograph.	Lenses are required to focus on the object and generate the photograph.
5.	Holography has high information capacity.	Photography has less information capacity than holography.
6.	Multiple images can be superimposed together.	Multiple images can't be superimposed together.
7.	All information is stored in every piece of the hologram. A small piece of the hologram can generate the full 3D image.	Only the full picture contains the complete information

CL45_Q2. What is the principle of holography?

Answer

Holography is the science and practice of making holograms. A hologram is a recording in a two- or three-dimensional medium of the interference pattern formed when a point source of light (the reference beam) of fixed wavelength encounters light of the same fixed wavelength arriving from an object (the object beam). In its pure form, holography requires the use of laser light for illuminating the subject and for viewing the finished hologram.

CL45_Q3. Mention some of the important applications of holography.

Answer

Applications of holography include information storage, recording of images in depth, the use of holograms as optical elements, and as a means of performing precise interferometric measurements on three-dimensional objects of any shape and surface finish.

PES University