

# CBCS SCHEME

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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  $2 \times 2$  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.