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MANIPAL INSTITUTE OF TECHNOLOGY  
Manipal University



**FOURTH SEMESTER B.Tech. (E & C) DEGREE END SEMESTER EXAMINATION  
MAY/JUNE 2016**

**SUBJECT: INTRODUCTION TO COMMUNICATION SYSTEM (ECE - 3283)**

**TIME: 3 HOURS**

**MAX. MARKS: 50**

**Instructions to candidates**

- Answer **ALL** questions.
- Missing data may be suitably assumed.

- 1A. Explain a basic Telephone set and explain all the entities in it.  
1B. Explain any three different types of modulation used in communication system.  
1C. Write the frequency spectrum used by AM Radio, TV and FM radio.  
(5+3+2)
- 2A. Draw neatly the block diagram of a communication system and explain the various entities in it.  
2B. Explain with neat block diagram Internet type of telephone (VOIP).  
2C. Explain different types of ringing tones used in Telecommunication system.  
(5+3+2)
- 3A. Explain the architecture of a cellular system and explain the principle used in cellular communication.  
3B. What are the two main types of detectors used in optical communication systems? Which is preferred and why?  
3C. What is NA (Numerical Aperture) What is the significance of this?  
(5+3+2)
- 4A. Explain different types of optical fibre used and their applications.  
4B. Explain any three techniques in increasing capacity of a cellular system.  
4C. Explain what type of multiple access, modulation and protocol is used in any two types WLAN network.  
(5+3+2)
- 5A. Explain two different types of RADAR with their application.  
5B. Explain Zigbee and Bluetooth type of near field communication system.  
5C. What is WIMAX? Where it is used generally.  
(5+3+2)