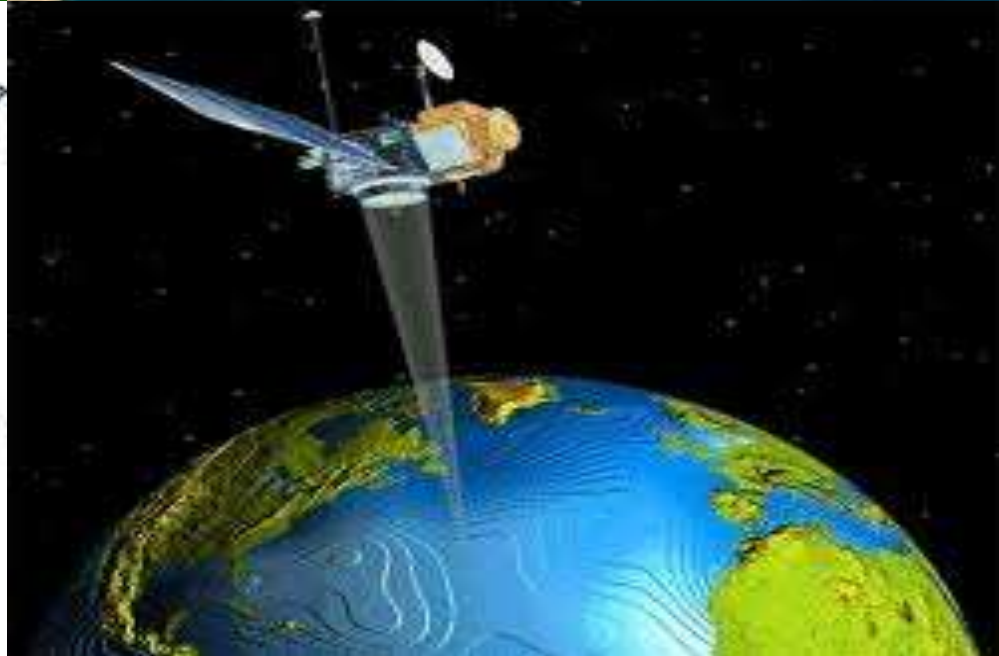
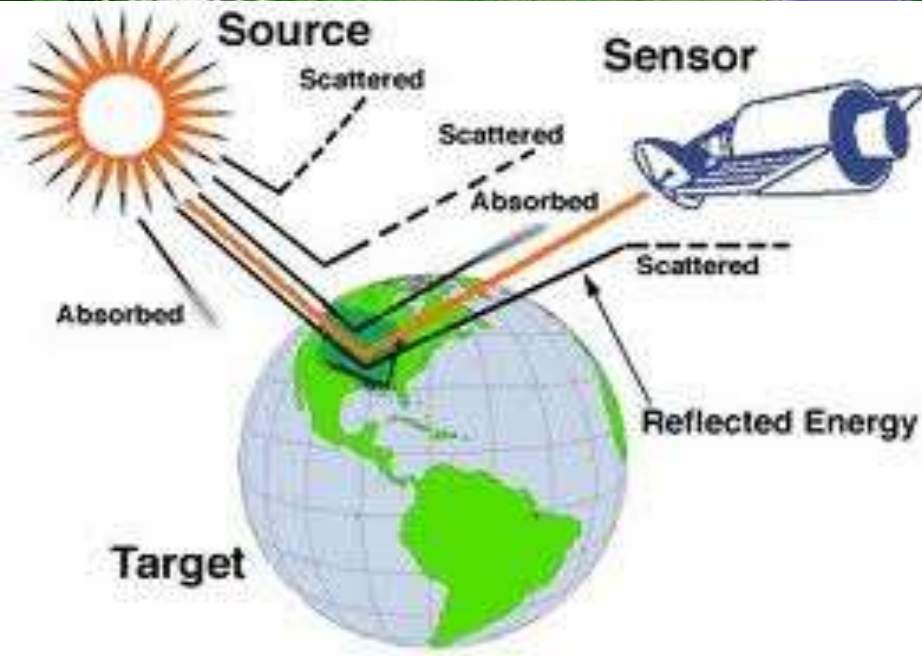


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- Subject: Basic Civil Engineering (BT-204)
- Unit: III (Mapping & sensing)
- Topic: Introduction of remote sensing and its applications



