

(3 Hours)

[Total Marks: 80]

QP-10066268

N.B.: (1) Question No. 1 is **Compulsory**.(2) Attempt any **three** questions out of the remaining **five**.

(3) Each question carries 20 marks and sub-question carry equal marks.

(4) Assume suitable data if required.

1. (a) Examine advantages and limitations of CDMA technique. (5)
- (b) Illustrate the significance of hexagonal geometry of a cell as compared to any other shape. (5)
- (c) Explain MIMO-OFDM System with suitable diagram. (5)
- (d) Illustrate Doppler shift and basic propagation mechanisms of Mobile Radio? (5)
2. (a) Illustrate diversity multiplexing trade-off in MIMO OFDM Systems. (10)
- (b) Discuss Indoor and outdoor propagation model of Mobile Radio. (10)
3. (a) Elaborate various fading effects and discuss types of small-scale fading. (10)
- (b) Discuss various channels of GSM system. (10)
4. (a) Discuss Channel assignment strategies and Handoff strategies. (10)
- (b) Illustrate Downlink and Uplink physical layer processing in 4G LTE. (10)
5. (a) List and explain Features and Services in IS-95. (10)
- (b) Distinguish between Raleigh and Rician distributions of Mobile Radio Propagation. (10)
6. (a) Analyze requirements of 5G network along with security features offered by 5G. (10)
- (b) Examine the role of Trunking and discuss Grade of service. (10)

\*\*\*\*\*