

Roll No

MCIT-205

M.E./M.Tech. II Semester Examination, June 2020

Mobile Computing

Time : Three Hours

Maximum Marks : 70

Note : i) Attempt any five questions.

ii) All questions carry equal marks. Figures to the right indicate the full marks.

1. a) Discuss the main reason for using cellular system. What is the advantage of cellular system with small cells? 7
b) Explain the concept of "Frequency Reuse" as applied to cellular communications. What are the advantages of this approach? How does it increase the capacity of the system? 7
2. a) What are the main problems of signal propagation? Why do radio waves not always follow a straight line? Why is reflection both useful and harmful? 7
b) What is path loss in mobile communication? Explain foliage loss. 7
3. a) Illustrate the difference between SDMA, TDMA, FDMA and CDMA. 7
b) What is co channel and adjacent channel interference in mobile communication? How can co channel interference be reduced? 7
4. a) What are the means to mitigate narrowband interference? What is the complexity of the different solutions? 7
b) Illustrate the difference between static channel allocation and dynamic channel allocation. Discuss borrowing strategy in channel assignment. 7
5. a) What is handoff ? Explain different handoff initialization techniques with suitable diagram. 7
b) What does it mean when call is dropped? Write the formula to calculate the dropped call rate. Discuss any method to fixed dropped calls. 7
6. a) Discuss the architecture of GSM. Also discuss the security issues to implement GSM. 7
b) Why multicast routing protocols are used? Explain two multicast routing protocols. 7
7. a) "CSMA/CD is not a suitable protocol for wireless LAN". Give reasons in favor of or against the statement. 7
b) What is Mobile IP and how does it work? Discuss IP-Within-IP encapsulation in mobile IP. 7
8. a) How does call blocking work? Discuss call blocking from the subscribers view point. 7
b) What is safe distance from cell tower? How can you protect yourself from cell tower radiation? 7
