

Q.9 What is unicast transmission?

- A) One sender to all receivers
 - **B) One sender to one receiver (Correct)**
 - C) One sender to a group of receivers
 - D) Many senders to one receiver
- Original selection B was correct.*

Q.10 Multicast transmission involves:

- A) Broadcasting to all devices
 - B) Sending data to one device
 - **C) Sending to a selected group (Correct)**
 - D) Two-way communication
- Original selection C was correct.*

Q.11 What is 'trunking' in wireless communication?

- A) Transmitting data through a single user line
 - B) Blocking users from making calls
 - **C) Sharing a small number of channels among many users (Correct)**
 - D) Allocating permanent channels to users
- Original selection C was correct.*

Q.12 What does GOS (Grade of Service) represent?

- A) The total number of users in a system
 - B) The average signal quality
 - **C) The probability of a blocked or delayed call (Correct)**
 - D) The number of dropped calls
- Original selection C was correct.*

Q.13 One Erlang is equivalent to:

- A) One call per second

- **B) One call-hour per hour (Correct)** (This means one channel is continuously occupied for one hour)
- C) One packet per hour
- D) One message per minute

Original selection B was correct.

Q.14 Which equation correctly represents traffic intensity offered by a user?

(Assuming A = traffic intensity, λ = call arrival rate, H = average holding time)

- A) $A = \lambda/H$
- B) $A = H/\lambda$
- **C) $A = \lambda H$ (Correct)**
- D) $A = H + \lambda$

Original selection C was correct.

Q.15 In a trunked system with no queuing, what happens if all channels are busy?

- A) The user is queued
- B) The user is disconnected
- **C) The user is blocked (Correct)** (This is the Erlang B model - blocked calls cleared)
- D) The user is redirected

Original selection C was correct.

Right Column:

Q.24 Which of the following best describes 'frequency reuse'?

- A) Using different frequencies for each call
- B) Assigning the same frequency to nearby cells
- **C) Reusing the same frequency in distant cells (Correct)**
- D) Allocating all frequencies to one cell

Original selection A was incorrect. The correct answer is C.

Q.25 What parameter defines the number of unique frequency sets in a cluster?

- A) C

- B) K
 - **C) N (Correct)** (N is the cluster size)
 - D) R
- Original selection C was correct.*

Q.26 What does the reuse ratio (q) represent?

($q = D/R$, where D is distance between co-channel cells, R is cell radius)

- A) N/R
 - B) R/D
 - **C) D/R (Correct)**
 - D) N/D
- Original selection C was correct.*

Q.27 Which handoff type involves the MSC due to different BSCs?

- A) Intra-cell
 - B) Intra-BSS
 - **C) Inter-BSS (Correct)** (Handoff between cells controlled by different BSCs but under the same MSC)
 - D) Inter-MSC
- Original selection C was correct.*

Q.28 What is one method to reduce co-channel interference?

- A) Use higher frequencies
 - B) Increase the cell size
 - **C) Sectorization (Correct)** (Using directional antennas to divide a cell into sectors)
 - D) Increase channel bandwidth
- Original selection C was correct.*

Q.29 Which factor is used to decide when a handoff should occur?

- A) User preference

- B) Cell ID
- **C) Signal strength threshold (Correct)** (And often signal quality of neighboring cells)
- D) Call duration
Original selection C was correct.

Q.30 What is the effect of decreasing cell size?

- A) Decreased capacity
 - B) Increased power use
 - **C) Increased handovers (Correct)** (Users cross cell boundaries more frequently)
 - D) Decreased complexity
Original selection C was correct.
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1. B) Handling handoffs and switching
2. B) Forward voice channel
3. C) Guglielmo Marconi
4. B) 2G
5. D) Limited coverage
6. B) Simplex
7. B) Time Division Duplex
8. A) TDD
9. B) One sender to one receiver
10. C) Sending to a selected group
11. C) Sharing a small number of channels among many users
12. C) The probability of a blocked or delayed call
13. B) One call-hour per hour
14. C) $A = \lambda H$
15. C) The user is blocked

- 16. C) Erlang B**
- 17. A) 0.0667 Erlangs**
- 18. D) Carrier Channel Status**
- 19. C) 5%**
- 20. C) Queued call blocking systems**
- 21. B) Intra-BSS**
- 22. D) It reduces signal delay**
- 23. C) It separates users by speed**
- 24. C) Reusing the same frequency in distant cells**
- 25. C) N**
- 26. C) D / R**
- 27. C) Inter-BSS**
- 28. C) Sectorization**
- 29. C) Signal strength threshold**
- 30. C) Increased handovers**