Is it possible to power factor more than unity?

why neutral used in three phase motor connection?

What is the maximum range of a general Radar

If 5v Dc is given to a transformer, what will be the O/P?

what is the difference between linear and non linear elements.

what is the use of starter in tube light?and what it contains

What is the main difference between GSM & CDMA?

What is difference between Sub inventory Transfer and Move order Transfer?

WHAT IS THE DIFFERNECE BETWEEN THE SEMICONDUCTOR DEVICES AND POWER SEMICONDUCTOR DEVICES?

WHY AMMETER IS ALWAYS CONNECTEDIN SERIES IN THE CIRCUIT AND VOLTMETERIN PARALLEL?

what is a GPIB?

types of invoices?

draw the bode plot of a second order typical system.

What's the Difference Between Routers, Switches and Hubs?

1. VSWR on a transmission line is always

1. Equal to 1

2. Equal to 0

3. Less than 1

4. Greater than 1

2. In a amplitude modulated wave, the value of Vmax is 10V and Vmin is 5V. The % modulation in this case is:

1. 2% b. 33.3% c. 50% d. 100%

3. The signal to noise ratio at the input of an amplifier can be improved:

1. By decrease the source impedance or resistance

2. By increasing the source impedance

3. By matching the source impedance with the input impedance of the amplifier

4. None of these

4. If the bandwidth of an amplifier is reduced, the thermal noise in the amplifier will:

1. Increase

2. Decrease

3. Not to be affected at all

4. Become random in nature

5. For the distortion to be minimum in a transmission line at audio frequencies, the condition is

1. L = CR / G

2. L = GR / C

3. LG = R

4. LR = G

6. When electromagnetic waves are propagated in a waveguide

1. They travel along the broader walls of the waveguide

2. They travel through the dielectric without touching the wall

3. They are reflected from the walls but they do not travel along them

4. None of these

7. Communication between satellite and ground station is through

1. Tropospheric scatter

2. Ground wave

3. Sky wave

4. Line of sight propagation

8. A mast antenna is used mainly for

1. UHF

2. Short wave

3. Medium wave

4. VHF

9. A crystal which has a sensitivity of -55 dBm with 1 MHz BW amplifier will have a sensitivity at 4 MHz BW amplifier equal to:

1. -55 dBm b. -58 dBm c. -52 dBm d. -60 dBm

10. Electromagnetic waves are refracted when they

1. Pass into a medium of different dielectric constant

2. Are polarized at right angles to the direction of propagation

3. Encounter a perfectly conducting surface

4. Pass through a small slot in a conducting medium

11. An aerial is fed from an amplitude modulation amplifier. Both the modulating voltage and modulated voltage are sinusoidal. The aerial current (rms) before modulation is 5 A and it increases to 5.8A after modulation. The percentage of modulation index will be

1. 88% b. 80% c. 81.21% d. 83.14%

12. In a frequency demodulation, Foster-Seeley discriminator uses a

1. Single tuned circuit

2. Double tuned circuit in which both the primary and secondary are tuned to the same frequency

3. Double tuned circuit in which both the primary and secondary are tuned to to different frequencies

4. Combination of two transistors in push-pull operation

13. The wavelength of an electromagnetic wave in wave guide

1. Is directly proportional to the phase velocity

2. Is inversely proportional to the phase velocity

3. Is greater than that in free space

4. Depends only on the wave guide dimensions and the free space wavelength

14. The scale used for moving coil meter is

1. Non-linear scale

2. Linear scale

3. A square scale

4. A log scale

15. To double the circuit range of a 50 mA, 2000W meter movement, the shunt resistance requires is

1. 40W b. 50W c. 2000W d. 25KW

16. A voltmeter utilizes a 20 mA meter movement. The sensitivity of the voltmeter is

1. 50 meg ohms per volt

2. 20 K ohms per volt

3. 50 kilo ohms per volt

4. 20 meg ohms per volt

17. A transformer, with a 20 : 1 voltage step-down ratio has 6V across 0.6 ohm in the secondary, then Is and Ip given by

1. 10A, 5A

2. 5A, 10A

3. 10A, 0.5A

4. 1A, 0.5A

18. The temperature coefficient of resistance of a resistor is

1. Negative

2. Positive

3. Zero

4. Infinity

19. To prevent loading of the circuit under test, the input impedance of the oscilloscope

1. Be low

2. Be high

3. Capacitive

4. Inductive

20. If the retrace is visible on the CRT display, then the trouble may be that

1. The fly back time of the time base saw tooth wave is not zero

2. The blanking control is not set properly

3. There is loss of SYNC signal

4. The intensity is too high

21. The lissajous pattern on CRO for two sinusoidal of frequency ratio 1 : 2 differing in phase by 90 degrees, is

1. A straight line

2. A circle

3. An ellipse

4. An eight-shaped

22. When an electron starts from rest under the influence of electric and magnetic fields perpendicular to each other, the path traversed by it will be

