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M. Tech. Degree Examination, Dec.2014/Jan.2015
Wireless and Mobile Networks

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 a. What is meant by multiple access? Explain FDMA, TDMA and CDMA. (07 Marks)
 b. Explain the concept of scattering, reflection and fading. (05 Marks)
 c. Describe the security problems of wireless networks. (04 Marks)
 d. In a mobile communication system, path loss is 10? The distance between the transmitter and the receiver is 3 km find the transmitter operating frequency. (04 Marks)
- 2 a. With a neat diagram, discuss the architecture of WBAN? Mention any two application of WBAN. (07 Marks)
 b. Explain B-MAC protocol used in WBAN. (05 Marks)
 c. What is zigbee? Explain the slotted channel structure of IEEE 802.15.4. (06 Marks)
 d. Name the sensors used for monitoring the heart activity and muscle activity. (02 Marks)
- 3 a. Discuss piconet and scatternet architecture of WRAN. (06 Marks)
 b. Explain zigbee components and topology models. (06 Marks)
 c. With a neat diagram, zigbee stack architecture. (08 Marks)
- 4 a. Explain the design requirement of WLAN. (08 Marks)
 b. What are the modulation methods used in IEEE 802.11a and 802.11b family? With a neat diagram, explain the transmitter and receiver of OFDM PMD. (08 Marks)
 c. Explain mobile IPV4. (04 Marks)
- 5 a. Explain briefly about WiMAX and WiBro. (05 Marks)
 b. Explain space time block codes (STBC) for IEEE 802.16. (05 Marks)
 c. Compare LMDS and MMDS. (05 Marks)
 d. Explain the network architecture and wireless ATM. (05 Marks)
- 6 a. Define the following terms with respect to cellular networks :
 i) Reuse ii) handoff iii) handoff blocking iv) cell splitting v) cell sectoring. (07 Marks)
 b. Describe CDMA2000 network with its components. (07 Marks)
 c. Mention any six salient features of satellite networks. (06 Marks)
- 7 a. Differentiate between VSNs and ad-hoc networks. (06 Marks)
 b. Discuss the low energy adaptive clustering hierarchy (LEACH) protocol. (07 Marks)
 c. Explain MAC protocols of VANET. (07 Marks)
- 8 Write a short notes on :
 a. Wireless switching technology
 b. HIPERLAN
 c. Broad band wireless networks
 d. Handover in cellular networks. (20 Marks)