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13MCA443

Fourth Semester MCA Degree Examination, June/July 2015
Mobile Computing & Wireless Communications

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

1. a. Explain 3 tier architecture of mobile computers along with the function. Discuss the importance of context. (10 Marks)
 b. What types of context information will be necessary to develop a temperature aware system for the environment? (10 Marks)
2. a. Describe different elements in the GSM architecture, with neat diagram. (10 Marks)
 b. What are the various strengths of SMS? Discuss the difference between SMST and SMO. (10 Marks)
3. a. Discuss the network elements in GPRS, with suitable diagram. Mention the difference between GSM and GPRS. (10 Marks)
 b. Explain the different applications of GPRS and list the limitations of GPRS. (10 Marks)
4. a. Define direct sequence spread spectrum technology. Explain how it works in the CDMA technology. (10 Marks)
 b. Describe the IS-95 architecture. Compare this architecture with the GSM architecture. (10 Marks)
5. a. What are the design constraints for applications targeted for handheld devices? (10 Marks)
 b. How does Mobile IP work? Explain. What are the challenges with Mobile IP with respect to high speed mobility? How does cellular IP solve some of these challenges? (10 Marks)
6. a. Describe smart client architecture with a suitable diagram and the list different kinds of mobile operating system. (10 Marks)
 b. Discuss the smart client development cycle with neat diagram. (10 Marks)
7. a. Explain the WAP protocol stack. What are the functions of different layers in this protocol stack? (10 Marks)
 b. Explain in brief the following wireless markup language:
 i) HDML ii) WML iii) HTML iv) XHTML (10 Marks)
8. Write short notes on the following :
 a. MIDlet life cycle.
 b. Data synchronization.
 c. WiMAX.
 d. IPv6. (20 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.