Reg. No.					

MANIPAL INSTITUTE OF TECHNOLOGY Manipal University



SEVENTH SEMESTER B.TECH (E & C) DEGREE END SEMESTER EXAMINATION - NOV/DEC 2016 SUBJECT: DATA COMMUNICATION AND NETWORKING (ECE - 433)

TIME: 3 HOURS

MAX. MARKS: 50

Instructions to candidatesAnswer ANY FIVE full questions.

- Missing data may be suitably assumed.
- 1A. What is cyclic code? What are the properties of cyclic code? If the received code word is 110011111 and generator polynomial 1101. Check error is there or not.
- 1B. Write neatly block diagram of FHSS and DSSS and explain each block.
- 1C. Explain ATM cell and its various fields

(5+3+2)

- 2A. What are the adaptation layers in ATM? Explain each adaptation layer with the service category it is adapting?
- 2B. Explain E1/T1 carrier in detail.
- 2C. Explain Trellis coded modulation.
- 3A. Explain protocol architecture used in ISDN with a neat diagram.
- 3B. Explain how a composite signal is made in CDMA and it is demodulated.
- 3C. Explain maximum likely hood detection with an example.

(5+3+2)

(5+3+2)

4A. Consider a convolution coder shown in Fig. Q4A



Fig. Q4A

- a) Write the state diagram for the above
- b) If the received sequence is 111010 010 show the survival path.
- 4B. Explain different types of traffic categories in ATM.
- 4C. What is maximum length sequence? Explain

(5+3+2)

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- 5A. Explain what is VC and VP in ATM and how routing is done in ATM.
- 5B. Compare circuit switching , packet switching and message switching
- 5C. How many bits of hamming code is required to detect three errors and correct one error.

(5+3+2)

- 6A. What is broadband ISDN? Explain the applications of broadband ISDN in detail.
- 6B. What is Hamming distance? What is the relation between hamming distance and error correction?
- 6C. Explain LDPC code and where it is used.

(5+3+2)