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Code No: 58024

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech IV Year II Semester Examinations, May - 2016****CELLULAR AND MOBILE COMMUNICATIONS****(Common to ECE, ETM)****Time: 3 Hours****Max. Marks: 75****Answer any Five Questions****All Questions Carry Equal Marks**

- 1.a) Discuss Basic structure of cellular mobile system.
- b) Briefly discuss the types of small scale fading. [7+8]
- 2.a) Explain the techniques to improve the coverage and capacity in cellular systems.
- b) Define channel interference? Derive the expression for C/I ratio. [8+7]
- 3.a) Give the differences between space diversity and frequency diversity techniques.
- b) Discuss antenna parameters which are considered for cellular mobile systems. [8+7]
- 4.a) Explain adjacent channel interference? What are the effects of adjacent channel interference on mobile communications?
- b) What is crosstalk? How crosstalk can be minimized? [8+7]
- 5.a) Explain the concept of free space propagation model.
- b) Obtain an equation for Link budget using path loss models. [7+8]
- 6.a) Discuss about umbrella pattern antennas.
- b) Explain radiation pattern multiplication. [7+8]
- 7.a) Explain channel Assignment strategies.
- b) Discuss about paging channels. [7+8]
- 8.a) What is meant by Handoff mechanism and explain the handoff strategies?
- b) What are advantages of handoff? How dropped call rate can be minimized? [8+7]

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