

1. In a communication system, noise is most likely to affect the signal

- (a) at the destination
- (b) In the channel
- (c) in the information source
- (d) at the transmitter

Ans :: b

2. Broadband long distance communications are originally made possible by the advent of

- (a) telegraph cables
- (b) repeater amplifiers
- (c) HF radio
- (d) Geostationary satellites

Ans :: b

3. Which of the following characterizes an analog quantity?

- (a) Discrete levels represent changes in a quantity.
- (b) Its values follow a logarithmic response curve.
- (c) It can be described with a finite number of steps.
- (d) It has a continuous set of values over a given range.

Ans :: d

4. A differential amplifier has a differential gain of 20,000 . CMRR=80 dB. The common mode gain is given by

- (a) 2
- (b) 1
- (c) 1/2
- (d) 0

Ans :: a

5. Indicate the false statement. Fourier analysis shows that the saw tooth wave consist of

- (a) fundamental and subharmonic sine waves
- (b) a fundamental sine wave and an infinite number of harmonics
- (c) fundamental and harmonic sine waves whose amplitude decreases with the harmonic number
- (d) sinusoidal voltages, some of which are small enough to ignore in practice

Ans :: a

6. The most commonly used amplifier in sample & hold circuits is

- a) A unity gain non-inverting amplifier
- b) A unity gain inverting amplifier
- c) An inverting amplifier with a gain of 10
- d) An inverting amplifiers with a gain of 100

Ans :: b

7. What is the maximum data rate sustainable by a noisy channel with a bandwidth of 10KHz and a signal to noise ratio of 2047?

- (a) 110 Kbps
- (b) 1 Kbps
- (c) 20 Kbps
- (d) 1023 Kbps
- (e) 10 Kbps

8. UTP cables are twisted to

- (a) reduce the cross talk.
- (b) decrease the length.
- (c) strengthen them.
- (d) make them easier to use in networks.
- (e) reduce the cost of manufacturing.

9. Select the correct statement(s).

- (a) The physical topology of an Ethernet LAN connected through a switch is a star.
- (b) The physical topology of an Ethernet LAN connected through a Hub is a Star topology.

- (c) The physical and logical topologies of networks are always different.
- (d) The Internet can be considered as a network with a Bus topology.
- (e) The physical topology of all types of Ethernet LANs is a Bus topology.

10. waveguide are generally made of

- (a) Aluminium
- (b) Bronze
- (c) Both (a) and (b)
- (d) none of these

Ans :: c

11. Which type of signal is represented by discrete values?

- (a) noisy signal
- (b) nonlinear
- (c) analog
- (d) digital

Ans :: d

12. What is the subnet mask of the network identified as 10.16.48.0/20 in dotted decimal notation?

- (a) 255.255.255.0
- (b) 255.255.240.0
- (c) 10.16.48.255
- (d) 10.255.255.255
- (e) 255.255..254.0

13. Select the correct statements.

- (a) HTTP uses TCP as the transport protocol.
- (b) HTTP uses TCP as well as UDP as the transport protocol.
- (c) SMTP uses UDP as the transport protocol.
- (d) DNS uses UDP as the transport protocol.
- (e) SMTP uses TCP as the transport protocol

14. Given BCD number 1001 0011, its decimal equivalent is

- (a) 147
- (b) 143
- (c) 93
- (d) 39

Ans :: c

15. In differential amplifiers, the common emitter current is made constant

- (a) To make A_d (differential gain) very small
- (b) To make A_c (common mode gain) very small
- (c) To make the amplifier symmetrical
- (d) To keep CMRR constant

Ans :: b

16. Converting data into signals by transforming and encoding the information to produce electromagnetic signals is the functionality of a

- (a) source
- (b) transmitter
- (c) receiver
- (d) destination

Ans :: b

18. Switching systems

- (a) Improve the efficiency of data transfer

- (b) are not used in data system
 - (c) require additional lines
 - (d) are limited to small data networks
- Ans :: a

