

Duration-3hrs

Marks -80

N.B.

i) Question no.1 is compulsory

ii) Solve any **three** from the remaining **five** questions

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|---|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 1 | A | How does OFDM provide high data rate? | 5 |
| | B | Microcell zone concept helps in improving capacity of a cellular system . Justify. | 5 |
| | C | What is software Defined Radio? | 5 |
| | D | Differentiate between Rayleigh and Rician distribution. | 5 |
| 2 | A | While designing a cellular system ,how are co-channel and adjacent channel interferences kept under control? What is the role of S/I ratio and Q in this? | 10 |
| | B | Draw neatly and explain the role played by various entities in the GSM architecture. | 10 |
| 3 | A | Describe the frequency and channel specifications of forward channels in CDMA1. | 10 |
| | B | Explain the Handoff and power control in 3G systems . | 10 |
| 4 | A | Give the main features of WCDMA and how are they different from CDMA 2000. | 10 |
| | B | Elaborate on the contribution of MIMO techniques in LTE. | 10 |
| 5 | A | Discuss the frames and slots in LTE. What is a Resource Block? | 10 |
| | B | Classify small scale fading based on Multipath Time Delay Spread and Doppler Spread. | 10 |
| 6 | | Write notes on:[any two] | 20 |
| | a) | Indoor propagation Models | |
| | b) | RAKE Receiver | |
| | c) | Trunking & GOS | |
| | d) | GSM authentication & securit | |
