

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 2019

**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. Write two ways of increasing capacity of a cellular system.
2. Define coverage angle of a satellite.
3. List the transmission techniques of Infrared LAN.
4. State the term scatternet.
5. List any two advantages of CDMA.

(5×2 = 10)

**PART — B**

(Maximum marks : 30)

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

1. Describe Space Division Multiple Access in Wireless system.
2. Write notes on GEO, LEO and MEO satellites.
3. State advantages of wireless local loop over wired subscriber loop.
4. Describe Spread Spectrum LAN.
5. Summarise Wi-Fi Protected Access.
6. Discuss Bluetooth usage models.
7. Explain Bluetooth low energy.

(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) Describe Cellular system with suitable diagram. | 8 |
|     | (b) Discuss FDMA and TDMA.                          | 7 |

OR

- |    |                                          |   |
|----|------------------------------------------|---|
| IV | (a) Explain CDMA Design considerations.  | 8 |
|    | (b) Describe various handoff strategies. | 7 |

## UNIT — II

- |   |                                                           |   |
|---|-----------------------------------------------------------|---|
| V | (a) Describe factors affecting performance of satellites. | 6 |
|   | (b) Explain operation of Mobile IP.                       | 9 |

OR

- |    |                               |   |
|----|-------------------------------|---|
| VI | (a) Explain WAP Architecture. | 9 |
|    | (b) Discuss cordless systems. | 6 |

## UNIT — III

- |     |                                           |   |
|-----|-------------------------------------------|---|
| VII | (a) Discuss requirements of wireless LAN. | 8 |
|     | (b) Explain services of IEEE 802.11       | 7 |

OR

- |      |                                                    |   |
|------|----------------------------------------------------|---|
| VIII | (a) Explain IEEE 802.11 Architecture with diagram. | 9 |
|      | (b) Describe Narrowband Microwave LAN.             | 6 |

## UNIT — IV

- |    |                                                                      |   |
|----|----------------------------------------------------------------------|---|
| IX | (a) Explain bluetooth protocol architecture with a suitable diagram. | 9 |
|    | (b) Explain IEEE 802.15.3 Protocol for WPAN.                         | 6 |

OR

- |   |                                                                                     |   |
|---|-------------------------------------------------------------------------------------|---|
| X | (a) Draw and explain IEEE 802.15 Protocol Architecture.                             | 8 |
|   | (b) Explain Piconet and Scatternet with suitable pictorial representations/figures. | 7 |