Code No: **R42043**   **R10**   Set No. 1

IV B.Tech II Semester Supplementary Examinations, July/August - 2017
SATELLITE COMMUNICATIONS
(Electronics and Communication Engineering)

Time: 3 hours   Max. Marks: 75

Answer any FIVE Questions
All Questions carry equal marks
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1 a) List the various frequency bands being used in satellite communication. Compare the advantages and disadvantages of different bands considering the effects of propagation media.   [8]
   b) Discuss the application of satellite communication   [7]

2 a) What is meant by look angles? Explain them with reference to a geostationary satellite.   [8]
   b) Write a detailed summary of expendable launch vehicles.   [7]

3 a) What is Doppler effect? Explain how it is useful for tracking.   [8]
   b) Write a short note on "spacecraft subsystem".   [7]

4 a) Explain the design of downlink in satellite communication.   [8]
   b) Explain the design procedure of satellite communication link.   [7]

5 a) Describe the general features of an on-board signal processing transponder that would allow a network to operate with FDMA uplink and a TDMA downlink.   [8]
   b) Write short notes on CDMA.   [7]

6 a) Draw and explain the simplified earth station receiver.   [8]
   b) Explain the operation on deriving mechanism of antenna employed in the earth station.   [7]

7 a) Explain the delay and throughput in satellite communication.   [8]
   b) Explain the terminal characteristics and common requirement of NGOSS.   [7]

8 a) What are the major sources of errors in a GPS receiver?   [8]
   b) Explain the technique of range error budget used to provide accuracy in GPS C/A code receiver.   [7]