1. Ellipse

2. A parabola

3. Straight line

4. A cycloid

23. Frequency multipliers are usually

1. Class A amplifiers

2. Class B amplifiers

3. Class C amplifiers

4. Class AB amplifiers

24. The feedback network of a phase shift oscillator is usually consists of

1. RC circuit

2. RL circuit

3. LC circuit

4. C alone

25. Common base amplifier is most suitable for use in

1. Very high frequency circuits

2. Low frequency circuits

3. Medium frequency circuits

4. Low current circuits

26. If two amplifiers having identical bandwidth are cascaded, then the bandwidth of the resulting amplifier will be

1. Less than that of each stage

2. Greater than that of each stage

3. Same as that of each stage

4. Double of each stage

27. Which one of the following amplifier has largest bandwidth

1. RC coupled amplifier

2. Difference amplifier

3. Transformer coupled amplifier

4. Direct coupled amplifier

28. In an amplifier, the emitter resistance by passed by a capacitor

1. Reduces the voltage gain

2. Increases the voltage gain

3. Causes thermal run away

4. None of these

29. The term free running is usually associated with

1. Bistable multivibrator

2. Astable multivibrator

3. Monostable multivibrator

4. None of these

30. The signal fed at the input of an ideal push-pull amplifier has frequency components 150Hz' 300Hz, 450Hz and 600Hz. The output signal will contain

1. Only 150 Hz frequency component

2. Only 150 Hz and 450 Hz frequency component

3. Only 300 Hz and 600 Hz frequency components

4. All the frequency components

31. For which of the following configuration [s] does the input resistance of the amplifier depend strongly on the load resistance

1. CE b.CC c. CB d. CE and CB

32. An important advantage of the RC coupling scheme is

1. Economy

2. Excellent frequency reponse

3. High efficiency

4. Good impedance matching

33. The AC input to transistor oscillator is obtained from

1. The previous stage

2. A signal generator

3. DC power source

4. Its own internal circuit

34. The low frequency cut-off in an amplifier is due to

1. Only coupling capacitor

2. Only bypass capacitor

3. Both coupling and bypass capacitors

4. The internal transistor junction capacitances

35. In a half-wave rectifier the peak value of AC voltage across the secondary of the transformer is 20/2 V. If no filter circuit is used, the maximum DC voltage across the load will be

1. 28.28V b. 20V c. 14.14V d. None of these

36. Heat sinks ate used in a transistor working as power amplifier so as to

1. Increase the output power

2. Reduce the heat losses in toe transistors

3. Increase the voltage gain of the amplifier

4. Increase the collector dissipation rating of the transistors

37. In a power amplifier, the output power is proportional to

1. Vi b. Vi2 c. Vi3 d. Ö Vi

38. At half power frequencies the reduction in voltage gain of an amplifier equals

1. 6 dB b. 2 dB c. 3 dB d. 4 dB

39. the frequency of the ripple voltage at the output of a bridge rectifier operating from a 50 Hz supply is

1. 25Hz b. 50 Hz c. 100 Hz d. 200 Hz

40. Darlington pair is used for

1. High current gain

2. High power gain

3. High frequency operation

4. Low distortion

41. The function of a bleeder resistor in a power supply is

1. Same as that of a load resistor

2. To ensure a minimum current drain in the circuit

3. To increase the output current

4. To increase the output DC voltage

42. A JFET has a potential divider bias arrangement. By mistake the resistor between the gap and the power supply terminal is removed. The JFET will

1. Continue to work as an amplifier

2. Have a forward bias gate with respect to source

3. Not work as an amplifier but will work as a switch

4. Immediately burn out

43. The ripple factor of half-wave rectifier is

1. 0.482 b. 1.11 c. 1.21 d. 1.57

44. In the high frequency region of an RC coupled amplifier the circuit behave like a

1. Differentiator

2. A current amplifier

3. Low pass filter

4. High pass filter

45. Astable multivibrator can be used as

1. Squaring circuit

2. Comparator circuit

3. Voltage to frequency converter

4. Frequency of voltage converter

46. If the gain of the amplifier as A and the voltage feed back is fraction B of the amplifier output voltage, the condition for maintenance of oscillation is