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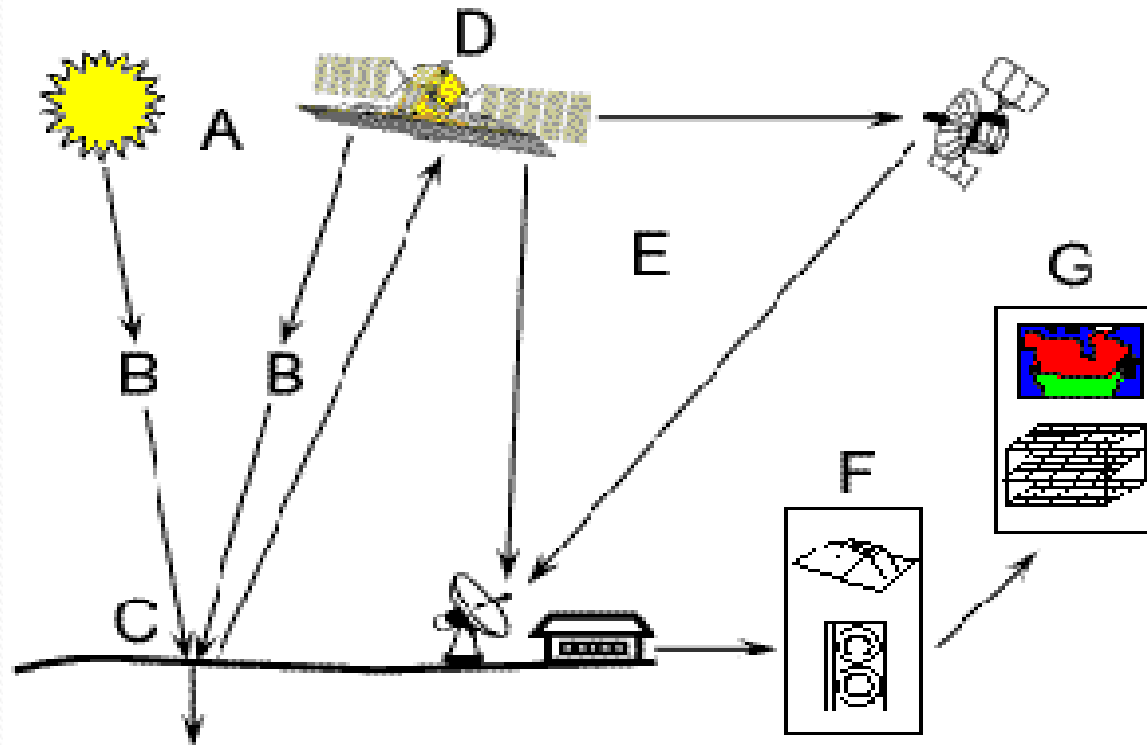
## REMOTE SENSING:

- Remote sensing may be defined as art and science of collecting information's about objects, area or phenomenon without having physical contact with it.
- Eye sight and photographs are common examples of remote sensing in which sunlight or artificial light energy from electricity is made to strike the object.

## ➤ Working of Remote Sensing System

➤ Remote Sensing System consists of mainly four elements:

- Energy source
- Sensor
- Data recorder
- Users



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➤ In this system, electromagnetic energy is produced from energy source. This electromagnetic radiation striking on the earth surface known as incident radiation is changed due to types of matter on earth surface such as wavelength intensity, direction and phase difference.

After striking, the energy is either transmitted, absorbed, scattered or reflected. Then the signal is passes through sensor. Further, it is recorded by data recorder and required information are given to public users.





## Application of Remote Sensing:

- 1 . Resource exploration
- 2 . Environmental study
- 3 . Land use
- 4 . Site investigation
- 5 . Archaeological investigation

### Resource exploration:

- Geologists use remote sensing to study the formation of sedimentary rocks and identify deposits of various minerals, detect oil fields and identify under ground storage of water. Remote sensing is used for identifying potential fishing zone.



## 2 . Environmental study:

- Remote sensing is used to study cloud motion and predict rains. With satellite data it is possible to study water discharge from various industries to find out dispersion and harmful effects, if any, on living animals.

## 3 . Land use:

- By remote sensing, mapping of larger areas is possible in short time. Forest area, agricultural area, residential and industrial area can be measured regularly. It is possible to find out areas of different crops.



## 4 .Site investigation:

- Remote sensing is used extensively in site investigations for dams, bridges, pipelines. It can be used to locate construction materials like sand and gravel for the new Projects.

## 5 . Archaeological investigation

- It helps in identifying the prehistoric land and buildings of patterns.





## Advantages of Remote Sensing

- Huge area can be covered for measurements.
- Mapping can be done accurately.
- Data can be used for several purposes.
- Object/ measurements are never missed.
- It helps in identifying the risk prone areas.



## Various system of Remote sensing

- There are mainly two major categories:
- Framing System
- Scanning system

