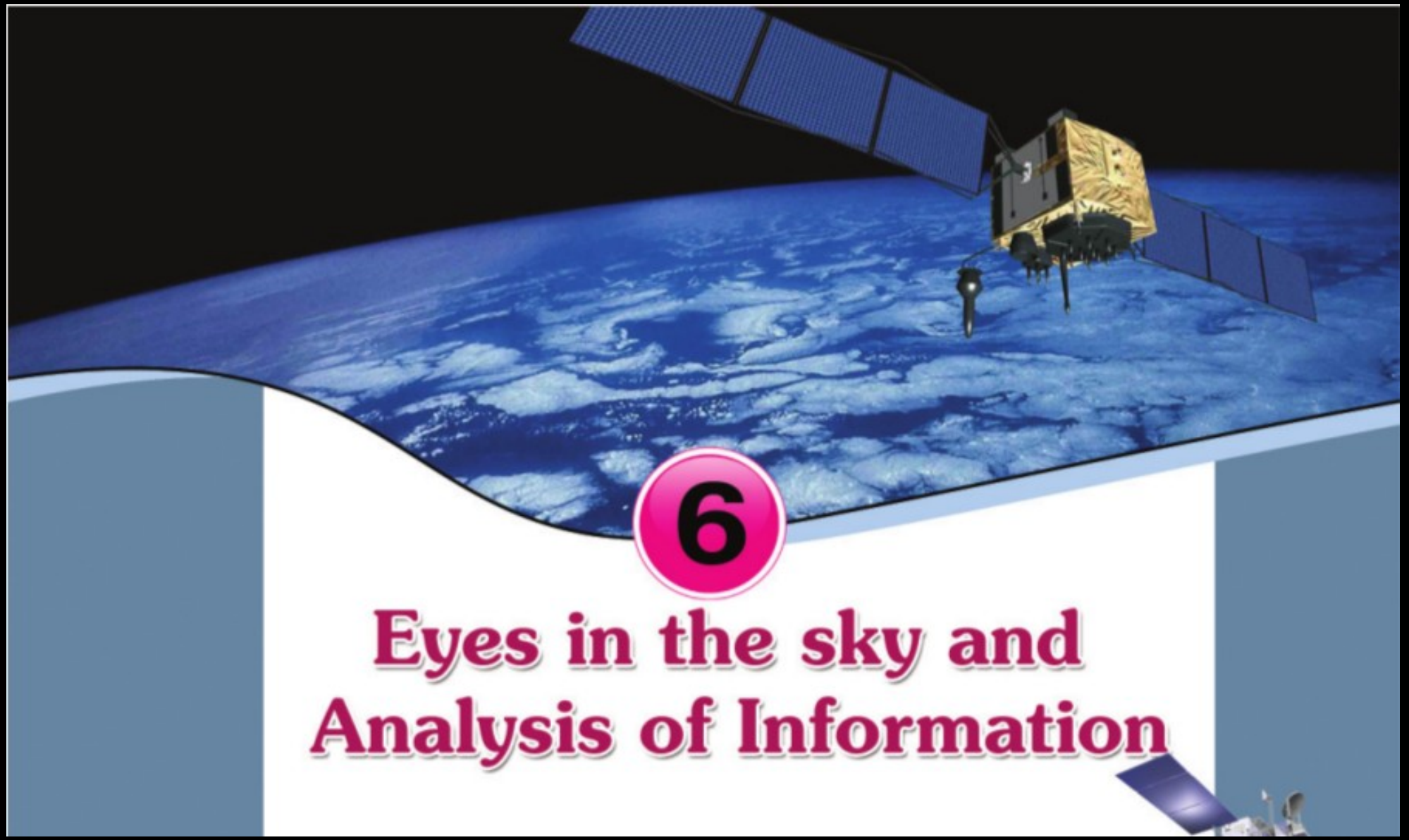
Class-2



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Limitations of aerial photographs

-The shaking of air crafts affects the quality of photos

-The air crafts require open space for take off and landing.

