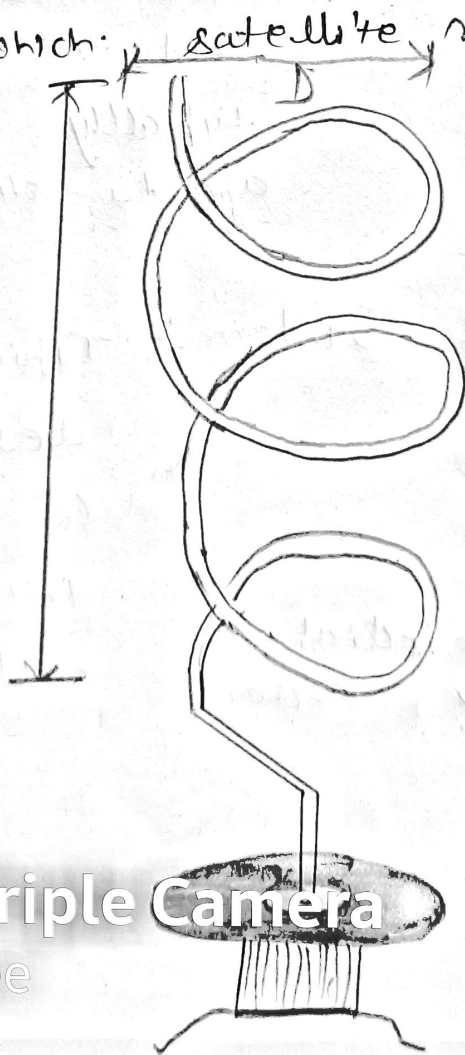


Section - 3

Questions:- what is helical Antenna and Explain different type of feed method for Parabolic reflector.

Answer:- Helical antenna or Helix antenna is the antenna in which the conducting wire is wound in helical shape and connected to the ground plane with a feeder line. It is the simplest antenna which provides circularly polarised wave. It is used in extra terrestrial communication in which satellite relays etc.



Different type of feed method for Parabolic Reflector: \Rightarrow

- A Focal Feed.
- B Cassegrain feed System.
- C Gregorian feed System.
- D Off axis offset feed.

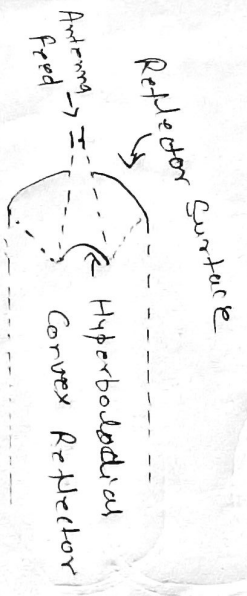
A Focal Feed System:-



Radiating element at focal point.

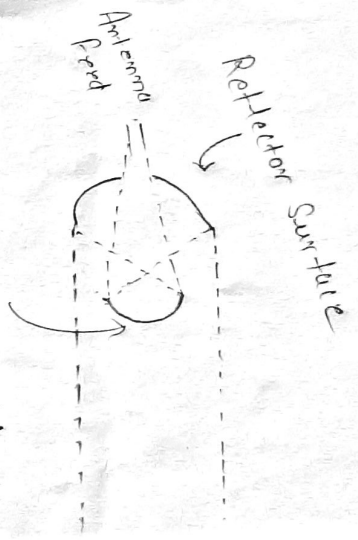
The focal feed system is one of the most widely used feed system for larger parabolic reflector antennas as it is straight forward. The major disadvantage is that the feed the beam, and the typically limits the aperture efficiency.

B Cassegrain Feed System:-



Typically efficiency level of 65 to 70%. Can be achieved using this form of parabolic reflector feed system.

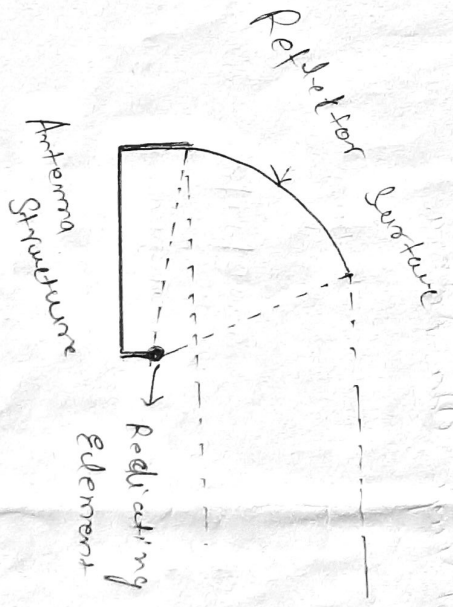
C Gregorian Feed System:-



Hyperbolic Convex Reflector

The Gregorian feed system tech is very similar to the Cassegrain. The typical aperture efficiency level of 70%. Can be achieved

D Off Axis or Offset Parabolic Reflector Antenna



The Reflector in this type of feed system is asymmetrical at the parabolic shape normally used. In this

the focus, and the feed antenna are located to one side of the reflector surface.