1. AB = 1 180o

2. AB = infinity

3. AB = 1 0o

4. AB < < 1

47. Nominal gain of an amplifier is 240. The noise level in the output without feed back is 300 mV. If a feed back Beta = 1/ 60 used, the noise level in the output will be

1. 1.66 mV b. 2.4mV c. 4mV d. 20mV

48. A zener diode is primarily used for

1. Rectification

2. Producing constant current

3. Producing constant voltage

4. Reverse bias

49. Cross over distortion is eliminated in a push-pull amplifier by

1. Using a transformer with a large step-up ratio

2. Using a transformer with a large step-down ratio

3. Providing a small forward bias to the transistors

4. Supplying both transistors with inphase signals

50. When a PNP transistor is saturated

1. Its base, emitter, and collector are all essentially at the same potential

2. Its emitter is at higher potential than the collector

3. Its collector is at higher potential than both base & emitter

4. None

51. For a RC high pass circuit

1. RC < < t

2. RC > > t

3. RC = t

4. None

52. An inverter is an equipment for transforming

1. AC to DC

2. AC to AC

3. DC to DC

4. DC to AC

53. Suppose you wish to amplify the potential difference between two points in a circuit when neither of these points is grounded. Which one the following will you prefer?

1. RC coupled amplifier

2. Transformer coupled amplifier

3. Difference amplifier

4. Direct coupled amplifier

54. In an emitter follower, the output voltage is

1. 180o out of phase from the input voltage

2. 90o out of phase from the input voltage

3. in phase with the input voltage

4. None

55. A silicon controlled rectifier can be considered to be:

1. Two pnp transistor connected back to back

2. Two npn transistor connected back to back

3. One npn and one pnp transistor connected back to back

4. Two zener diodes connected back to back

56. A rf signal contains three frequency components 870 KHz, 875 KHz 880 KHz. This signal needs to be amplified. The amplifier used should be

1. Audio frequency amplifier

2. Wide band amplifier

3. Push pull amplifier

4. None

57. In the emitter follower circuit

1. The output current and voltage are inphase with the input current and voltage respectively

2. The input and output impedances are equal

3. There is current series negative feedback

4. The output impedance is much higher than the input impedance

58. The frequency response of a system is the range of frequencies between the upper and lower

1. 1 dB points

2. 6 dB points

3. 3 dB points

4. None

59. In a class C amplifier the output current is zero for

1. Half cycle

2. Full cycle

3. Less than half cycle

4. More than half cycle

60. When RL [load resistance] equals the internal resistance of a generator, which of the following is maximum:

1. Power in RL

2. Current through RL

3. Voltage across RL

4. Efficiency of the circuit

61. negative feedback in an amplifier results in:

