



CBCS SCHEME

18ECS31

Third Semester M.Tech. Degree Examination, Dec.2019/Jan.2020

LTE 4G Broadband

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Discuss 3GPP structure with suitable diagram. (06 Marks)
b. List the main functions of E-UTRAN NodeB. (06 Marks)
c. Identify different domains in basic system architectures configuration, explain any two. (08 Marks)

OR

- 2 a. With neat diagram, explain the functions of serving-gateway. (10 Marks)
b. Discuss in detail roaming mechanism in basic system architecture configuration. (06 Marks)
c. Explain any important four QoS parameters used to optimize SAE. (04 Marks)

Module-2

- 3 a. Mention the motivational properties and challenges in OFDMA. (08 Marks)
b. Discuss OFDMA transmitter with windowing with suitable. (06 Marks)
c. Describe resource mapping in SCFDMA with suitable diagram. (06 Marks)

OR

- 4 a. Discuss channel coding for uplink user data transmission. (06 Marks)
b. Describe physical HARQ indicator channel. (04 Marks)
c. Explain different downlink transmission modes. (10 Marks)

Module-3

- 5 a. Compare periodic and aperiodic channel information feedback reporting. (08 Marks)
b. Name and describe main CQI compression. (08 Marks)
c. Define cell search procedure and mention the steps involved in cell search. (04 Marks)

OR

- 6 a. Explain different RLC modes of operation. (06 Marks)
b. Describe how MAC layer maps logical channel to transport channel and also other task of MAC layer. (06 Marks)
c. With suitable diagram explain Packet Data Convergence Protocol (PDCP) layer operation. (08 Marks)

Module-4

- 7 a. List the different function provided by RRC protocol. (06 Marks)
b. Explain with suitable diagram CSFB architecture. (10 Marks)
c. Discuss the measurement configuration parameters of RRC connection reconfiguration procedure. (04 Marks)

OR

- 8 a. Discuss important parameter used to control idle mode mobility. (06 Marks)
b. Illustrate intra frequency handover procedure. (10 Marks)
c. Describe handover frequency. (04 Marks)

Module-5

- 9 a. Explain different phases of LTE buffer status reposting mechanism. (10 Marks)
b. Explain downlink transmit power setting with suitable example. (10 Marks)

OR

- 10 a. Discuss mechanism LTE Reforming and Dimensioning. (10 Marks)
b. Explain the following : i) Uplink system performance ii) High order sectorization. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.