

FACULTY OF ENGINEERING

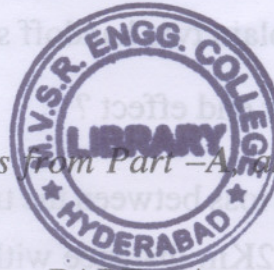
B.E. 4/4 (ECE) I Semester (Main) Examination, December 2010

MOBILE CELLULAR COMMUNICATION

Time : 3 Hours]

[Max. Marks : 75

Note : Answer all questions from Part -A, answer any five questions from Part-B.



PART - A

(Marks 25)

1. What is a paging system ? Explain. 3
2. List some features of Blue tooth system. 3
3. Distinguish between adjacent channel and co-channel Interferences. 3
4. Explain the concept of a micro cell zones. 3
5. Explain briefly the CSMA protocol. 3
6. What are the three basic propagation mechanisms ? 2
7. What do you understand by mobile assisted handoff ? 2
8. Give an expression for path loss and indicate the terms. 2
9. What is fading ? How many types are they ? 2
10. Estimate the co-channel reuse ratio when cluster size is 7. 2



PART – B

(5×10=50 Marks)

11. Explain Bluetooth system and WLAN. 10
12. a) What is handoff and explain two handoff strategies in detail ? 6
b) What is near-end and far end effect ? 4
13. a) Compute the diffraction loss between the transmitter and receiver operating at 900MHz, separated by 2Km distance with a knife-edge obstruction of 25 m height, exactly midway blocking the line-of-sight path. Calculate diffraction Parameter V and the diffraction loss G_d . Given that for $V > 2.4$, $G_d = 20 \log(0.225 / V)$. 6
b) Explain in brief Log-Distance path loss model. 4
14. a) What is an outdoor propagation model ? Discuss the details of Okumura model. 6
b) Discuss briefly parameters of small scale multipath propagation models. 4
15. Explain packet radio protocols and reservation protocols in wireless communications. 10
16. a) Give details of DECT system and explain with the help of diagrams. 5
b) Explain the system architecture of GSM. 5
17. Write short notes on **any two** : (2×5=10)
a) Frequency reuse b) Non-fixed channel assignment c) FDMA