1. increased gain and increased bandwidth

2. increased gain and reduced bandwidth

3. reduced gain and increased bandwidth

4. reduced gain and reduced bandwidth

62. A class B push-pull amplifier suffers from

1. Cross-over distortion

2. Excessive harmonic distortion

3. Inter modulation distortion

4. None

63. An oscillator of the LC type that has split capacitor in the tank circuit is

1. Hartely oscillator

2. Wein bridge oscillator

3. Colpitts oscillator

4. None

64. Clamping circuits are also known as

1. AC restorer

2. DC restorer

3. Voltage to frequency converter

4. None

65. Which of the following has the greater mobility

1. Positive ion

2. Negative ion

3. Electrons

4. Holes

66. An N type semiconductor as a whole is

1. Positively charged

2. Electrically neutral

3. Negatively charged

4. None

67. In a semiconductor, the forbidden energy gap is of the order

1. 1 ev b. 6 ev c. 7 ev d. 0.1 ev

68. In LED, light is emitted because

1. Recombination of charges take place

2. We make the light fall on LED

3. Diode emits light when heated

4. None

69. UJT is also called

1. A voltage controlled device

2. A current controlled device

3. A relaxation oscillator

4. None

70. The transistor configuration which provides higher output impedance is

1. CC b. CB c. CE d. None

71. Tunnel diodes are fabricated from

1. Silicon

2. Germanium

3. Either silicon or germanium

4. Either germanium or gallium

72. N channel FETs are superior to P channel FETs because

1. They have a higher input impedance

2. They have a high switching time

3. They consume less power

4. Mobility of electrons is greater than that of holes

73. Diac is a solid state device which works as a

1. 2 terminal bidirectional switch

2. 2 terminal unilateral switch

3. 3 terminal bidirectional switch

4. None

74. Triac is a solid device which works as a

1. 2 terminal bidirectional switch

2. 3 terminal bidirectional switch

3. 4 terminal bidirectional switch

4. 2 terminal unilateral switch

75. Compared to a CB amplifier, a CE amplifier has

1. Lower input resistance

2. Higher output resistance

3. Lower current amplification

4. Higher current amplification

76. The input and output signals of a common emitter amplifier are:

1. Always equal

2. Out of phase

3. In phase

4. Always negative

77. The operation of a JEET involves

1. A flow of minority carriers

2. A flow of majority carriers

3. Recombination

4. Negative resistance

78. Solar cell is an example of a

1. Photo conductive device

2. Photo emissive device

3. Photo voltage device

4. None

79. Bretters and bolometers are used in the measurement of

1. Microwave power

2. VSWR

3. Transmission losses

4. None

80. A klystron operates on the principle of

1. Velocity modulation

2. Amplitude modulation

3. Pulse modulation

4. Frequency modulation

81. The unit of the amplification factor of a triode is

1. Decibels

2. Volt

3. Neper

4. None

82. A change in base current from 30 to 40 mA changes the collector current from 500 to 900 mA. The B factor for this power transistor equals

1. 900 b. 500 c. 3 d. 40

83. The field effect transistor can be used as

1. Variable capacitance

2. A constant voltage source

3. A variable resistance

4. A constant current source

84. Why NPN transistor are preferred over PNP transistor

1. NPN transistor have low heat dissipation

2. NPN transistor can handle large power

3. NPN transistor are cheap and easily available

4. None

85. The germanium transistors are seldom used above

1. 60oC b. 75oC c. 125oC d. 175oC

86. In a FET the drain voltage above which there is no increase in the drain current is called

1. Pick off voltage

2. Critical voltage

3. Pinch off voltage

4. Break down voltage

87. A reflex klystron has

1. Only one cavity working both as the buncher & the catcher

2. Two cavities one for buncher and one for the catcher

3. Three cavities, two for buncher and one for catcher

4. No cavity at all

88. Bipolar junction transistors are seldom used as switching devices because

1. BJTs are not economical fro using as switching devices

2. They can handle only high voltage but not high currents

3. They need separate circuits when used as switching device

4. Of slow response and inability to withstand high voltage

89. The voltage at which the electron flow starts from the anode is called

1. Break down voltage

2. Peak inverse voltage

3. Peak voltage

4. Pinch off voltage

90. The heater filament of a vacuum tube is generally supplied with AC voltage (and not DC voltage) for heating because

1. It results in a uniform heating of filament so that the electron emission also uniform

2. It is very easy to obtain AC voltage from AC power mains

3. The DC voltage that would be required for heating has much greater magnitude than the AC voltage

4. When DC is used for heating, a different type of filament is required which very expensive

91. The dopant used for P type semiconductor is

1. Phosphorous

2. Boron

3. Carbon

4. Sodium

92. An example of negative resistance characteristic device

1. BJT b. MOSFET c. UJT d. PINdiode

93. The average DC voltage obtained from a bridge rectifier with a sine wave input V sin wt is

1. V / 2 b. 2V c. 4V d. V

94. The maximum theoretical efficiency of a class B amplifier is

1. About 20%

2. About 50%

3. About 75%

4. 100%

95. A cascade amplifier is

1. A CE amplifier followed by CC amplifier

2. A CE amplifier followed by CB amplifier

3. A CC amplifier followed by CB amplifier

4. A CB amplifier followed by CE amplifier

96. Toggle switches can be debounced using

1. Astable multivibrator

2. Shift register

3. RS flip flop

4. None

97. A band pass filter has a centre frequency at 5 KHz. The 3 dB cut off frequencies are 4.5 KHz and 5.5 KHz. The Q factor of the filter is

