**13EC42E3-CELLULAR MOBILE COMMUNICATION**

Credits: 4  
Hours /week: 4 Hrs Sessional Marks: 40  
Univ.Exam.Duration: 3Hrs Univ.Examination.Marks: 60

**UNIT-I**

**Introduction to cellular mobile system:** A basic cellular system, performance criteria, uniqueness of mobile radio environment, operation of cellular systems, planning a cellular system, Analog and Digital cellular systems.

Elements of cellular radio system design: General description of the problem, concept of frequency reuse channels, channel interferences reduction factors, desired C/I from a normal case in an omni-directional antenna system, cell splitting, consideration of cellular system, cell-site antennas & mobile antennas characteristics, antennas at cell-site, mobile antennas.

**UNIT-II**

**Cell coverage for signal & traffic:** General introduction, obtaining the mobile point-to-point model, propagation over water or flat open area, foiling loss, propagation in near distance, long distance propagation, point-to-point prediction model characteristics, cell-site antenna heights and signals coverage cells, mobile propagation.

**UNIT-III**

**Interference:** Introduction to co-channel interference, real – time co-channel interference measurement, design of antenna system, diversity receiver, types of non-co-channel interference, interference between systems.

**UNIT-IV**

**Frequency management & Channel assignment:** Frequency spectrum utilization, setup channels, management & traffic channel assignment, Handoff & their characteristics, dropped call rates and their evaluations. real-time co-channel interference measurement,

**UNIT-V**

**Digital cellular system:** Why digital, digital mobile telephony, practical multiple access schemes, global system for mobile (GSM), TDMA & CDMA, miscellaneous mobile systems.

**TEXT BOOKS:**

1. Lee. W. C. Y – “ Mobile Cellular Telecommunication – Analog and Digital Systems “, Mc Graw Hill.
2. G.K behere lopamudra das” Mobile communication” SciTech publications

**RÉFERENCE BOOKS:**

1. Principles of communication systems Taub & shilling TMH
2. Celullar mobile communications –Willium stallings -PHI