-It is not practical to take photographs of regions that are vast and extensive.

-Landing the air crafts frequently for refuelling increases the cost.

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As the aerial photographs are highly useful for viewing a region as a whole and for distinguishing the heights and depressions of the earth's surface aerial photographs were used widely since the second world war. Aerial photographs are also used for the preparation of topographical maps. Aerial photography started in India after independence. The responsibility of aerial survey in India has been vested with the Indian Air Force, Indian Aerospace Company based in Kolkata and the National Remote Sensing Centre.

Satellite Remote Sensing

-The process of collecting information using sensors fixed on artificial satellites is called satellite remote sensing.

-The artificial satellites are mainly divided into two types.

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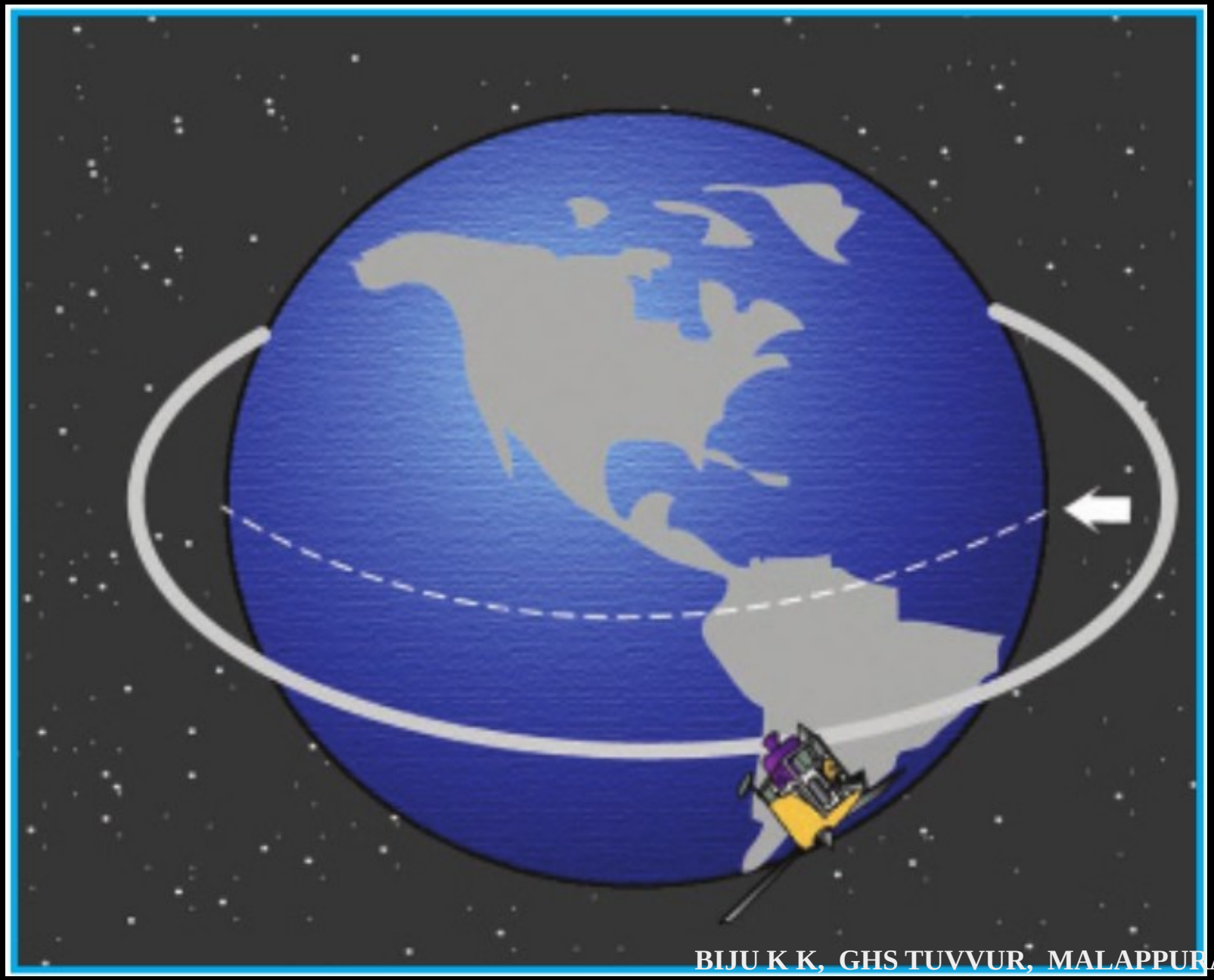
Features of Geostationary satellites?



