

(3 Hours)

Marks: 80

NB: (1) Question No.1 is **compulsory**.

(2) Attempt any **three** out of remaining **five** questions

(3) Assume suitable data, if necessary.

- Q.1 (a) Explain Trunking and Grade of service in cellular communication. (5)
(b) Discuss GSM Hand-off procedures (5)
(c) What is smart Antenna system (5)
(d) Compare Indoor and Outdoor radio propagation Models (5)
- Q.2 (a) Analyze Factors influencing small scale fading in multipath propagation. (10)
(b) Explain Downlink and Uplink physical-layer processing in 4G. (10)
- Q.3 (a) Explain routing protocol in Wireless Sensor Networks. (10)
(b) Explain working of Software defined radio. (10)
- Q.4 (a) Explain contention based protocols in MANETs. (10)
(b) Analyze various Limitations of 3G and how are they overcome in 4G (10)
- Q.5 (a) Explain General Packet Radio Services (GPRS) system architecture. (10)
(b) Explain white holes in Cognitive radio. (10)
- Q.6 Write in detail on any **four** of the following: (20)
(a) Doppler shift
(b) IS95 Physical and Logical Channels
(c) Multicast routing in MANET
(d) W-CDMA
(e) The use of Directional antenna.