1. 5 b. 0.2 c. 5.2 d. 0.45

98. The domestic buzzer makes use of

1. Hall effect

2. Tunneling effect

3. Natural resonance

4. Piezoelectric effect

99. The device which uses avalanche breakdown is

1. PIN diode

2. Zener diode

3. Impart diode

4. GUNN diode

100. The correct relation between Alpha and Beta of a transistor is

1. a / b-1 b.b=a-1 c. b = a / 1-a d. a = b + 1/ b

Answer

1. d

2. b

3. a

4. b

5. a

6. b

7. d

8. c

9. c

10. a

11. d

12. c

13. c

14. b

15. c

16. c

17. c

18. a

19. b

20. d

21. d

22. d

23. c

24. a

25. a

26. b

27. d

28. d

29. b

30. d

31. b

32. a

33. d

34. c

35. d

36. d

37. b

38. a

39. c

40. a

41. b

42. c

43. c

44. c

45. c

46. c

47. d

48. c

49. c

50. a

51. a

52. d

53. c

54. c

55. c

56. d

57. c

58. c

59. c

60. a

61. c

62. a

63. c

64. b

65. c

66. b

67. a

68. a

69. a

70. b

71. d

72. d

73. a

74. b

75. d

76. b

77. b

78. c

79. a

80. a

81. d

82. d

83. c

84. d

85. b

86. c

87. a

88. d

89. b

90. b

91. b

92. c

93. d

94. b

95. b

96. c

97. a

98. d

99. c

100.c

1. Resistivity of silicon in ohms cm. is approx. equal to

a. 50 b. 1012 c. 230k d. 10-6

2. Rsistivity ofGermanium in ohms cm. is approx. equal to

a. 50 b. 10-12 c. 50k d. 10-6

3. The number of free electrons/cubic cm intrinsic Germanium at room temperature is approx. equal to

a. 1.5*1010 b. 2.5*1013 c. 1000 d. 5*106

4. The number of free electrons/cubic cm of intrinsic silicon at room temperature is approx. equal to

a. 1.5*1010 b. 2.5*1013 c. 10000 d. 5*106

5. The forbidden energy gap for silicon is

a. 1.1eV b. 067eV c. 0.97eV d. 1.7eV

6. The forbidden energy gap for Germanium is

a. 1.1eV b. 067eV c. 0.97eV d. 1.7eV

7. N type material is formed by the addition of the following (penta valent)atom in n to semiconductor material

a. Antimony

b. Arsenic

c. Phosphorous

d. Any of the above

8. P type material is formed by the addition of the following [Trivalent] atom tn to semiconductor material

a. Boron b. Gallium c. Indium d. Any of the above

9. Impurity atoms that produces N type material by its addition in semiconductor is called

a. Donar b. Acceptor c. Conductor d. Insulator

10. Impurity atoms that produces P type material by its addition in semiconductor is called

a. Donar b. Acceptor c. Conductor d. Insulator

11. Dynamic resistance of a diode Rd is if voltage changes is DVd and the current change is D Id

a. D Vd / D Id

b. D Id / D Vd

c. 1 / DVd

d. 1 / D Id

12. Point contact diodes are preferred at very high frequency, because of its low junction

a. Capacitance and inductance

b. Inductance

c. Capacitance

13. Identify the circuit given below

a. AND gate

b. OR gate

c. Rectifier

d. NOR gate

14. Identify the circuit given below

a. AND gate

b. OR gate

c. Rectifier

d. NOR gate

15. DC value of a Half wave rectifier with Em as the peak value of the input is

a. 0.318Em

b. 0.418Em

c. 0.518Em

d. 0.618Em

16. Change in Zener voltage of 10V at 100o C if temperature co-efficient is 0.072%o C as

a. 0.54 V b. 0.74 V c. 0.64 V d. 0.14 V

17. If Tc is th e% temperature co of / oC and Vz as zener voltage and T as change in temperature then the change in zener voltage is

a.

b.

c. 100. Vz. Tc DT

d. None of these of the above

18. PIV for a full wave rectifier, if Em is the peak voltage is

a. Em b. 1.5Em c. 0.636Em d. 2Em

19. Schottky Barrier diodes becomes important at

a. DC level operation

b. Low frequency operation

c. High frequency operation

d. None of these

20. Clamping network is the one that will clamp the signal to a

a. Different peak value

b. Different DC level

c. Different polarity level

d. Different RMS level

21. Clipping network is the one that will clip a portion of the

a. Input signal without distorting the remaining portion

b. Input signal with distorting the remaining portion

c. Any of the above

d. None of these

22. Transition capacitance Ct of a Varicap diode with Knee voltage Vt, reverse voltage Vr and K, the constant based on semiconductor material and the construction technique & N dependent on type of junction is given by

a. 1 / K (Vt + Vr)N/2

b. 1 / K (Vt + Vr)N

c. K / (Vt + Vr)N

d. K / (Vt + Vr)1/N

23. Ct = K / (Vt + Vr)N where Vt Knee voltage, Vr reverse voltage, K manufacturing dependent constant and N dependent on type of junction, for alloy junction the value of N is

