

APPLICATIONS OF LASER

➤ Laser in Medical:

- Lasers are widely used for the treatment of cancerous tissues & skin tumors.
- CO₂ laser is widely used in microsurgery and Neurosurgery.
- Lasers are widely used in endoscopy to scan the inner parts of the stomach.
- Lasers are used to improve precision work like surgery of Brain.
- Lasers are used in ophthalmology, dermatology.

➤ Laser in communications:

- Lasers are used to transmit thousands of TV programs simultaneously to the entire world.
- Lasers are making possible communication between the moon and the Earth.
- Lasers play a vital role in optical fiber communication systems & Laser has greater bandwidth.

➤ Laser in industry:

- High power Lasers are used in welding & melting any material without damage occurring.
- Lasers are also used in mechanical drilling like minute holes.
- Lasers are used in pointing & measuring things.
- Lasers are used to measure concentration of dye in the pulp industry.
- Lasers are used to point out the drilling direction in the mining industry.
- He-Ne Lasers are used in scanning the barcodes to identify products in supermarkets.
- Lasers are used in printing in offices & stationery.

➤ Laser in military:

- Lasers are used in detection & Ranging in RADAR & LIDAR (Light Detecting & Ranging).
- Lasers are used in Laser guns to focus enemy's body
- Laser beams can be used to destroy very big objects like aircrafts, missiles etc.

➤ Lasers in Chemistry:

- They used to produce certain chemical reactions & it can be used to accelerate.
- They used to investigate the structure of molecules.
- They used to create new chemical compounds by breaking b/n atoms/molecules.

➤ **Lasers in Surveying & Ranging:**

- He-Ne & semiconductor Lasers are used to point out, point to be measured and the time of reflection is measured to get the distance.

➤ **Laser spectroscopy:**

- Lasers are used in laser spectroscopy, which can be measured, and this has fundamental significance for our understanding of basic atomic processes.

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