

B.Tech. SEM -VII Electronics 2014 Course (CBCS) : SUMMER - 2019

SUBJECT- ADVANCED COMMUNICATION SYSTEMS

Day: Tuesday
Date: 14/05/2019

Time: 02.30 PM TO 05.30 PM
Max. Marks: 60

S-2019-2822

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) Classify microwave devices and explain any one in detail. (05)

b) Explain in brief modes of transmission in waveguide. (05)

OR

a) What are the applications of microwave frequencies? (05)

b) Briefly explain excitation of modes in waveguides. (05)

Q. 2 Derive an expression for G/T ratio. (10)

OR

a) Explain in detail the Look angle determination in satellite communication. (05)

b) How is the performance of satellite impaired due to the external factors? (05)

Q. 3 Derive the equations for satellite link design. (10)

OR

Explain in detail the applications of satellite systems. (10)

Q.4 Derive an expression for radar range equation. (10)

OR

a) With a neat block diagram, discuss pulsed radar system. (06)

b) Enumerate the operation of Doppler radar system. (04)

Q. 5 Explain in detail the principal and operation of OFDM demodulator. (10)

OR

a) List the functional components of cognitive radio architecture and explain primary functions of cognitive radio. (05)

b) With suitable diagram, describe the OFDM modulator. (05)

Q. 6 a) Enumerate the quality of service of mobile telephone. (05)

b) Describe in detail the operation of MTSSO. (05)

OR

What are the different transmission protocols? Explain it. (10)
Compare 2G, 3G and 4G mobile services.

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