a. 1/3 b. 2/3 c. 1/2 d. 1/4

24. Ct = K / (Vt + Vr)N where Vt Knee voltage, Vr reverse voltage, K manufacturing dependent constant and N dependent on type of junction, for diffused junction the value of N is

a. 1/3 b. 2/3 c. 1/2 d. 1/4

25. In JFET, the drain current Id is given by (Idss drain – source saturation current Vgs – Gate – source voltage, Vp the pinch off voltage)

a. Idss[1 – Vp/Vgs]

b. Idss(1 – Vgs/Vp)2

c. Idss[1 – Vgs/Vp)

d. Idss(1 – Vgs/Vp)3/2

26. The shadow mask in colour tube is used to

a. Reduce X-Ray emission

b. Ensure each beam hits its own dots

c. Increase screen brightness

d. Provide degaussing for the screen

27. Indicate which of the following signal is not transmitted in colour TV

a. Y b. Q c. R d. I

28. Another name for horizontal retrace in TV receiver is the

a. Ringing b. Burst c. Damper d. Fly back

29. Another name for the colour sync in the colour TV system

a. Ringing b. Burst c. Damper d. Fly back

30. The HV anode supply for a picture tube of a TV receiver is generated in the

a. Mains transformer

b. Vertical output stage

c. Horizontal output stage

d. Horizontal oscillator

31. The output of vertical amplifier is

a. Direct current

b. Amplified vertical sync pulse

c. A saw tooth voltage

d. A saw tooth current

32. In a transistor if Alpha = 0.98, current gain is equal to

a. 29 b. 59 c. 69 d. 49

33. The active region in the common emitter configuration means

a. Both collector and emitter junction is reverse biased

b. The collector junction is forward biased and emitter junction

c. The collector junction is reverse biased and emitter junction is forwared biased

d. Both collector & emitter junction are forward biased

34. The saturation region in the common emitter configuration means that

a. Both collector & emitter junction are reverse biased

b. The collector junction is forward biased and emitter junction

c. The collector junction is reverse biased and emitter junction is forwared biased

d. Both collector & emitter junction are forward biased

35. The % of Red, Green & Blue in 100% White Y is given by

a. 30%, 59%, 11%

b. 50%, 30%, 11%

c. 30%, 11%, 50%

d. 33.3%, 33.5%, 38.3%

36. Equalizing pulse width, if H is the Horizontal sync rate

a. 0.64 H b. 0.07 H c. 0.04 H d. 0.16 H

37. In a simple RC network the bandwidth is equal to

a. 1/2 p RC

b. RC / 2

c. 2 C / p R

d. 2 p / RC

38. The time constant of a RC network is given by

a. RC b. C/R c. R/C d. None of these

39. First zero crossing of pulse frequency spectrum occurs at if d is the pulse width,

T is the pulse repetition rate

a. 1/d b. d/T c. T/d d. T

40. The distortion less output characteristic of a network means

a. Constant amplitude and linear phase shift over frequency

b. Linear phase shift and amplitude need not be constant

c. Any amplitude and phase

d. None of these

41. Single sideband means suppressed

a. Carrier

b. Carrier and one side band

c. One side band

d. None of these

42. In an amplitude modulated signal, lower side band frequency is equal to (if the carrier frequency is fc and modulation frequency is fm)

a. fm + fc b. fc – fm c. fm r fc d. fc / fm

43. Modulation index of the frequency modulation depends on

a. Amplitude & frequency of the modulation signal

b. Frequency and amplitude of carrier signal

c. Carrier frequency

d. None of these

44. The BW of the narrow band FM if modulating frequency is fm

a. 3 r fm b. 2 r fm c. 2.5 r fm d. 10 r fm

45. Reactance tube modulator is known for

a. FM b. AM c. PPM d. PAM

46. Bandwidth and rise time product is

a. 0.35 b. 0.45 c. 0.30 d. 0.49

47. Energy gap, Lg, for Germanium at room temp [300o K] is

a. 0.72eV b. 1.1eV c. 1.53eV d. 0.2eV

48. Volt equivalent of temperature VT, at 116o K is

a. 0.11V b. 0.01V c. 1.16V d. 0.1V

49. Reverse saturation current of a Ge.diode is in the range of

a. mA b. uA c. nA d. pA

50. Cut-in voltage V for silicon is approximately

a. 0.2V b. 0.6V c. 0.9V d. 1.1V

51. Every 10o C rise in temp. the reverse saturation current

a. Doubles

b. Halves

c. Triples

d. No change

52. Hall effect with reference to Metal or Semiconductor carrying a current I is placed in a transverse magnetic field B, an electric field E is induced in

