



Name :

Roll No. :

Invigilator's Signature :

CS/M.TECH(IT)/SEM-1/ITM-101/2012-13

2012

WIRELESS AND MOBILE COMMUNICATION

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Attempt any five questions : $5 \times 14 = 70$

1. What is back-off time and why is it used in CSMA/CA mechanism ? Write the function of beacon frames. Determine the normalized propagation delay for IEEE 802.11 assuming IEEE802.11 LAN provides a coverage of 200 metres. Compare hand-off procedure of the HIPERLAN/2 and IEEE802.11 standards. 2 + 2 + 2 + 5 + 3
2. Briefly explain what happens to the cell size if each user needs to double the data rate. What are the power conserving strategies used in cellular system ? In WATM N/W, what are the requirements of a Location Management (LM) system ? 5 + 5 + 4
3. Write the difference between IEEE 802.11 and IEE802.16 standards, Classify the MAC protocols for Ad-hoc Wireless Networks. Explain Busy Tone Access Protocols in brief. 4 + 4 + 6



4. What is Inter-Frame Spacing (IFS) ? Write HIPERLAN standard in brief. What is Piconet ? Draw the operational states of Bluetooth communication. $5 + 5 + 2 + 2$
5. Distinguish between IPv4 and IPv6. What is ISDN ? Describe the uses of Satellite communication System with one such system. Calculate the order of delay in Satellite communication system. $4 + 3 + 4 + 3$
6. Explain Localization Tracking with an example. What is Collaborative Processing ? Distinguish between Wireless sensor Network and Adhoc Network. List three applications of WSN. $5 + 3 + 3 + 3$
7. What is the Hot Spot problem in WSN ? Propose and explain a probabilistic method to solve the Hot Spot problem. Explain the LEACH protocol for WSN. Discuss the Dead-end problem. $3 + 4 + 4 + 3$
8. Write short notes on any *four* of the following : $4 \times 3 \frac{1}{2}$
- a) Transport control protocol
 - b) Internet protocol
 - c) File Transfer Protocol
 - d) Telnet
 - e) Soft Handoff
 - f) UMTS.
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