B.TECH.
THEORY EXAMINATION (SEM–VIII) 2016-17
MICROWAVE ENGINEERING & MEASUREMENT

Time : 3 Hours   *Max. Marks : 100*

Note : *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

SECTION – A

1.   **Explain the following:**   **10 x 2 = 20**
   (a)   What is look angle?
   (b)   What is uplink design in satellite.
   (c)   Define G/T ratio for satellite.
   (d)   Define cloud effect in satellite link.
   (e)   Define term absorption in satellite communication.
   (f)   What is S/N ratios for FM video transmission.
   (g)   What is error control coding?
   (h)   Define attenuation in satellite link.
   (i)   What are the multiplexing technique in satellite link.
   (j)   What are the different type of satellite system.

SECTION – B

2.   **Attempt any five parts of the following questions:**   **5 x 10 = 50**
   (a)   What is VSAT. Expain the different implementation method of VSAT.
   (b)   What are different LEO and Non-geostationary orbits used. Explain each of them in detail.
   (c)   Explain the orbital mechanism for satellite communication.
   (d)   What is basic transmission theory. Hence calculate the system temperature, C/N and G/T ratio.
   (e)   How a satellite is launched? Hence explain the launching mechanism.
   (f)   What are the various interferences that may effect the satellite link performance?
   (g)   Explain in brief.
   (h)   Describe the error detection and correction mechanism in satellite link.
   (i)   Explain the principle of GPS position location. What are different GPS codes, discuss them.

SECTION – C

Attempt any two parts of the following questions: **2 x 15 = 30**
   3   Explain the different multiple access mechanism like FDMA, TDMA, CDMA.
   4   Describe the pre emphasis and de emphasis circuit in satellite link
   5   Explain cyclic block codes and linear block codes.