a. Parallel to B

b. Perpendicular to I

c. Perpendicular to both B & I

d. Perpendicular to B

53. 1 eV (electron volt) is equal to:

a. 1.9 r 10-20 J

b. 1.6 r 10-19 J

c. 1.6 r 10-20 J

d. 1.16 r 10-19 J

54. Donar impurity is having a valency of:

a. 2 b. 3 c. 4 d. 5

55. Acceptor impurity is having a valency of

a. 2 b. 3 c. 4 d. 5

56. Electron volt arises from the fact that if any electron falls through a potential of 1 volt, its kinetic energy will

a. Decrease, & potential energy will increase

b. Increase & potential energy decrease

c. Be unaltered & potential energy decreases

d. Increase & potential energy increase

57. Hole is created in a semiconductor material if one of following impurities are added

a. Antimony

b. Arsenic

c. Indium

d. Phosphorus

58. Excess electron is created by

a. Boran

b. Gallium

c. Indium

d. Arsenic

59. A snubber circuit is used across the SCR to protect against

a. The di/dt of the anode current

b. The dv/dt turn on

c. L.di/dt of load inductance

d. None of these

60. Germanium has the valency of

a. 2 b. 3 c. 4 d. 5

61. Silicon has the valency of

a. 2 b. 3 c. 4 d. 5

62. Hole acts as a free charge carrier of polarity

a. Negative

b. Positive

c. Neutral

d. None of these

63. Burst signal in NTSC system is 8 cycles of the frequency of

a. Colour sub carrier

b. Picture carrier

c. Sound carrier

d. None of these

64. Colour sub carrier reference burst is superimposed on the

a. Back porch of the each horizontal sync pulse

b. Front porch of the each horizontal sync pulse

c. Front porch of the each vertical sync pulse

d. Back porch of the each vertical sync pulse

65. The law of mass action with reference to semiconductor technology states that the product of free negative & positive concentration is a constant and

a. Independent of amount of donor and acceptor doping

b. Dependent on amount of donor and independent of the amount acceptor impurity doping

c. Depend on amount of both donor & acceptor impurity doping

d. None of these

66. The snubber circuit used across SCR is a simple

a. R-L network

b. RLC network

c. LC network

d. RC network

67. To limit the rate of rise of SCR anode current a small

a. Inductor is inserted in cathode circuit

b. Inductor is inserted in anode circuit

c. Capacitor is inserted in anode circuit

d. Capacitor is inserted in cathode circuit

68. Torque developed by a DC servo motor is proportional to the

a. Product of power and time

b. Product of armature current and back emf

c. Armature voltage and armature current

d. Field voltage and field current

69. Proportional Integral control

a. Reduces steady state error but reduces the forward gain

b. Increases the forward gain and reduces the steady state error

c. Increases the steady state error and increases the forward gain

d. None of these

70. Increasing the servo bandwidth:

a. Improves signal to noise ratio

b. Improves speed response and lowers signal to noise ratio

c. Improves power output

d. None of these

71. Notch filter is

a. Low pass filter

b. High pass filter

c. Narrow stop band filter

d. Narrow pass band filter

72. In TV Receivers the Electron beam deflection method used is

a. Electro static

b. Electro magnetic

c. Magnetic

d. All the above

73. In a line of sight communication the maximum range R in miles between the receiver antenna and transmitter antenna of height H in feet is approximately

