



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:

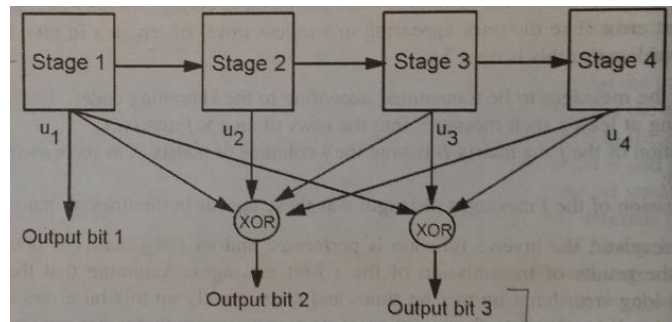


Fig. Q.1B Convolutional coder

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**