

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2018

**MOBILE COMMUNICATION**

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. Name any three multiple access techniques.
2. Define satellite communication.
3. Expand WLL and WPAN.
4. List the services provided by IEEE 802 LLC.
5. Define piconet.

(5 × 2 = 10)

PART — B

(Maximum marks : 30)

II Answer any *five* of the following questions. Each question carries 6 marks.

1. Describe second generation cellular system TDMA.
2. Write short notes on CDMA multiple access technique.
3. Compare the orbits LEO, MEO and GEO.
4. Explain capacity allocation time division.
5. Describe the physical layer of IEEE 802.11.
6. Briefly explain narrow band microwave LAN.
7. List Bluetooth applications.

(5 × 6 = 30)

## PART — C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

## UNIT — I

- III (a) Explain CDMA and TDMA design considerations. 10  
 (b) Differentiate between soft handoff and hard handoff. 5

OR

- IV (a) List and explain five ways of increasing the capacity of a cellular system. 7  
 (b) Compare FDMA, TDMA and CDMA multiple access techniques. 8

## UNIT — II

- V (a) Explain Wireless Local Loop. 8  
 (b) Describe the services provided by IEEE 802.16 standard. 7

OR

- VI (a) Explain capacity allocation frequency division. 7  
 (b) List the standards provided by IEEE802.16 and its architecture. 8

## UNIT — III

- VII (a) Explain the application areas for Wireless LAN. 10  
 (b) Describe about spread spectrum LAN. 5

OR

- VIII (a) Explain IEEE 802.11 Medium Access Control. 9  
 (b) Draw the protocol architecture of 802.11. 6

## UNIT — IV

- IX (a) Explain the architecture of Bluetooth with a diagram. 10  
 (b) Briefly describe 802.15.3 protocol for WPAN. 5

OR

- X (a) Define scatternet. 3  
 (b) Discuss the relation between master and slave in a piconet. 4  
 (c) Write short notes on IEEE 802.15.3 and IEEE 802.15.4 standards. 8