Program: BE Information Technology

Curriculum Scheme: Revised 2016

Examination: Special KT Backlog Exam

Course Code:ITC305 and Course Name: Principle of Communication

MODULE NO. 1

1. Signal which has very narrow and near-zero frequency is called _____.

   a) High frequency signal
   b) Radio frequency signal
   c) Bandpass signal
   d) Baseband signal

2. Which of the following is not a feature of optic fiber channel.

   a) It has better SNR and low noise interference
   b) The data is transmitted wirelessly with high speed.
   c) It is light weighted channel
   d) It has a high speed network

3. Which of the following frequency range is allocated for satellite and RADAR applications.

   a) 30MHz to 300MHz
   b) 3 to 30 GHz
   c) 3MHz to 300MHz
   d) 30Hz to 300KHz

MODULE NO. 2

4. The Fourier transform of a voltage signal x(t) is X(f). The fourier transform of x(t/5) will be

   a) $1/5 \, X(f/5)$
   b) $5X(f/5)$

c) 5 X(5f)

d) 1/5 X(5f)

5. Which of the following is the fourier transform of gate signal?

a) ATsin(fT)

b) ATsinc(fT)

c) FTsinc(AT)

d) AT/sinc(fT)

6. The ideal value of Noise factor F is_____but practically it is always_____.

a) 1 ,less than 1

b) Less than 1,1

c) 1,more than 1

d) More than 1,1

MODULE NO. 3

7. Amplitude modulation is the process of

a) superimposing a low frequency on a high frequency

b) superimposing a high frequency on a low frequency

c) carrier interruption

d) frequency shift and phase shift

8. An FM signal with a modulation index mf is passed through a frequency tripler. The wave in the output of the tripler will have a modulation index of

a) mf/3

b) mf

c) 3mf

d) 9mf

9. When the modulating frequency is doubled, the modulation index is halved, and the modulating voltage remains constant. The modulation system is

a) amplitude modulation

b) phase modulation

c) frequency modulation

d) any of the three

10.The modulation index of an AM wave is changed from 0 to 1. The transmitted power is

a) unchanged
b) tripled
c) doubled
d) increase by 50 percent

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

a) is 1
b) cannot be calculated unless the phase relations are known
c) is 0.5
d) is 0.7

12. Frequency modulation is the process of

a) Change in carrier amplitude according to amplitude of modulating signal
b) Change in carrier frequency according to frequency of modulating signal
c) Change in carrier frequency according to amplitude of modulating signal
d) Change in carrier amplitude according to frequency of modulating signal

13. A superheterodyne receiver with an IF of 450 kHz is tuned to a signal at 1200 kHz. The image frequency is

a) 750 kHz
b) 900 kHz
c) 1650 kHz
d) 2100 kHz

14. Which of the following is not the characteristic of power spectrum of AM modulation?

a) The frequency of LSB and USB are different
b) The amplitude of LSB and USB are same
c) The carrier has the highest power than LSB and USB
d) The power of LSB and USB are different

MODULE NO. 4

15. For a video signal of 4KHz having signaling rate of 64kbps , what is number of bytes per word

a) Half
b) Eight
c) One
d) Four

16. Which of the following waveforms are used for the generation of PWM wave?

    a) Triangular wave and carrier signal
    b) Sawtooth wave and modulating signal
    c) Sawtooth wave and carrier signal
    d) Triangular wave and modulating signal

17. Sample and hold circuit in PAM detection works on the principle of _____.

    a) Charging and discharging of capacitor
    b) Heating effect of resistor
    c) Mutual inductance of inductors
    d) Biasing of diode

MODULE NO. 5

18. Feedback is present in the transmitter circuit of

    a) PCM
    b) PPM
    c) PWM
    d) ADM

19. How many bits per sample are transmitted in delta modulation.

    a) 1
    b) Depend upon analog value
    c) 2
    d) 4

20. Which of the following waveform change its level when binary digit is 0 and level remains constant for 1?

    a) NRZ-S

    b) NRZ-L

    c) NRZ-M

    d) Bi-phase M

21.Which of the following is not a feature of time division multiplexing ?

    a) Signals are transmitted one by one

b) All signals are transmitted simultaneously

c) Inter modulation distortion is absent in TDM

d) Synchronisation is essential in TDM

22. In PCM receiver, N-digit PCM word is received using_____ ,then quantised PAM is formed using_____ and finally analog signal is produced as a output using_____.

a) parallel to serial converter, encoder, HPF

b) sampler, quantiser, encoder

c) Encoder, quantiser,LPF

d) Serial to parallel converter, decoder ,LPF

MODULE NO. 6

23. Which of the following polarization method is used in ground wave propagation?

a) Horizontal polarization
b) Elliptical polarization
c) Vertical polarization
d) Circular polarization

24. The ratio of electric field intensity and magnetic field intensity is called _____of medium.

a) Dielectric Value
b) Permittivity of medium
c) Characteristic impedance of medium
d) Medium intensity

25. The highest magnitude of frequency above which the waves penetrate the ionosphere and below which the waves are reflected back from the ionosphere is known as _____.

a) Critical frequency
b) Resonance frequency
c) Upperside band frequency
d) Penetration frequency