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**Question Paper Code : X65664**

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2020

Eighth Semester

Electronics and Communication Engineering  
080290077 – SATELLITE COMMUNICATION  
(Regulations 2008)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. State the Kepler's second law of planetary motion.
2. What is Apogee and Perigee ?
3. Define the terms roll, pitch and yaw.
4. Define and distinguish between satellite station keeping and satellite attitude control.
5. List out the types of modulation schemes employed in satellite communication.
6. Define the term 'beam switching'.
7. Define the term "Antenna gain".
8. Define "EIRP".
9. Mention some applications of BTV.
10. What are the features of INTELSAT series ?

PART – B

(5×16=80 Marks)

11. a) Explain about the Orbital Parameters and Orbital Perturbations. (16)  
(OR)  
b) Write short notes on the following :
  - i) Look Angle Calculation. (8)
  - ii) Sun Transit Outages. (8)



12. a) i) Explain the Stabilization techniques in detail. **(10)**  
ii) Explain the EAST-WEST station keeping and NORTH-SOUTH station keeping. **(6)**

(OR)

- b) Explain the different types of satellite transponders with a neat sketch. Explain the factors to be considered while designing a satellite transponder. **(16)**

13. a) Discuss in detail on digital transmission systems. Explain the concept of beam-switching. **(16)**

(OR)

- b) With neat diagrams, explain the TDMA-frame format structure. **(16)**

14. a) Give a detailed note on :

- i) TVRO. **(5)**  
ii) MATV. **(5)**  
iii) Earth station antennas. **(6)**

(OR)

- b) With neat diagrams, explain how measurements on  $\frac{G}{T}$  and  $\frac{C}{N_0}$  are made. **(16)**

15. a) Explain in detail about GRAMSAT and INMARSAT with neat diagrams. **(16)**

(OR)

- b) Write short notes on :

- i) Remote sensing. **(4)**  
ii) GPS. **(6)**  
iii) DTH. **(6)**
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