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B.E / B.Tech (FT) END SEMESTER EXAMINATIONS – APRIL / MAY 2019

CSE / COMPUTER TECHNOLOGY

VII Semester

CS8701 Mobile and Pervasive Computing

(Regulation 2012)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART – A (10 x 2 = 20 Marks)

1. Why ICT systems are increasing in complexity? Justify your answer.
2. List out the Operating Systems for Mobile Computers and Communicator Devices.
3. What is the need for the mobile platform? List down the licensed mobile platforms.
4. Compare and contrast the mobile web apps with native apps.
5. Diagrammatically represent the overview of the frequency spectrum that is used for data transmission. Discuss the relationship between frequency and wavelength.
6. Discuss the significance of the Radio Subsystem (RSS) and its entities in GSM network.
7. Compare and contrast infra-red transmission with radio transmission.
8. Briefly explain the spectrum allocation mechanisms that are followed in WiMAX.
9. Diagrammatically explain how the client gets initialized in Dynamic Host Configuration Protocol (DHCP).
10. What are the goals of mobile TCP (M-TCP)?

Part – B (5 x 16 = 80 marks)
(Question No.11 is Compulsory)



11. Compare the .NET virtual machine with JRE virtual machine. (4)
State and explain the various properties of Distributed system, iHCI system, Context Aware system, Autonomous system, and Intelligent system. (12)
12. a) List and explain how each layer in the mobile ecosystem is reliant to create a seamless and end-to-end experience. (16)
(OR)
b) i) Discuss the various categories of Mobile Applications. (8)
ii) Discuss the context behind the development of a good mobile strategy along with the rules to be followed in developing a good mobile strategy. (8)
13. a) What is the fundamental mechanism behind Multiplexing? Explain in detail about the various multiplexing techniques with neat diagram. (16)
(OR)
b) i) Sketch and explain the GPRS architecture reference model. (6)

- ii) Explain briefly about handover and its cause. Discuss the various types of handover in GSM. Sketch the typical signal flow during the inter-BSC and intra-MSC handover. (10)
14. a) i) Differentiate Infrastructure and ad-hoc networks with examples. (8)
- ii) How IEEE 802.11 WLAN is connected to a switched IEEE 802.3 Ethernet via bridge? Justify your answer with its protocol architecture. (8)

(OR)

- b) Discuss in detail about the significant role of Bluetooth piconet and scatternet. Diagrammatically interpret the various protocols and components comprised in Bluetooth. (16)
15. a) Discuss the two routing algorithms of Mobile Ad-hoc Networks (MANET), Destination sequence distance vector (DSDV) and Dynamic source routing (DSR) with examples. (16)

(OR)

- b) i) What are the characteristics have to be considered when deploying applications over 2.5G/3G wireless links? (6)
- ii) In what way the TCP attains classical enhancements for mobility? Discuss with its advantages and disadvantages. (10)