-They orbit the earth at an elevation of about 36000m kilometres above the earth.
-One third of the earth comes under its field of view.

-As the movement of these satellites corresponds to the speed of rotation of the earth, it stays constantly above a specific place on the earth.
-This helps in continuous data collection of an area.

-It is used in telecommunication and for weather studies.
- India’s INSAT satellites are examples of geostationary satellites.

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Features of Sun synchronous satellites

-The orbit of these satellites is about 900 km in altitude.
-The surveillance area is less than that of the geostationary satellites.
-The repetitive collection of information of a region at regular interval is possible.
-Used for the collection of data on natural resources, land use, ground water etc.
-These satellites are mainly used for remote sensing purposes.
-Satellites in IRS, Land sat series are examples of sun synchronous satellites.

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What is Spectral Signature in Satellite Remote Sensing?

-Each object on the surface of the earth reflects electromagnetic radiation in different measures.

-The amount of reflected energy by each object is called the spectral signature of that object.

-Sensors record the electromagnetic radiation either reflected or emitted by the objects.

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What is Satellite Imageries.?

-The sensors on artificial satellites distinguish objects on the earth's surface based on their spectral signature and transmit the information in digital format to the terrestrial stations.

-This is interpreted with the help of computers and converted in to picture formats.

-These are called satellite imageries.

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What is Spatial Resolution in Satellite Remote Sensing?

-The size of the smallest object on the earth's surface that a satellite sensor can distinguish is called the spatial resolution of the sensor.

-The clarity of satellite images decreases as the spatial resolution decreases.

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Spatial Resolution in Satellite Remote Sensing

Spatial Resolution – I Kilometre

Spatial Resolution – I metre

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Name of some satellites and their spatial resolution are given below:

Satellite	Sensors	Spatial Resolution (in square meter)
Landsat 1, 2, 3, 4, 5	Multi spectral Scanner	79
SPOT	Panchromatic Camera	20
IRS	PAN LISS - III	5.8
Geo Eye	Panchromatic Multi spectral Camera	0.46

Uses of remote sensing technology

-For the assessment of weather and its observations

-For ocean explorations

-To understand the land use of an area.

-For the monitoring of flood and drought

-For identifying forest fires in deep forests and to adopt controlling measures

-To collect data regarding the extent of crops and spread of pest attack

-For oil explorations

-To locate ground water potential places

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Remote sensing in India

Photo interpretation institute was established at Dehradum in 1966 for analyzing and studying aerial photographs. Later this institution becomes Indian institute of Remote sensing (IIRS). The satellite remote sensing in India began with launch of the satellites Bhaskara I and II in 1970. Institutions like National Remote Sensing Centre (NRSC) (erstwhile NRSA), Indian Space Research Organization (ISRO), Department of Space (DOS) and Space Application Centre (SAC) are constantly engaged in making use of remote sensing for the welfare of the society. The complete responsibility of collecting, storing processing and distributing the data made available by Indian Remote sensing satellites are vested in the hands of National Remote sensing centre whose head quarter is at Hyderabad (NRSC) https://nrsc.gov.in.

ALL THE BEST

By

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