a. R = 1.93 ÖH

b. R = 1.23 ÖH

c. R = 1.53 ÖH

d. R = 2.03 ÖH

74. In wavelength of the 60 MHz carrier frequency is

a. 10 metres

b. 15 metres

c. 5 metres

d. 2.5 metres

75. In standard TV receiving antenna the dipole element is

a. 0.5 of the wave length

b. 0.25 of the wave length

c. 1.5 of the wave length

d. 1.0 of the wave length

76. The characteristics of FET are similar to:

a. Triode

b. Tertode

c. Pentode

d. Diode

77. Charge coupled device is an array of capacitors whose structure is similar to:

a. Shift register

b. Flip-flop

c. NAND gate

d. Amplifier

78. Operational amplifier characteristics are which of the following:

a. Infinite gain

b. Infinite input impedance

c. Output impedance is zero

d. All of the above

79. The typical value of the open loop gain in dB of an amplifier at DC with no feedback is:

a. 90 to 100

b. 80 to 90

c. 0 to 50

d. 50 to 70

80. The 3 dB band width means the frequency at which

a. The open loop voltage gain reduced to 0.707

b. The open loop gain reduced to unity

c. Maximum voltage of a signal is without distortion

d. It is a medium wave band width of radio receiver

81. Rise time of an amplifier is defined as time required

a. To change from 0 to 100 % of its final value

b. To change from 0 to 50 % of its final value

c. To change from 10 to 90 % of its final value

d. To change from 10 to 100 % of its final value

82. High speed amplifier design emphasized on

a. Extremely small bandwidth

b. Very slow response

c. Unity gain bandwidth after 10 MHz

d. None of these

83. Tuned amplifier having the frequency range between

a. 150 KHz – 50 MHz

b. 100 Hz – 100 KHz

c. 100 KHz – 120 KHz

d. 50 MHz – 100 MHz

84. The resonance frequency of a tuned circuit made up of R, L, C is given by

a. 1/2 pÖLC

b. 2 pÖLC

c. 2 p / ÖLC

d. ÖLC / 2

85. The voltage follower can be obtained using operational amplifier

a. Without any feedback

b. Series parallel feedback of unity

c. Parallel feedback

d. Series feedback

86. Fidelity of the amplifier is when

a. It is a linear amplifier

b. It does not add or subtract any spectral components

c. It amplifier each component by the same amount

d. All of the above

87. What would be the output when two input sine waves of frequency 50 KHz and 100 KHz passed through an amplifier in the medium signal

a. 50 KHz and 100 KHz

b. 100 KHz and 200 KHz

c. 50 KHz and 150 KHz

d. All of the above

88. The important application of Schmitt trigger is

a. To convert slowly varying input voltage to abrupt voltage change

b. To convert abruptly varying input voltage into slowly varying output

c. To change the frequency of the input

d. None of these

89. Meaning of decoding is

a. Binary addition

b. Data transmission

c. Demultiplexing

d. Storage of binary information

90. Approximately how many number of gates are incorporated in SSL chip

a. 12

b. 100

c. Excess of 100

d. Excess of 1000

91. The circuit diagram represents which one of the following

a. Half adder

b. Full adder

c. Exor gate

d. AND gate

92. Flip flop cannot be called as

a. Bistable multivibrator

b. 1 Bit memory unit

c. latch

d. combinational circuit

93. The important use of low pass filter in power supply is

a. To get the regulation in the output voltage

b. To filter out the ripple frequency

c. To increase the current rating

d. To convert AC into DC

94. Binary equivalent of the decimal number 145 is

a. 10010001

b. 1001011

c. 1010001

d. 1100010

95. In which of the following gate the output will be high when all the maintained at high level

a. NOR

b. AND

c. NAND

d. EXOR

96. Which of the following definition is true in the De Morgan's theorem

a. Multiplication symbols are replaced by addition symbol

b. Addition symbols are replaced by Multiplication symbol

c. Each of the terms are expressed in the complementary form

d. All of the above

97. 8421/BCD code fro a decimal number 149 is

a. 0001 0100 1001

b. 10010101

c. 10101001

d. None of these

98. Combinational circuit are mainly characterized by

a. Output depends upon the previous state & presents state

b. Output depends upon the input at that particular instant

c. Output depends upon the presents state & the clock state

d. Output does not depends upon the input at all

99. A flip flop is defined as

a. A bistable device with two complementary outputs

b. It is memory element

c. It will respond to input and it is a basic memory element

d. All of the above

100. Four bit code is called

a. Nibble

b. Byte

c. Word

d. Register

Answer:-

1. c

2. a

3. a

4. b

5. a

6. b

7. d

8. d

9. a

10. b

11. a

12. c

13. b

14. a

15. a

16. a

17. a

18. d

19. c

20. b

21. a

22. c

23. c

24. a

25. b

26. b

27. c

28. d

29. b

30. c

31. d

32. d

33. c

34. d

35. a

36. c

37. a

38. d

39. a

40. a

41. b

42. b

43. a

44. b

45. b

46. a

47. a

48. b

49. b

50. b

51. a

52. c

53. b

54. b

55. b

56. b

57. c

58. d

59. b

60. c

61. c

62. b

63. a

64. a

65. a

66. d

67. b

68. b

69. a

70. b

71. c

72. c

73. b

74. c

75. a

76. c

77. a

78. d

79. d

80. a

81. c

82. c

83. a

84. a

85. b

86. d

87. a

88. a

89. c

90. a

91. a

92. d

93. b

94. a

95. b

96. d

97. a

98. b

99. d

100.a