1. 2 ta diode diye bridge rectifer banao. Center tap transformer use kora jabe na.

-

2. DSP course keno important?

- signal analysis, image processing, biomedical

3. Auto correlation & cross correlation er code likhte bolse.

- cross_relation = np.correlate(x,y, mode='same')

4. FM transmitter er jnno oscillator frequency koto?

- 3.58 MHz

5. Bipolar HVDC er advantage.

- ekta link nosto hole monopolar link hisebe kaj kore, power flow change kora jay

6. Camera tube theke kon signal pai?

- Video signal

7. High amplitude ki indicate kore r low amplitude ki indicate kore?

- Dark/Bright(monochrome); Bright/Dark(Composite)

8. Sampling theorem.

- sampling signal er freq. the highest frequency component of the signal. er 2x

9. DSP course er purpose ki?

- signal analysis, image processing, biomedical

10. Second insulator ki? (Suspension type)

-

11. Superheterodyne receriver er block diagram.

-

12. Voltage sag ki?

- Temporary decrease in voltage level, often caused by sudden high-power demand.

13. 3 base er addition.

- ICT theke

14. Talaimari Theke Rajshahi r transmission line. (Katakhali theke)

- 11kv

15. Flickering ki?

- If the scanning rate of picture is too low, time taken to move from one frame to another will be high which result in alternate bright and dark picture. This is Flickering.

16. Interlaced scanning ki?

- To reduce flickering, frames are divided into two fields (even, odd) to increase frame scanned rate per second. This is called interlaced scanning.

17. Fractional sampling ki?

- Nyquist rate theke kom rate e smapling korake bole....

18. Discrete signal & Digital signal er parthokko ki?

Characteristic	**Discrete Signal**	**Digital Signal**
Nature	Can be continuous or discrete	Discrete (finite set of values)
Value Representation	Continuous range of values	Quantized, specific values
Signal Processing	Analog processing techniques	Processed using digital logic
Quantization	Optional, may or may not be quantized	Always quantized to levels
Noise Tolerance	Less immune to noise	More immune to noise
Signal Storage	Usually, analog representation	Binary representation
Transmission	Analog transmission possible	Digital transmission preferred
Manipulation	Limited manipulation capabilities	Easily manipulated and processed

19. Analog signal k discreet korba. Kivabe korba? Step gula

- Analog signals are sampled at discrete time intervals and quantized into digital values representing signal amplitude.

20. Superheterodyne er bivinno block er kaj.

-

21. Radder kivabe kaj kore?

- RADAR uses radio waves to detect and locate objects by measuring the time delay of the reflected signal. (Radio Detection And Ranging.)

22. Keno 3.58 MHz sub carrier frequency bola hoy?

- Prothom e chrominance signal ke 3.58 e modulate kora hoi, tarpor channel signal freq. dara modulate kora hoi, ei prthom modulation ke sub carrier freq.

23. Z transform ber korte dise.

-

24. Pin type insulator ki?

- Slide dekh

25. Standard conductor keno use kora hoy?

- reduce skin effect, Skin effect- high-frequency alternating current (AC) tends to flow closer to the surface of a conductor, reducing effective cross-sectional area and increasing resistance.

26. Random signal ki?

- any randomly gen. signal

27. Causal, non-causal, anti-causal.

- 0-infinity, minus infinity-1, minus infinity- positive infinity

28. Flickering keno hoy.

- low scanning rate

29. Discreet signal ki?

-

30. Attachment e jeye ki ki sikhso?

-

31. Ki type er powerplant chilo?

-

32. Installed capacity koto? Running capacity koto?

-

33. Ekta filter design korar jnno code likho.

- b,a=butter(order, high pass, low pass, mode='same')

34. Vestigial sideband ki?

- USB+LSB er maximum 30%

35. Overhead line er moddhe kivabe conductance toiri hoy?

- 2ta tarer modhe facegap

36. Condenser ki kore?

- Capacitor bank, improves powere factor

37. Scanning line koyta?

- 50 Hz -625; 60 Hz- 525

38. Electron gun keno use kora hoy?

- to scan line

39. Up sampling, down sampling ki?

- Nyquist freq er theke beshi freq. te sampling kora; jodi Nyquist freq er theke kom freq. te sampling kora;

40. Pedestal height ki?

- Composite signal er 75% theke DC value er distance

41. Harmonics ki? SCADA er full form ki?

- Fundamental freq. er integar multiplication; fractional multiplication hole inter harmonics. Supervisory control and data acquisition (SCADA)

42. Harmonics kivabe generate kore?

- Freq. multiplier diye nonlinear region e operate kore

43. Biasing ki?

- DC voltage input dewa

44. AM freq band koto?

- (550 -1650) kHz

45. Kivabe video signal generate hoy?

-

46. DTFT ki? DIFT ki?

- Discrete time Fourier transform; Discrete inverse Fourier transform

47. Discreet time r continuous time er parthokko?

Characteristic	Discrete-Time Signal	Continuous-Time Signal
Nature	Sampled at specific time instants	Defined for all time instants
Time Representation	Sequence of discrete values	Function of continuous time
Signal Processing	Processed using discrete operations	Processed using continuous methods
Quantization	Values are quantized	Values are not quantized
Interpolation	Requires interpolation for in-between values	No interpolation required
Representation	Often represented as sequences or arrays	Represented by mathematical functions
Signal Storage	Easily stored in digital systems	May require analog storage
Mathematical Analysis	Modeled using difference equations	Modeled using differential equations
Transmission	Easily transmitted digitally	Typically transmitted analogically
Real-World Relevance	Common in digital communication systems	Common in analog systems and nature

48. Kivabe flickering komay?

- interlaced scanning

49. Time invariant signal ki?

- i/p & o/p relation vary with time

50. Line marker ki? Power e line marker keno use kora hoy?

-

51. IF er range koto?

- AM(455-465 KHz); FM(10.7-12 MHz)

52. Interference & noise er parthokko.

-

53. Characteristics harmonic ki? Non characteristic harmonics ki?

-

54. Harmonics kivabe mitigate kore?

- By filtering

55. Radio Engineering ki?

-

56. Analog signal k kivabe digital signal e convert kora hoy? Block diagram ako.

- Analog signals are sampled at discrete time intervals and quantized into digital values representing signal amplitude.