20. Microwave following the curvature of earth, is known as

- (a) fading
- (b) Ducting
- (c) troposphere scatter
- (d) ionosphere reflection

Ans :: b

25. Indicate the false statement. The square of the thermal noise voltage generated by a resistor is proportional to

- (a) its temperature
- (b) Its resistance
- (c) Boltzmann's Constant
- (d) the bandwidth over which it is measured

Ans :: a

28. If the plate supply voltage for a plate modulated class C amplifier is V , the maximum plate-cathode voltage could be almost as high as

- (a) $4V$
- (b) $3V$
- (c) $2V$
- (d) $1V$

Ans :: a

Non-Technical Section

AAI Numerical Aptitude Questions

(1) The least perfect square number which is divisible by 3, 4, 5, 6 and 8 is

- (a) 900
- (b) 1600
- (c) 2500
- (d) 3600

Ans: (d) 3600

2. A man has Rs. 480 in the denominations of one-rupee notes, five-rupee notes and ten-rupee notes. The number of notes are equal. What is the total number of notes ?

- (a) 60
- (b) 90
- (c) 75
- (d) 45

Ans: (b) 90

3. In an organization, 40% of the employees are matriculates, 50% of the remaining are graduates and remaining 180 are post-graduates. How many employees are graduates ?

- (a) 360
- (b) 240
- (c) 180
- (d) 300

Ans: (c) 180

4. In class of 100 students 50 students passed in Mathematics and 70 passed in English, 5 students failed in both Mathematics and English. How many students passed in both the subjects?
(a) 25 (b) 30 (c) 50 (d) 45

Ans :: a

5. If 10 cats can kill 10 rats in 10 minutes how long will it take 100 cats to kill 100 rats
(a) 1 minutes (b) 10 minute (c) 100 minutes (d) 10000 minutes

Ans :: b

6. A clock shows the time as 6 a.m. If the minute hand gains 2 minutes every hour, how many minutes will the clock gain by 9 p.m.?
(a) 30 minutes
(b) 25 minutes
(c) 28 minutes
(d) 34 minutes

Ans :: a

AAI General Awareness Questions

15. National Institute of Oceanography is located in :

- a. Calcutta
- b. Chennai
- c. Mangalore
- d. Panaji

Ans : d

16. The 2004 Olympics were held in :

- a. Bangkok
- b. Rome
- c. Athens
- d. Nagasaki

Ans : c

17. Who headed the committee appointed on Kargil War ?

- a. Gen. V. P. Malik
- b. Gen. S. K. Sinha
- c. K. Subramanyam
- d. K. C. Panth

Ans : c

18. The C. K. Nayudu Trophy is related to the sport of

- a. cricket
- b. Hockey
- c. Football
- d. Chess

Ans : a

19. New York is situated on the river

- a. Hudson
- b. Thames
- c. Danube

d. Tigris

Ans : a

20. "The Woman of the Millennium" selected by the British Broadcasting Corporation (BBC) is

a. Margaret Thatcher

b. Hillary Clinton

c. Chandrika Kumaratunga

d. Indira Gandhi

Ans : d

21. On 21 February 2012 Government and the Airport Authority of India AAI signed a memorandum of understanding (MOU) to establish airports in Jharkhand and Bihar.

Ans :: Jharkhand Government, Jamshedpur and Bokaro

22. Territorial waters of India extends up to how many nautical miles ?

(a) 8 (b) 12 (c) 16 (d) 22

Ans :: b

23. The General Assembly of United Nations meets

a. Once a year

b. twice a year

c. thrice a year

d. Once in five years

Ans : a

24. The Finance Minister of India recently made a mention that Infrastructure Development in India should be done on PPP model only. What is the full form of PPP?

a) Purchasing Power Parity

b) Public Private Partnership

c) Purchase Produce Provide

d) People's Programme & Priority

e) None of these

Ans :: b

25. The Golden Peacock Award for the Best Film was given to which of the following films at the 42nd International Film Festival of India which came to an end at the Kala Academy in Panaji, Goa on 3 December 2011?

a) Russian film Elena

b) an Israeli film Restoration

c) Columbian Film Porfirio

d) Malayalam film Adaminte Makan Abu

Ans :: c

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