Code No: 117BG

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD B. Tech IV Year I Semester Examinations, March 2017 CELLULAR AND MOBILE COMMUNICATIONS

R13

Max. Marks: 75

(Electronics and Communication Engineering)

Time: 3 Hours

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Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

Part- A (25 Marks)

1.a) Mention the limitations of conventional mobile telephone systems. [2] b) Discuss the dependence of frequency reuse distance on cell reuse pattern. [3] c) Explain polarization diversity. [2] d) Mention the effect on coverage and interference of mobile link by decrease in transmitted power level. [3] c) List the antennas used for space diversity. [2] f) State the factors on which the minimum separation of cell site antennas depends. [3] g) List any three techniques for increasing frequency spectrum utilization. [2] h) Define spectrum utilization factor. [3] g) Distince techniques for increasing frequency spectrum utilization. [3] j) Define intersystem hand off. [3] j) Define intersystem hand off. [3] g) Explain the steps involved in planning a cellular system. Illustrate how the performance criteria is evaluated. [10] or OR [10] 4. Determine the real time co-channel interference measurement of mobile radio transreceivers. [10] 5. Explain the near field and far field interference and how to avoid it. [10] 6. Let a distance							
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