MANIPAL INSTITUTE OF TECHNOLOGY



FOURTH SEMESTER B.Tech. (E & C) DEGREE END SEMESTER EXAMINATION APRIL/MAY 2018

SUBJECT :INTRODUCTION TO COMMUNICATON SYSTEMS(ECE -3283)

TIME: 3 HOURS

MAX. MARKS: 50

- Instructions to candidatesAnswer ALL questions.
 - Missing data may be suitably assumed.
- 1A. Draw the basic block diagram of electronic communication system and explain each block
- 1B. Discuss the different WLAN standards
- 1C. What is WiMAX? Where is it used?

(5+3+2)

- 2A. With a block diagram, briefly explain the various subsystems of communication satellite and discuss the various frequency bands used in communication satellites
- 2B. Explain different types of displays used in radar
- 2C. Compare LEOs, MEOs and GEOs in satellite communication

(5+3+2)

- 3A. With a neat block diagram, explain elements of an optical fiber transmission link
- 3B. Explain the principle and working of Laser diode
- 3C. Define numerical aperture and V-number

(5+3+2)

- 4A. A step index multimode fiber with a numerical aperture of 0.2 supports approximately 1000 modes at an 850nm wavelength.
 - i) What is the diameter of its core?
 - ii) How many modes propagate in this fiber at 1320 nm?
 - iii) How many modes propagate in this fiber at 1550 nm?
 - iv)What percent of optical power flows in the cladding in each case?
- 4B. With a neat block diagram, explain pulse radar
- 4C. Explain concept of frequency reuse and increasing capacity in cellular mobile communication system
- 5A. With a neat block diagram, explain facsimile(FAX) system
- 5B. With a block diagram, explain the cordless Telephone system
- 5C. Compare macro cell with micro cell in cellular mobile communication system

(5+3+2)

(5+3+2)

Reg. No.