

R09

Code No: 58032

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year II Semester Examinations, May - 2015

WIRELESS COMMUNICATION AND NETWORKS

(Common to ECE, ETM)

Time: 3 Hours

Max. Marks: 75

Answer any Five Questions
All Questions Carry Equal Marks

1. Explain the Examples of wireless communication systems with a neat sketches. [15]
- 2.a) Compare Second generation cellular networks with Third generation wireless networks.
b) Write notes on Wireless in local loop. [8+7]
- 3.a) A cellular system having a seven-cell cluster layout with omni-directional antennas has been performing satisfactorily for a required signal to interference ratio of 15 dB. However due to the need for increasing the number of available channels, a 60° sectoring of the cells has been introduced. By what percentage can the number of channels N_{total} be increased assuming a path-loss component $n=4$?
b) Write notes on cell splitting and explain the different types of cell splitting? [8+7]
4. Write notes on:
a) Spread spectrum multiple access
b) Space division multiple access. [8+7]
- 5.a) Explain the difference between wireless and fixed telephone networks.
b) Write a short note on Traffic routing in wireless networks. [8+7]
- 6.a) Explain the reverse traffic channel in CDMA system with received base station bits.
b) Give the details of Short messaging service in GPRS mobile application protocols. [8+7]
7. Write notes on:
a) Wireless ATM.
b) HYPER LAN
c) HYPER LAN - 2. [5+5+5]
- 8.a) Give the mathematical representation of OFDM Signal.
b) Explain Single channel Systems Versus Multi channel Systems in brief. [8+7]

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