

December 2008

1. The channel capacity of a band-limited Gaussian channel is given by

- (A) $B \log_2(2+S/N)$ (B) $B \log_2(1+S/N)$ (C) $B \log_{10}(1+S/N)$ (D) $B \log_e(1+S/N)$

Answer B.

Explanation:-

$C=B \log_2(1 + S/N)$ where C is the capacity in bits per second. B is the bandwidth of the channel in Hertz and S/N is the signal to noise ratio.

6. An example of a layer that is absent in broadcast networks is:

- (A) Physical layer (B) Presentation layer (C) Network layer (D) application layer

Answer C.

7. The ATM cell is:

- (A) 48 bytes long (B) 53 bytes long (C) 64 bytes long (D) 69 bytes long

Answer B.

Explanation

An ATM cell always consists of a 5-byte header followed by a 48-byte payload. So the size is 53 bytes long.

10. Transmission of N signals, each band limited to f_m Hz by TDM, requires a minimum band-width of

- (A) f_m (B) $2 f_m$ (C) $N f_m$ (D) $2N f_m$

Answer C.

Explanation

Minimum transmission band-width of TDM channel is given by the following equation. $B_t=NW$, Where N is the total number of channels, which are band limited to 'W' Hz. In the above problem, the number of signals are N, each band limited to f_m Hz and so the minimum band-width is $N f_m$.

16. The throughput of slotted ALOHA is given by:

- (A) $S=G$ (B) $S=Ge^G$ (C) $S=Ge^{-G}$ (D) $S=e^G$

Answer C

17. Congestion control is done by

- (A) Network layer (B) Physical layer (C) Presentation layer (D) Application layer

Answer A.

Explanation

Addressing, internetworking, error handling, packet sequencing are its other jobs.

18. Assertion(A): Twisted pairs are widely used as transmission medium.

Reasoning(R): Twisted pairs have adequate performance and low cost.

(A) Both (A) and (R) are true and (R) is the correct explanation for (A).

(B) Both (A) and (R) are true but (R) is not the correct explanation

(C) (A) is true but (R) is false (D) (A) is false but (R) is true

Answer A.

Explanation

As per of Tanenbaum book, you will find the following statement. "Due to their adequate performance and low cost, twisted pairs are widely used and are likely to remain so for years to come".

19. An example of a non-adaptive routing algorithm is:

- (A) Shortest path routing (B) Centralised routing
(C) Baran's hot potato algorithm (D) Baran's backward learning algorithm

Answer A.

20. IP address in B class is given by:

- (A) 125.123.123.2 (B) 191.023.21.54 (C) 192.128.32.56 (D) 10.14.12.34

Answer B

35. A high performance switching and multiplexing technology that utilizes fixed length packets to carry different types of traffic is :

(A) ATM (B) ADSL (C) SONET (D) None of the above

Answer A

36. A conventional LAN bridge specifies only the functions of OSI:

(A) Layers 1 and 2 (B) layers 1 through 3 (C) all layers (D) none of the above

Answer A.