Chettinad
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Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Department of Electronics and Communication Engineering

EC8652 – Wireless Communication

Unit II - MCQ Bank

1. Which of the following is a universally adopted shape of cell?
   (a) Square
   (b) Circle
   (c) Triangle
   (d) Hexagon

2. What is the condition for intersystem interference?
   (a) Mobile moves from one cell to another cell
   (b) Mobile remains in the same cell
   (c) Mobile moves from one cellular system to another cellular system
   (d) Mobile remains in the same cluster

3. In dynamic channel assignment strategy, base station requests channel from _____
   (a) MSC
   (b) Neighbouring cell
   (c) Neighbouring cluster
   (d) Neighbouring base station

4. What is a frequency reuse factor for N number of cells in a system?
   (a) N
   (b) N^2
   (c) 2*N
   (d) 1/N

5. A spectrum of 30 MHz is allocated to a cellular system which uses two 25 KHz simplex channels to provide full duplex voice channels. What is the number of channels available per cell for 4 cell reuse factor?
   (a) 150 channels
   (b) 600 channels

(c) 50 channels

(d) 85 channels

6. _____ uses directional antennas to control interference.

   (a) Sectoring

   (b) Cell splitting

   (c) Repeaters

   (d) Micro cell zone concept

7. The time over which a call can be maintained within a cell without handoff is called _____

   (a) Run time

   (b) Peak time

   (c) Dwell time

   (d) Cell time

8. Cellular concept replaces many low power transmitters to a single high power transmitter.

   (a) True

   (b) **False**

9. Why neighboring stations are assigned different group of channels in cellular system?

   (a) To minimize interference

   (b) To minimize area

   (c) To maximize throughput

   (d) To maximize capacity of each cell

10. What is a cell in cellular system?

    (a) A group of cells

    (b) A group of subscribers

    (c) A small geographical area

    (d) A large group of mobile systems

11. What is frequency reuse?

    (a) Process of selecting and allocating channels

    (b) Process of selection of mobile users

    (c) Process of selecting frequency of mobile equipment

    (d) Process of selection of number of cells

12. Actual radio coverage of a cell is called _____

    (a) Fingerprint

    (b) Footprint

    (c) Imprint

    (d) Matrix

13. What is the concept for accommodating a large number of users in a limited radio spectrum?

    (a) Grade of service

    (b) Trunking

    (c) Multiplexing

    (d) Multitasking

14. What is the main reason to adopt hexagon shape in comparison to square and triangle?

    (a) Largest area

    (b) Simple design

    (c) Small area

    (d) Single directional

15. Cell dragging is a problem occur due to _____

    (a) Pedestrian users

    (b) Stationary users

    (c) High speed mobile systems

    (d) Base stations having same frequency

16. For a cellular system, if there are N cells and each cell is allocated k channel. What is the total number of available radio channels, S?

    (a) S=k*N

    (b) S=k/N

    (c) S=N/k

    (d) $S=k^N$

17. What is a cluster in a cellular system?

    (a) Group of frequencies

    (b) Group of cells

    (c) Group of subscribers

    (d) Group of mobile systems

18. Capacity of a cellular system is directly proportional to _____

    (a) Number of cells

    (b) Number of times a cluster is replicated

    (c) Number of Base stations

    (d) Number of users

19. TDD is effective for _____

    (a) Fixed wireless access and users are stationary

    (b) Dynamic wireless access and users are stationary

    (c) Fixed wireless access and users are moving

    (d) Dynamic wireless access and users are moving

20. Time division duplexing uses _____ to provide both a forward and reverse link.

    (a) Frequency

    (b) Time

    (c) Time and frequency

    (d) Cell spacing

21. The technique that makes possible the task of listening and talking in communication system is called _____

    (a) Simplexing

    (b) Duplexing

    (c) Modulating

    (d) Multiple access technique

22. MAHO stands for _____

    (a) MSC assisted handoff

    (b) Mobile assisted handoff

    (c) Machine assisted handoff

    (d) Man assisted handoff

23. What is the condition for handoff?

    (a) A mobile moves into a different cell while in conversation

    (b) A mobile remains in the same cell while in conversation

    (c) A mobile moves to different cell when idle

    (d) A mobile remains in the same cell and is idle

24. The process of subdividing a congested cell into smaller cells is called _____
    (a) **Cell splitting**
    (b) Sectoring
    (c) Micro cell technique
    (d) Repeaters

25. Sectoring increases SIR (Signal to Interference Ratio).
    (a) **True**
    (b) False

26. In a micro cell zone concept, when a mobile travels from one zone to another within the cell, it retains the same _____
    (a) Power level
    (b) Base station
    (c) **Channel**
    (d) Receiver

27. Which of the following statements does not apply to the Erlang B model for telephone systems?
    (a) Calls arrive according to a Poisson arrival process
    (b) Call that arrive when all channels are occupied are denied service (blocked)
    (c) **Blocked calls enter a waiting mode and retry after waiting a short random time**
    (d) The probability of that one call is blocked equals the probability that all channels are full

28. The Erlang C model differs from the Erlang B model in that
    (a) Calls are assumed to be of a fixed length
    (b) **Calls that arrive when all channels are occupied are queued instead of blocked**
    (c) Handovers are considered to affect the call arrival and departure process

29. What is the multiple access scheme used in GSM?
    (a) Time Division Multiple Access (TDMA)
    (b) Code Division Multiple Access (CDMA)
    (c) Frequency Division Multiple Access (FDMA)
    (d) **A combination of TDMA and FDMA**
    (e) A combination of CDMA and FDMA