57. FM transmitter e Msg signal er frequency zero hoile output voltage-

- carrier signal

58. Blinking time ki?

-

59. Air er breakdown voltage?

- 30 Kv

60. Inductor ki real power consume kore? Koto tuk kore?(internal resistance er jnno kore. Pure hoile 0)

-

61. Tune circuit ki?

-

62. Oscillator er kaj ki? Koyekta oscillator er nam.

- signal generate kora, Colpitts oscillator, Crystal

63. Class C oscillator er kaj ki?

-

64. Mixer e class C amplifier ki kore?

- ekta half cycle e half cycle er cheye samanno kom anlify kore, bakita kre na

65. Resistance er Power factor koto?

- unity

66. Inductor er power factor?

- lagging

67. Transmission line e power factor 1 hoile loss ki hbe? 0 hoile loss ki hbe?

- resistance er loss hobe

68. Composite video signal ki? Sync pulse keno use kora hoy? Blinking pulse keno use kora hoy?

- Chrominance signal+luminance signal+synch pulse

-Synchronization kore

- vertical scanning line jate na dekha jai

69. BJT FET r parthokko ki?

- current controlled; voltage controlled

70. Cross correlation keno bebohar kora hoy?

- 2ta signal er moddhe similarities bair kore

71. Corona effect ki?

- the corona effect is a phenomenon of electrical discharges around high-voltage conductors, resulting from the ionization of air molecules in the presence of strong electric fields.

72. Class B amplifier, class C amplifier keno use kora hoy?

- Class B= radio applications because they have high efficiency and low distortion for amplitude-modulated (AM) or frequency-modulated (FM) signals

- Class C=

73. FM signal art koro.

-

74. Stability ki?

- Stability is the ability of a system to return to equilibrium after fault occurs.

75. Transient stability ki?

- transient stability refers to the ability to recover after a disturbance.

76. Swing equation er significance ki? Equation likho.

-

77. Coherent generator ki?

- eker adhik gen er modhe rotor angle same hole..

78. Q point ki?

- Q point is the operating point of a transistor.

79. Transistor k bias kora hoy keno?

- on korar

80. Electrical power bere gele power factor kmn change hbe?

- kome jabe

81. JFET k voltage control hishebe use kora jay kina? Kon region e?

-

82. Radio te Ki ki resonance circuit use kora hoise?

- LC parallel

83. Selectivity change korar jnno kon factor use kora hoy? Kivabe?

- Q factor

84. Sag ki?

-

85. Solid conductor keno use kora hoy na?

- loss beshi, effect gula beshi

86. Standard conductor er flexibility kmn?

- bhalo

87. Heterodyne er mixer er kaj?

- oscillatory freq ar carrier freq. er modhe difference generate kora

88. Air breakdown voltage koto?

- 30Kv

89. IF frequency kivabe pai? (IF transformer er maddhome pai)

- IF transformer

90. Power system stability ki?

-

91. Arcing ki?

- ckt breaker open/close korar somoye eder modher air gap ionize hoye jay

92. Tracking? (Internal damage of insulator)/Trink?

- Internal damage of insulator/ External damage of insulator

93. Transient stability r karon ki?

-

94. Limiter er kaj ki?

- SNR improve, noise remove

95. FIR filter & IIR filter er parthokko.

- Finite impulse-feedback thake na; infinte- feedback thake

96. Correlation ki? Purpose ki? Kothay use hoy?

- similarities ber kora

97. Corona effect ki?

- upore ache

98. RADAR er full form ki?

- upore ache

99. Causal & Anti causal ki?

- upore ache

100. FM er range koto?

- 88-108 MHz

101. Receriver e RGB stage er kaj ki?

- color generate korbe

102. Characteristics Harmonics? Inline harmonics ki?

- upore ache

103. Auto correlation & cross correlation er parthokko.

- upore ache

104. Energy signal r power signal er parthokko.

- measure of total signal, measure of avg signal

105. TV te koy type er signal use kori? Konta kothay use kora hoy?

- 2; Y signal & C signal

106. Modulated audio & video duitai ki amra pathaite parbo?

- ha

107. Composite signal ki?

- eksathe sob signal thakbe

108. Chrominance signal ki? Luminance signal ki? Equation likho.

109. Stability ki?

110. Swing equation ki?

111. Transient stability ki ki karone hoy?

112. Correlation ki? Convolution ki?

113. Signal er correlation & convolution ber koro. Ki ki upaye correlation kora jay?

(108 theke 113 upore ache)

1. What is power factor and how to improve it?

2. why we do biasing, difference between BJT and FET, draw the symbol of pnp transistor

3. Working principle of IF block, why we set intermediate frequency at 455kHz.

4.What is power and energy signal?

5. What is photolithography