

VII SEMESTER B.TECH. (COMPUTER SCIENCE & ENGINEERING)

MAKE UP EXAMINATIONS, JANUARY 2018

SUBJECT: WIRELESS NETWORKS (Program Elective) [CSE 4016] REVISED CREDIT SYSTEM (02/01/2018)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ✤ Answer ALL FIVE FULL questions.
- Missing data may be suitable assumed.
- **1A.** Compare and contrast FDMA, TDMA and CDMA techniques. **3M**
- **1B.** Explain the procedure of handoff in AMPS in terms of series of events. **3M**
- 1C. (i) Five channels, each with a 100-kHz bandwidth, are to be multiplexed together. What is the minimum bandwidth of the link if there is a need for a guard band of 10 kHz between the channels to prevent interference?
 (ii) Four channels are multiplexed using TDM. If each channel sends 100 bytes /s and we multiplex 1 byte per channel, show the frame traveling on the link, the size of the frame, the duration of a frame, the frame rate, and the bit rate for the link.
- 2A. With a neat block diagram explain the working of GSM network architecture. 4M How does the mobility management works in GSM?
 2B. Explain three main approaches for spectrum licensing. 3M
- What's the difference between fixed wireless and mobile broadband? Give 3M some specific application of fixed wireless network.
- **3A.** Explain the need for OFDM in 4G technology. Compare OFDM with FDM. **3M**
- 3B. With neat diagrams explain Hidden and Exposed Terminal problems with respect to WLAN.4M
- **3C.** What are the functions of MAC layer in IEEE 802.11? **3M**

4A.	Define WATM. Describe each functionality of each layer in the protocol architecture of WATM.	4M
4B.	Describe the route discovery mechanism of DSR protocol with a neat block diagram. Also mention its disadvantages.	4M
4C.	Explain the working of WRP for Ad Hoc wireless network.	2M
5A.	Explain the Direction-based wireless geolocation system. Mention its disadvantages. Also list the applications.	4M
5B.	With neat diagrams explain the working of Pico-net and Scatter-nets.	3М
5C.	Explain how power management works in Bluetooth devices.	3M