



**VII SEMESTER B.TECH. COMPUTER SCIENCE AND ENGINEERING**  
**MAKEUP EXAMINATIONS, DEC '19/JAN '20**

**SUBJECT: WIRELESS NETWORKS [CSE 4016]**

**REVISED CREDIT SYSTEM**  
**02.01.2020**

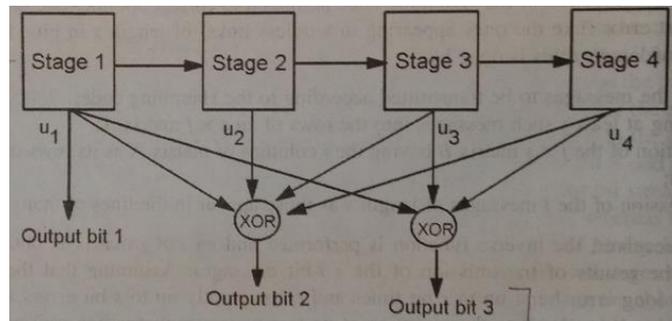
Time: 3 Hours

MAX. MARKS: 50

**Instructions to Candidates:**

- ❖ Answer **ALL FIVE** questions.
- ❖ Missing data may be suitable assumed.

- 1A.** Differentiate digital systems from analog systems in five aspects. **3M**
- 1B.** Consider the convolutional coder in the figure Q.1B:



**Fig. Q.1B** Convolutional coder

Draw the state table for the coder and show how the bit stream 1011 would be coded stepwise.

**4M**

- 1C.** Answer the following:
- i) Describe the supervisory audio tone in AMPS.
  - ii) List the events for a call setup to a mobile station network operation in AMPS.
- 3M**
- 2A.** Explain how a handover is performed in a GSM system. Also, describe the different types of handover in GSM. **4M**
- 2B.**
- i) What is mobile assisted handoff?
  - ii) What is speech coding? How is it performed in D-AMPS? Explain.
- 3M**
- 2C.** Describe the following channels in D-AMPS:
- i) Forward control channel.
  - ii) Forward digital traffic channel.
  - iii) Reverse voice channel.
  - iv) Forward voice channel.
- 3M**
- 3A.** Enumerate the different 3G applications and discuss the same. **4M**

- 3B.** Write about the following 4G goals: 4M
- i) System interoperability.
  - ii) Higher data rates.
  - iii) Advanced base stations.
  - iv) Varying quality of bandwidth for wireless access.
- 3C.** Write about the following 4G applications: 2M
- i) Tele-presence.
  - ii) Inter-machine communication.
- 4A.** List and explain the advantages and drawback of multichannel multipoint distribution service. 4M
- 4B.** i) Perform direct sequence spread spectrum (DSSS) modulation and demodulation given the following table:

Data stream A	1			1			0			1			0		
Chip sequence B	1	0	0	1	0	1	1	0	1	0	0	1	0	1	0

- ii) Describe any 2 advantages of DSSS. 4M
- 4C.** How is the location of a mobile station determined in received signal phase method? List an advantage and disadvantage for the same. 2M
- 5A.** How does the clusterhead gateway switch routing protocol work? Elucidate with an example. 4M
- 5B.** What are inquiry and paging procedures in bluetooth? Explain with scenarios. 4M
- 5C.** Describe the PARK low-power mode in bluetooth. 2M