N21-03100

TED (15) - 6134 Reg.No.....
(Revision-2015) Signature.....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/ COMMERCIAL PRACTICE - NOVEMBER-2021

MOBILE COMMUNICATION

[Maximum marks: 75] (Time: 2.15 Hours)

PART – A

Marks

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

1. Define frequency reuse in cellular systems.
2. Expand FDMA and DAMA.
3. List the use of MACA protocol.
4. Write the concept of narrow band microwave LAN.
5. Define the term WPAN. (3 x 2 = 6)

PART – B

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

1. List and explain the approaches used to increase the capacity of cellular systems.
2. Explain the operation of first generation analog cellular network.
3. Define the terms earth station, uplink, downlink and transponder.
4. Differentiate single cell and multi cell WLAN.
5. Briefly explain the ingredients of 802.11i architecture.
6. Write the major application areas of Bluetooth.
7. Differentiate piconet and scatternet. (4 x 6= 24)

PART – C

Answer ***any of the three units*** from the following. Each full question carries 15 marks

UNIT –I

III. (a) Explain CDMA technology used in second generation cellular systems with its advantages and disadvantages. (10)

(b) Write short note on FDMA and CDMA (5)

OR

IV. (a) Explain the operation of cellular system with diagram. (10)

(b) Write short note on TDMA and SDMA (5)

UNIT-II

V. (a) Compare GEO, LEO and MEO with figures. (10)

(b) Describe the advantages of wireless local loop (5)

OR

VI. (a) Explain bearer services provided by IEEE 802.16 protocol architecture (7)

(b) Describe mobile IP scenario with a neat diagram. (8)

UNIT-III

VII. (a) Explain the logic of IEEE 802.11 MAC with flow chart. (7)

(b) List and explain the requirements of wireless LAN (8)

OR

VIII. (a) Describe IEEE802.11 architecture with a neat diagram. (7)

(b) Discuss advantages of infrared LAN (8)

UNIT-IV

IX. (a) List and explain the elements of 5 layer stack of Bluetooth protocol architecture. (10)

(b) Write short note on IEEE 802.15.3 (5)

OR

X (a) Discuss wireless sensor network. (8)

(b) Briefly explain IEEE 802.15 protocol architecture (7)
