CBCS SCHEME

17EC81

Eighth Semester B.E. Degree Examination, July/August 2021
Wireless Cellular and LTE 4G Broadband

Time: 3 hrs.

Max. Marks:100

Note: *Answer any FIVE full questions.*

1	a.	Explain the advantages of OFDM leading to its selection for LTE. (08 Marks)
	b.	Explain adaptive modulating and coding with neat block diagram. (08 Marks)
	c.	Explain briefly path loss. (04 Marks)
2	a.	Explain with neat block diagram flat LTE SAE architecture. (08 Marks)
	b.	Explain delay spread and coherence bandwidth. (08 Marks)
	c.	Mention advantages and disadvantages of cell sectoring in cellular wireless communications. (04 Marks)
3	a.	Explain the basic multicarries transmitter and receiver with neat block diagram. (08 Marks)
	b.	Explain the principle of operation of OFDM downlink transmitter with neat sketch. (08 Marks)
	c.	Mention the differences between V-BLAST and D-BLAST encoding techniques. (04 Marks)
4	a.	Explain peak to average power ratio (RAR). (08 Marks)
	b.	Explain SC-FDMA uplink transmitter and receiver with neat block diagram. (08 Marks)
	c.	Compare OFDM and SCFDE. (04 Marks)
5	a.	Explain uplink and downlink transport channels. (08 Marks)
	b.	Explain frame structures used in LTE. (08 Marks)
	c.	Explain Broadcast channel used in LTE. (04 Marks)
6	a.	Explain LTE end to end network architecture with neat block diagram. (08 Marks)
	b.	With neat block diagram explain radio interface protocols stack. (08 Marks)
	c.	Explain uplink transport channels. (04 Marks)
7	a.	Explain the types of uplink reference signals. (08 Marks)
	b.	With neat block diagram, explain the uplink transport channel processing. (08 Marks)
	c.	Explain buffer status reporting in uplink. (04 Marks)
8	a.	Explain with neat sketch cell search procedure used in LTE. (08 Marks)
	b.	Explain random access procedure used in LTE. (08 Marks)
	c.	What is meant by periodic and aperiodic reporting in CQI feedback? (04 Marks)
9	a.	Explain RRC states and function with neat sketch. (08 Marks)
	b.	Explain mobility management over X2 mobility with neat sketch. (04 Marks)
	c.	Explain data transfer modes. (08 Marks)
10	a.	Explain RAN procedure for mobility. (08 Marks)
	b.	Explain the main services and function of RLC and MAC layers. (08 Marks)
	c.	Explain paging used in RRC protocol. (04 Marks)

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