

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII • EXAMINATION – SUMMER • 2014****Subject Code: 171007****Date: 31-05-2014****Subject Name: Satellite Communication****Time: 02:30 pm - 05:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) What is satellite communication? Draw and explain the block diagram of satellite communication in detail. **07**
- (b) By using of equation and figure properly explain the look angle determination of satellite. **07**
- Q.2** (a) What are the specialties of satellite antenna? List the types of satellite antennas used and explain any one of them. **07**
- (b) List the types of parameter effective in downlink of satellite. Also give its significance and arrange them in the equation for downlink. **07**
- OR**
- (b) How we can provide C/N link design. Also combine C/N with C/I values in satellite link. **07**
- Q.3** (a) List the types of Multiple Access Scheme used in the satellite communication and give its comparisons. **07**
- (b) With the help of equation and block diagram Properly explain the Code Division multiple Access in detail. **07**
- OR**
- Q.3** (a) List the types of propagation effect that can provide impact on satellite – earth link and explain any two of them. **07**
- (b) List the types of orbits used in the satellite and give its comparison with appropriate advantages and disadvantages. **07**
- Q.4** (a) What is VSAT? Draw and explain the block diagram of VSAT in detail. **07**
- (b) By using of appropriate equation and figure explain calculation of link margins of VSAT for star network. **07**
- OR**
- Q.4** (a) Give and explain orbit, coverage and frequency consideration of non-geostationary satellite system. **07**
- (b) Draw and explain the satellite mobile network in detail. **07**
- Q.5** (a) Draw and explain the Direct Broadcast satellite TV system in detail. **07**
- (b) Properly explain how error control mechanism works in the DBS-TV . **07**
- OR**
- Q.5** (a) What is GPS? Draw and explain the block diagram of the GPS receiver with all detail **07**
- (b) Properly explain the principles of GPS location finding. Also explain Satellite signal acquisition in detail. **07**
