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**M.C.A. (Fourth Semester)  
EXAMINATION, MAY-JUNE, 2022  
WIRELESS AND MOBILE COMMUNICATION  
(MCA – 403)**

*Time : Three Hours]*

*[Maximum Marks : 100*

**Note : Attempt all sections as directed.**

**(Section-A)**

**(Objective/Multiple Choice Questions)**

**(1 mark each)**

**Note- Attempt all questions.**

**Choose the correct answer.**

1. What is application of satellite system?
  - (A) Weather Forecasting
  - (B) Terrestrial Communication
  - (C) Point to Point Communication
  - (D) None of the above

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2. Which are not segments of GPS?
  - (A) User
  - (B) Control
  - (C) Space
  - (D) Monitoring
3. Wireless networks can also be used to replace \_\_\_\_\_.
  - (A) Wireless Mobile
  - (B) Device Networks
  - (C) Gaming Network
  - (D) Wired Network
4. How many GPS Satellite to determine the position of, distance to and to reduce error?
  - (A) Four Satellites
  - (B) Two Satellites
  - (C) One Satellite
  - (D) Three Satellites
5. Which is transmit and receive signals from users within the coverage area?
  - (A) Cell Area
  - (B) Mobile Telecommunications Switching
  - (C) Base Station
  - (D) MSC

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6. Which is responsible to communicate with hosts in its cell?
- (A) HLR
  - (B) Hand-off
  - (C) Base Station
  - (D) Service Area
7. Which mechanism, assigns an IP address to a client for a limit time or until the client explicitly relinquishes the address
- (A) Automatic Allocation
  - (B) Manual Allocation
  - (C) Dynamic Allocation
  - (D) None of these
8. The process of subdividing a congested cell into smaller cells is called \_\_\_\_\_
- (A) Micro Cell Technique
  - (B) Sectoring
  - (C) Cell Splitting
  - (D) Repeaters

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9. Distance the mobile moves from the point at which the handoff should occur to the point at which it does occur is called -
- (A) Handoff Delay
  - (B) Cell Delay
  - (C) Interruption Duration
  - (D) Handoff Probability
10. \_\_\_ is a transmission method used in MIMO wireless communications to transmit encoded data signals independently-
- (A) MU-MIMO
  - (B) STTD
  - (C) SM
  - (D) Collaborative Uplink MIMO
11. As a part of demodulation process, the Mobile Station obtains two pieces of information:
- (A) RSSI and QI
  - (B) WEI and QI
  - (C) Only RSSI
  - (D) All of these

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12. Which one is not an advantage of using frequency reuse?
- (A) Number of base stations is reduced
  - (B) Same spectrum may be allocated to other network
  - (C) Limited spectrum is required
  - (D) Increased capacity
13. Which of the following standard committee specifies Bluetooth and other Personal Area Networks (PAN)?
- (A) IEEE 802.11b
  - (B) IEEE 802.16
  - (C) IEEE 802.11g
  - (D) IEEE 802.15
14. An interconnected collection of piconet is called:
- (A) Cell
  - (B) Scatternet
  - (C) Mininet
  - (D) Micronet
15. Which of the following scheme is used by Bluetooth?
- (A) Frequency Hopping FDD Scheme
  - (B) Frequency hopping TDD Scheme
  - (C) DSSS TDD Scheme
  - (D) DSSS FDD Scheme

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16. Which multiple access technique is used by IEEE 802.11 standard for wireless LAN?
- (A) CDMA
  - (B) CSMA/CA
  - (C) ALOHA
  - (D) None of the mentioned
17. Which type of network topology is dynamics change from time to time?
- (A) LAN
  - (B) Wi-Fi
  - (C) MANET
  - (D) Cell Network
18. Which is not work of Dynamic Source Routing?
- (A) Loop-free Routing
  - (B) Route Maintenance
  - (C) Route Advertisement
  - (D) Route Discovery
19. Following are the types of routing on MANET, except:
- (A) Proactive Routing
  - (B) Hybrid Routing
  - (C) Hyper Active Routing
  - (D) Reactive Routing

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20. Which is not a part of AODV?

- (A) Route Error
- (B) Route Maintenance
- (C) Route Break
- (D) Route Request

**(Section- B)**

**(Very Short Answer Type Questions)**

**(2 marks each)**

**Note : Attempt all questions. Answer in 2-3 sentences.**

1. What is Orbit?
2. What is GPS?
3. What do you understand by Agent Discovery?
4. What is Mobile node?
5. What mobility?
6. What is spectrum utilization?
7. What is radio transmission?
8. What is WPAN?
9. What is table driven routing protocol?
10. What is Dynamic Topology?

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**(Section - C)**

**(Short Answer Type Questions)**

**(3 marks each)**

**Note : Attempt all questions. Write answer in 75 words.**

1. What are the characteristics of satellite system?
2. What are the applications of GPS?
3. What is Home Network?
4. What is registration?
5. What do you mean by Orthogonal Frequency Division?
6. What is Mobility management?
7. What is Hiper LAN?
8. What are features of Bluetooth?
9. What do you mean by Zone routing protocol?
10. What are characteristics of MANET?

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**Section D**

**(Long Answer Type Questions)**

**(6 marks each)**

**Note:- Attempt all questions. Answer precisely using 150 words.**

1. What is the evolution of modern wireless communication? Write about the Applications of Mobile Communication?

**OR**

Explain the following:

- (i) Applications of Satellite System
  - (ii) Open research area in Mobile communication
2. What do you understand by Mobile Communication System? Explain the Cellular System Infrastructure.

**OR**

Explain the following:

- (i) Mobile IP
  - (ii) Dynamic host Configuration protocol
3. What do you understand by Handoff Techniques? Explain the different type of Handoff parameter with diagram.

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**OR**

Explain the following:

- (i) Direct Sequence Modulation
  - (ii) Channel Reservation for Handoff Calls
4. What are the advantages and disadvantages of Wireless LAN? Explain it.

**OR**

Explain the following:

- (i) Home RF Technology
  - (ii) Infra Reds and Radio Transmission
5. What is the importance of routing in MANET? Describe the Dynamic Source Routing protocol.

**OR**

Explain the following:

- (i) Temporarily Ordered Routing Algorithms
- (ii) Wireless Routing Protocol