Online Examinations (Even Sem/Part-I/Part-II Examinations 2020 - 2021

Course Name - –Communication Systems
Course Code - BCS203A

* You can submit the form ONLY ONCE.
* Fill the following information for further process.

* Required

1. Email *

2. Name of the Student *

3. Enter Full Student Code *

4. Enter Roll No *

5. Enter Registration No *

6. Enter Course Code *

7. Enter Course Name *

8. *

Mark only one oval.

- Diploma in Pharmacy
- Bachelor of Pharmacy
- B.TECH.(CSE)
- B.TECH.(ECE)
- BCA
- B.SC.(CS)
- B.SC.(BT)
- B.SC.(ANCS)
- B.SC.(HN)
- B.Sc.(MM)
- B.A.(MW)
- BBA
- B.COM
- B.A.(JMC)
- BBA(HM)
- BBA(LLB)
- B.OPTOMETRY
- B.SC.(MB)
- B.SC.(MLT)
- B.SC.(MRIT)
- B.SC.(PA)
- LLB
- B.SC(IT)-AI
- B.SC.(MSJ)
- Bachelor of Physiotherapy
- B.SC.(AM)
- Dip.CSE
- Dip.ECE
- DIP.EE
- DIP.CE

- [ ] DIP.ME
- [ ] PGDHM
- [ ] MBA
- [ ] M.SC.(BT)
- [ ] M.TECH(CSE)
- [ ] LLM
- [ ] M.A.(JMC)
- [ ] M.A.(ENG)
- [ ] M.SC.(MATH)
- [ ] M.SC.(MB)
- [ ] MCA
- [ ] M.SC.(MSJ)
- [ ] M.SC.(AM)
- [ ] M.SC.CS)
- [ ] M.SC.(ANCS)
- [ ] M.SC.(MM)
- [ ] B.A.(Eng)

Answer all the questions. Each question carry one mark.

9. 1. Demodulation of DSB-SC signal requires

Mark only one oval.

- [ ] an envelope detector
- [ ] an integrator
- [ ] a synchronous detector
- [ ] a discriminator

10. 2. In TV telecast, the sound signal is modulated in

Mark only one oval.

- VSB
- SSB
- AM
- FM

11. 3. Regenerative repeaters can be used in

Mark only one oval.

- analog communication system only
- digital communication system only
- analog and digital communication systems
- none of these

12. 4. The bit rate of a digital communication system is 34 Mbps. The modulation scheme is QPSK, the bout rate of the system is

Mark only one oval.

- 68 Mbps
- 34 Mbps
- 17 Mbps
- 85 Mbps

13. 5. The anti-aliasing is basically a

Mark only one oval.

- Band pass filter used for band limiting
- low pass filter used as band limiting filter
- High pass filter used as band limiting filter
- none of these

14. 6. The signal to quantization noise ratio in n bit PCM system

Mark only one oval.

- is independent of value n
- increase with increasing value of n
- depends upon the sampling frequency employed
- decreases with the increasing value of n

15. 7. Radio signals are made up of

Mark only one oval.

- voltage and current
- electrons and protons
- electric and magnetic field
- none of thes

16. 8. A special AM broadcasting transmitter radiates 10 kW when the depth of modulation is 60%. The carrier power required is

Mark only one oval.

- 9 kW
- 7.8 kW
- 8.47 kW
- 9.5 kW

17. 9. In digital transmission, the modulation technique that requires minimum bandwidth is

Mark only one oval.

- DM
- PCM
- DPCM
- PAM

18. 10. Thermal noise is also called as

Mark only one oval.

- johnson noise
- avalanche noise
- shot noise
- flicker noise

19. 11. The spectrum of a signal extends from 200 Hz to 3200 Hz. This signal is

Mark only one oval.

- a low pass signal
- a high pass signal
- a band pass signal
- a band stop signal

20. 12. The sampling process converts

Mark only one oval.

- continuous time signal into continuous time signal
- continuous time signal into a discrete time signal
- discrete time signal into a continuous time signal
- discrete time signal into discrete time signal

21. 13. Which multiplexing technique transmits digital signal?

Mark only one oval.

- FDM
- TDM
- WDM
- FDM and TDM

22. 14. If the deviation is 75 kHz and maximum modulating frequency is 5 kHz, what is the bandwidth of an FM wave?

Mark only one oval.

- 80 kHz
- 160 kHz
- 40 kHz
- 320 kHz

23. 15. Which of the following is not a major communication medium?

Mark only one oval.

- free space
- water
- wires
- fiber optic cable

24. 16. One of the serious disadvantages of FM transmission is its

Mark only one oval.

- high static noise
- limited line of sight range
- expensive equipment
- adjacent channel interference

25. 17. The broadcasting frequency range used in frequency modulator is

Mark only one oval.

