DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER - 2023

MOBILE COMMUNICATION

(Maximum Marks:100)   (Time: 3 Hours)

PART - A
(Maximum Mark : 10)

Marks

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

1. What is meant by " frequency reuse"?

2. List methods to increase the capacity of cellular networks.

3. Define footprint and elevation.

4. State about Wi-Fi protected access.

5. Define piconet.   (5 x 2 = 10)

PART - B
(Maximum Mark: 30)

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

1. Describe CDMA design considerations.

2. Draw and illustrate architectural overview of WAP.

3. Write about IEEE 802.11 architecture and services.

4. Describe the protocol architecture for WPAN.

5. How single cell and multiple cell wireless LAN configurations differ?

6. Explain wireless sensor networks.

7. How mobile IP operation helps in mobile communication? Describe.

(5 x 6 = 30)

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PART – C
(Maximum Mark: 60)
(Answer *one full* question from each unit. Each full question carries 15 marks.)

UNIT - I

III. (a) Write a brief history of First generation wireless network.   (8)

(b) List the methods to perform multiple accesses in wireless networks.
Explain TDMA.   (7)

OR

IV. (a) How Code Division Multiple access and packet radio access help for multiple
access in wireless networks?   (8)

(b) Write a note on the history of Second generation wireless networks.   (7)

UNIT –II

V. (a) Write brief note on satellite communication. List the different capacity
allocation strategies in satellites.   (8)

(b) Compare satellite communication applications GEO, LEO and MEO.   (7)

OR

VI. (a) Explain Physical layer (PHY) of IEEE802.16 broadband wireless access
standard.   (8)

(b) Draw and explain Local Multipoint Distribution Services.   .   (7)

UNIT – III

VII. (a) Compare Infrared LAN and spread spectrum LAN of wireless LAN
technologies.   (8)

(b) How IEEE 802.11 medium access control PHY Layer works?   (7)

OR

VIII. (a) Explain in detail about IEEE 802.11 medium access control.   (8)

(b) Write brief note on Narrow Band microwave.   (7)

UNIT – IV

IX. (a) Describe Bluetooth applications usage models.   (8)

(b) Specify the features of Bluetooth Low energy.   (7)

OR

X. (a) Draw and write brief note on IEEE802.15 protocol architecture.   (8)

(b) Draw and explain and Bluetooth architecture.   (7)

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