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15EC81

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

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions.

- 1
 - a. Explain briefly EPC architecture. (08 Marks)
 - b. Explain multiantenna technique which supports LTE. (08 Marks)

- 2
 - a. Explain in brief : i) Fading ii) Sectoring. (08 Marks)
 - b. Explain equalizers in brief. (08 Marks)

- 3
 - a. Explain the computational technique used in OFDM. (08 Marks)
 - b. Mention OFDMA system design consideration. Explain in brief resource allocation in cellular system. (08 Marks)

- 4
 - a. Explain in brief: i) Array gain ii) Diversity gain. (08 Marks)
 - b. Explain 2×2 SFBC approach in open-loop transmit diversity. (08 Marks)

- 5
 - a. Explain the basic design principles of LTE. (08 Marks)
 - b. Explain the structure of rate 1/3 turbo encoder. (08 Marks)

- 6
 - a. Explain DCI in channel encoding. (08 Marks)
 - b. Explain multicast channels in downlink transport channel processing. (08 Marks)

- 7
 - a. Explain in brief : i) Frequency hopping ii) Multiantenna transmission. (08 Marks)
 - b. Explain non-synchronized random access procedure. (08 Marks)

- 8
 - a. Explain CQI feedback in brief. (08 Marks)
 - b. Explain the cell search process in LTE. (08 Marks)

- 9
 - a. Explain main services and functions of RLC sublayer. (08 Marks)
 - b. State the main functions of RRC protocol. (08 Marks)

- 10
 - a. Explain mobility management over X_2 interface. (08 Marks)
 - b. Explain the basic approaches for uplink ICI mitigation. (08 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.