

Code No: **R42041****R10****Set No. 1****IV B.Tech II Semester Supplementary Examinations, April - 2018****CELLULAR AND MOBILE COMMUNICATIONS****(Electronics and Communication Engineering)****Time: 3 hours****Max. Marks: 75**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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- 1 a) What is the criterion to define the Performance of cellular and mobile radio systems? Explain. [8]  
b) Differentiate between the analogue and digital cellular systems. [7]
- 2 a) Derive the co-channel interference reduction factor for seven cell reuse pattern. [8]  
b) What are the different types of Cell Splitting? Explain. [7]
- 3 a) Prove that Real time CCI measurement is difficult to achieve in practice. [8]  
b) Which antenna parameters can affect the cellular system designs so as to improve the signal quality by reducing co-channel interference? [7]
- 4 a) Find the field strength under the consideration of Land to Mobile transmission over water or flat open area. [8]  
b) What are the advantages of point to point model? [7]
- 5 a) Explain different types of antennas used for coverage and interference reduction? [8]  
b) Explain the Sum and difference patterns and their synthesis. [7]
- 6 a) What is the importance of frequency management chart? [8]  
b) Briefly explain the Nonfixed channel assignment algorithms. [7]
- 7 a) Explain the differences between handoff initiation in Analog cellular systems and Digital Cellular systems. [8]  
b) How dropped call rate is defined using general formula and commonly used formula? [7]
- 8 a) What are the different classes of GSM Channels? Explain. [8]  
b) Explain the principle of operation of TDMA in detail. [7]