

BACHELOR OF TECHNOLOGY (C.B.C.S.) (2014 COURSE)
B.Tech.Sem - VII ELECTRONIC : WINTER- 2022
SUBJECT : ADVANCED COMMUNICATION SYSTEM

Day : Monday

Time : 02:30 PM-05:30 PM

Date : 19-12-2022

W-13396-2022

Max. Marks : 60

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Assume suitable data if necessary.
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- Q.1** a) Explain the propagation of EM waves in waveguides. (05)
b) Briefly explain power losses associated with microwave transmission. (05)

OR

Enumerate the basic advantages of microwave and discuss in detail typical applications of microwave. (10)

- Q.2** a) Explain the following: (10)
i) Geostationary orbit ii) Earth eclipse of satellite

OR

What are the major subsystems of a satellite communication? Explain its functions. (10)

- Q.3** Explain the different losses occur during radio propagation in a satellite link. (10)

OR

Explain in detail combined uplink and downlink C/N ratio (10)

- Q.4** a) Explain in detail phased array radar. (05)
b) With a neat diagram enumerate the operation of pulsed radar system. (05)

OR

- a) What do you mean by Doppler effect? Explain the operation of MTI radar. (05)
b) Enumerate the operation of FMCW radar. (05)

- Q.5** With neat diagram explain the architecture of cognitive radio. (10)

OR

Elaborate the spectrum efficiency gain in SDR and cognitive radio. (10)

- Q.6** Enumerate the key characteristics of GPS and GPRS. (10)

OR

- a) Briefly explain transmission protocols used in mobile communication. (05)
b) Explain the factor affecting quality of services (QoS). (05)