



- c) 24  
d) 3
- (vi) Indicate, the Advantage of TDMA is
- a) The transponder traveling wave tube can be operated at less power o/p  
b) The transponder traveling wave tube can be operated at maximum power o/p  
c) The transponder traveling wave tube can be operated at moderate power o/p  
d) None of these
- (vii) The Space Division Multiplexing is a method by which spot beams are apply to achieve the satellites in
- a) Geostationary Orbit  
b) Non-Geostationary Orbit  
c) Polar Orbit  
d) None of these
- (viii) Explain, What happen if a satellite is launched vertically and released at its design altitude?
- a) Continue to orbit the earth  
b) Fall back  
c) Overshoots the altitude and moves at a constant speed  
d) Stays where it was released
- (ix) The direction of orbit in the same direction of earth rotation is name \_\_\_\_\_
- a) Retrograde  
b) Posigrade  
c) Perigee  
d) Apogee
- (x) The time period taken by the satellite to complete one orbit is identify \_\_\_\_\_
- a) Lapsed time  
b) Time period  
c) Sidereal period  
d) Unit frequency
- (xi) Write the angle of inclination for a satellite following an equatorial orbit?
- a) 0 degree  
b) 45 degree  
c) 180 degree  
d) 90 degree
- (xii) To use a satellite for communication relay or repeater purposes name the type of orbit which will be the best?
- a) Circular orbit  
b) Elliptical orbit  
c) Geosynchronous orbit  
d) Triangular orbit
- (xiii) Name the point on the surface of the earth that is directly below the satellite called?
- a) Satellite point  
b) Subsatellite point  
c) Supersatellite point  
d) Overhead point
- (xiv) State, the transmitter-receiver combination in the satellite is known as a \_\_\_\_\_
- a) Relay  
b) Repeater  
c) Transponder  
d) Duplexer
- (xv) Describe the reason, why VHF, UHF, and microwave signals used in satellite communication?

- a) More bandwidth
- b) More spectrum space
- c) Are not diffracted by the ionosphere
- d) Economically viable

**Group-B**  
(Short Answer Type Questions)

3 x 5=15

- 2. Illustrate the procedure the satellite communication systems maintain their orbits. (3)
- 3. Explain the POLAR satellites. (3)
- 4. State about Communication Satellite? (3)
- 5. Design uplink and downlink. (3)

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- 6. Write the limitations of satellite communication. (3)

OR

- Write the components of the Earth station. (3)

**Group-C**  
(Long Answer Type Questions)

5 x 6=30

- 7. Write the different types of satellites on the basis of classification. (5)
- 8. What do you mean by satellite. Give examples of natural and artificial satellites. Name the first artificial satellite, stating its year of launching and the concerned country. (5)

- 9. Illustrate LEO, MEO and GEO satellites. (5)

- 10. State Kepler's laws of planetary motion. Write down the relation involving time period of rotation of the satellite, length of semi-major axis of the orbit, the mass of the planet and universal constant of gravitation (5)

- 11. Explain the actions of Lidar (5)

- 12. Write the objectives of Radarsat program. (5)

OR

- Illustrate Apogee and Perigee. Distinguish between Solar day and Sideral day. Write down the possible causes of orbit perturbations. (5)

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