- 30 MHz to 300 MHz
- 88 MHz to 108 MHz
- 3 MHz to 30 MHz
- 1 MHz to 3 MHz

26. 18. The length of the antenna to transmit a signal must be at least

Mark only one oval.

- 1/3 wavelength
- 1/4 wavelength
- 2/3 wavelength
- 2/4 wavelength

27. 19. Which of the following modulation is analog in nature

Mark only one oval.

- PCM
- DPCM
- DM
- none of these

28. 20. In frequency modulation

Mark only one oval.

- the frequency of the carrier remains constant
- the amplitude of carrier remains constant
- the amplitude of the carrier wave is varied
- the frequency of the signal is made equal to the carrier frequency

29. 21. Armstrong F. M. transmitter performs frequency multiplication in stages

Mark only one oval.

- to increase the overall S/N ratio
- to reduce bandwidth
- to find the desired value of carrier frequency as well as frequency deviation
- for convenience

30. 22. Major advantage of Armstrong modulator is that_____

Mark only one oval.

- it is capable to producing WBFM signals
- the centre frequency (carrier frequency when unmodulated) is extremely stable
- a large depth of modulation can be achieved
- none of these

31. 23. In phase modulation, the frequency deviation is

Mark only one oval.

- independent of the modulating signal frequency
- increasingly proportional to the modulating signal frequency
- directly proportional to the modulating signal frequency
- inversely proportional to the square root of the modulating frequency

32. 24. The positive RF peaks of an AM voltage rise to a maximum value of 12 volt and drop to a minimum value of 4v. The modulation index assuming single tone modulation is

Mark only one oval.

- 3
- 1/3
- 1/4
- 1/2

33. 25. For which of the following systems, the signal to noise ratio is the highest?

Mark only one oval.

- PAM
- PWM
- PPM
- PAM and PWM

34. 26. What are the three steps in generating PCM in the correct sequence?

Mark only one oval.

- sampling, quantizing & encoding
- encoding, sampling & quantizing
- sampling, encoding & quantizing
- quantizing, sampling & encoding

35. 27. In a certain system, the signal power is 13 dB and noise power is -1 dB. The SNR will be

Mark only one oval.

- 14 dB
- -13 dB
- 12dB
- 13 dB

36. 28. A narrowband noise shows

Mark only one oval.

- amplitude modulation only
- frequency modulation only
- both AM and FM
- none of these

37. 29. Which of the following is not the modulation type for modem specifications?

Mark only one oval.

- VSB
- PSK
- FSK
- ASK

38. 30. Maximum efficiency in AM is

Mark only one oval.

- 25%
- 50%
- 33%
- 83%

39. 31. If fm is the modulating frequency of an AM wave, the sideband frequencies of this wave are

Mark only one oval.

- greater than fm
- equal to fm
- less than fm
- none of these

40. 32. On modulating a carrier of frequency fc by an audio signal fs the following components have resulted: fc, fc+fs and fc-fs .what is this type of modulation likely to be?

Mark only one oval.

- amplitude modulation DSB
- single side-band modulation
- frequency modulation only
- amplitude or frequency modulation

41. 33. Thermal noise is independent of

Mark only one oval.

- bandwidth
- temperature
- center frequency
- Boltzmann constant

42. 34. Which of the following modulated signals can be detected by an envelop detector?

Mark only one oval.

- DSB-SC
- DSB-FC
- FM
- SSB-SC

43. 35.A carrier is simultaneously modulated by two sine waves with modulation indices of 0.3 and 0.4; the total modulation index is

Mark only one oval.

- 0.707
- 0.5
- 1
- none of these

44. 36. FM signal can be converted into AM signal using

Mark only one oval.

- frequency discriminator
- square law detector
- slope detector
- none of these

45. 37. The most common modulation system used for telegraphy is

Mark only one oval.

- frequency-shift keying
- two-tone modulation
- pulse-code modulation
- single-tone modulation

46. 38. What is the ratio of modulating power to total power at 100 percent modulation?

Mark only one oval.

- 1:3
- 1:2
- 2:3
- none of these

47. 39. Ring modulator is generally used for

Mark only one oval.

- generating SSB-SC signal
- generating DSB-FC signal
- generating DSB-SC signal
- none of these

48. 40. Vestigial sideband modulation is normally used for

Mark only one oval.

- HF point-to-point communications
- monoaural broadcasting
- TV broadcasting
- stereo broadcasting

49. 41. Number of sidebands in FM signal

Mark only one oval.

- 2
- 1
- zero
- none of these

50. 42. Which of the following is considered as an AM signal?

Mark only one oval.

- BPSK
- DPSK
- Differential encoded PSK
- QPSK

51. 43. A carrier of 100 W is amplitude modulated to the depth of 40%. The total transmitted power is

Mark only one oval.

- 116 W
- 112 W
- 108 W
- 118 W

52. 44. Shot noise is produced by

Mark only one oval.

