

N. B. : (1) Question No. 1 is **compulsory**.

(2) Attempt any **four** questions from the remaining.

(3) Assume suitable address and data if necessary.

(4) Figures to the right indicate **full** marks.

- Q1 A. Why CSMA/CD MAC protocol is not used in Satellite Systems ? Explain. (5)
- B. Explain the IMEI & IMSI structures of GSM network. (5)
- C. Explain why only seven slaves are supported inside a Piconet. (5)
- D. Explain the terms DIFS, PIFS, SIFS with respect to DCF operation. (5)
- Q2 A. With neat diagram explain cdmaOne protocol architecture. (10)
- B. Explain the protocol architecture and Security mechanism of DECT . (10)
- Q3 A. List & explain the Downlink (Forward Link) Physical Channels and Uplink (Reverse) Physical Channels of cdma2000. (10)
- B. Determine the number of mobile users that can be supported by a sector of three- sector Cell of CDMA system. The RF bandwidth is 1.25 MHz to transmit data at 9.6 kbps. $E_b/N_0 = 6$ dB, the interference from neighbouring cells $\rho = 50\%$, the power control accuracy factor $\alpha = 0.85$, the voice- activity factor $v = 0.6$, and the improvement from sectorisation $Y = 2.55$. (10)
- Q4 A. What is VSAT. Explain the VSAT-to-hub Channel Structure & Hub-to-VSAT channel structure with neat diagram. (10)
- B. What is WLL. Explain the MMDS & LMDS with the help of diagram. State its advantages & disadvantages. (10)
- Q5 A. With neat diagram explain the IEEE 802.11 System architecture. (10)
- B. How packet routing is done in Wireless Ad Hoc networks. Explain CGSR protocol. (10)

Q5 A. With neat diagram explain the IEEE 802.11 System architecture. (10)

B. How packet routing is done in Wireless Ad Hoc networks. Explain CGSR protocol. (10)

Q6 A. Explain the Wired Equivalent Privacy Protocol (WEP). State the different fields present in the WEP frame. (10)

B. Consider an 802.11a WLAN system in which OFDM baseband modulation scheme is used. (10)

It has 52 subcarriers out of which 4 subcarriers are used as pilot & remaining as data. The guard interval for ISI mitigation is 4 micro second. If the system uses 1/3 FEC code rate & 64-QAM carrier modulation scheme. Find the achievable transmission data rate.

Q7 Write short notes on:- (20)

A. Concept of Spread spectrum.

B. Wireless Lan Topologies.

C. Difference between a MAC address & an LLC address.

D. Characteristics of the major 3G standards.