- Electrons
- Photons
- Electrons & Photons
- none of these

53. 45. The minimum height of antenna required for transmission in terms of λ is

Mark only one oval.

- $3\lambda/_2$
- $\lambda/_4$
- 2λ
- λ

54. 46. Data transmitted for a given amount of time is called

Mark only one oval.

- Noise
- Power
- Frequency
- Bandwidth

55. 47. Why a sinusoidal signal is considered analog?

Mark only one oval.

- It moves in both positive and negative direction
- It is positive for one half cycle
- It is negative for one half cycle
- It has infinite number of amplitudes in the range of values of the independent variable

56. 48. What is Demodulation?

Mark only one oval.

- Process of varying one or more properties of a periodic waveform
- Recovering information from modulated signal
- Process of mixing a signal with a sinusoid to produce a new signal
- Involvement of noise

57. 49. Medium which sends information from source to receiver is called

Mark only one oval.

- Transmitter
- Transducer
- Loudspeaker
- Channel

58. 50. Cell phones sent information in form of

Mark only one oval.

- microwaves
- electrical signals
- infrared waves
- radio waves

59. 51. Which device is used for tuning the receiver according to incoming signal (especially in TV)?

Mark only one oval.

- Low pass filter
- High pass filter
- Zener diode
- Varacter diode

60. 52. Square Law modulators are

Mark only one oval.

- used for frequency modulation
- used for pulse width modulation
- used for amplitude modulation
- used for phase modulation

61. 53. The threshold effect is more dominant in

Mark only one oval.

- AM
- FM
- PM
- PWM

62. 54. An AM wave is EAM(t)=(1+0.12cos1014+0.05cos103t)cos106t. The resultant modulation index is _____.

Mark only one oval.

- 0.4
- 0.3
- 0.13
- 0.14

63. 55. A narrow band FM has_____.

Mark only one oval.

- Two sidebands
- Equal amplitude sidebands
- Both sidebands with same phase difference with the carrier
- Does not show amplitude variations

64. 56. Two carrier signals 40MHz are frequency modulated by 4KHz signal such that the bandwidth is same in both the cases. The peak deviation is in the ratio of _____.

Mark only one oval.

- 1:4
- 1:2
- 1:1
- 2:1

65. 57. The Nyquist frequency(fs) and baseband signal frequency (fm) as per sampling theorem are related by

Mark only one oval.

- fs=fm
- fs=2fm
- fs>2fm
- fs<2fm

66. 58. In a PCM system each quantization level is encoded into 8bits.The signal-to-quantization noise ratio is equal to _____.

Mark only one oval.

- 48dB
- 64dB
- 128dB
- 256dB

67. 59. Demodulation of PAM signal is done with _____.

Mark only one oval.

- LPF
- HPF
- BPF
- Schmitt Trigger

68. 60. Unlike AM, the biggest advantages of PCM is_____.

Mark only one oval.

- Larger noise
- Larger bandwidth
- Incompatability with TDM system
- Inability to handle analog signals

69. 61. The signal-to-quantization noise ratio in PCM depends upon:

Mark only one oval.

- Message signal bandwidth
- Sampling rate
- Number of quantisation levels
- None of these

70. 62. In a PCM system, if the numbers of quantization levels are 16 and maximum signal frequency is 4KHz, the transmission bit rate is_____.

Mark only one oval.

- 10kbps
- 12kbps
- 15kbps
- 16kbps

71. 63. A DSB-SC signal can be demodulated using:

Mark only one oval.

- An envelope detector
- A discriminator
- A low-pass filter
- A PLL

72. 64. Which of the following modulation technique is most affected by noise?

Mark only one oval.

- ASK
- PSK
- FSK
- None of these

73. 65. Coherent detection of binary ASK signal requires:

Mark only one oval.

- Phase synchronization
- Timing synchronization
- Amplitude synchronization
- None of the above

74. 66. In a DM system, the granular(idling) noise occurs when the modulating signal_____.

Mark only one oval.

- Increase rapidly
- Remains Constant
- Decrease rapidly
- Creases to exist

75. 67. Calculate power in each sideband, if power of carrier wave is 176W and there is 60% modulation in amplitude-modulated signal?

Mark only one oval.

- 13.36W
- 52W
- 67W
- 15.84W

76. 68. Over modulation results in?

Mark only one oval.

- Distortion
- Weakens signal
- Strengthens the signal
- provides immunity to noise

77. 69. What do you understand by the term “carrier”?

Mark only one oval.

- waveform with constant frequency, phase and amplitude
- waveform for which frequency, amplitude or phase is varied
- waveform with high amplitude, low frequency and constant phase
- waveform to be transmitted

78. 70. If the modulating frequency of a carrier wave varies between 700Hz and 7KHz, find its bandwidth.

Mark only one oval.

- 10 KHz
- 23 KHz
- 17.3 KHz
- 12.6 KHz