010/2022

Maximum : 100 marks

Time : 1 hour and 30 minutes

1. What is the shape of warning sign board?

    (A) Hexagonal   (B) Square

    (C) Circular   (D) Triangular

2. The classification of fire which involves metals are called :

    (A) Class B   (B) Class A

    (C) Class D   (D) Class C

3. Blanketing the fire with foam, sand etc. for stopping the supply of oxygen is called :

    (A) Cooling   (B) Smothering

    (C) Blanketing   (D) Starving the fire

4. The factors required of combustion are :

    (A) Fuel and heat   (B) Heat and oxygen

    (C) Fuel and oxygen   (D) Fuel, heat and oxygen

5. Which of the following is used to form curves /loops in wires?

    (A) Side cutting pliers   (B) End cutting pliers

    (C) Round nose pliers   (D) Flat nose pliers

6. Which of the following tool is used to hold light weight and very small components and very thin wires/strands?

    (A) Diagonal plier   (B) Tweezers

    (C) Scriber   (D) Try square

7. The material which have 4 valence electrons are called :

    (A) Non-metal   (B) Semi conductor

    (C) Metal   (D) None of the above

8. Insulators are also called?

(A) Thyristors   (B) Semi conductors

(C) Molecules   (D) Dielectrics

9. If the frequency of a sine wave is increased, then its wavelength will :

(A) Unchanged   (B) Increase

(C) Decrease   (D) None of the above

10. An AC voltmeter will display :

(A) RMS voltage   (B) Average voltage

(C) Peak voltage   (D) Peak-to Peak voltage

11. Which is the name of the motion of charged particles in any medium?

(A) Frequency   (B) Voltage

(C) Resistance   (D) Current

12. The electrical property opposes the flow of electrons is called :

(A) Power   (B) Voltage

(C) Resistance   (D) Current

13. Single strand wires are also known as :

(A) Hook-Up wire   (B) Multi strand wire

(C) Flexible wire   (D) Twisted wire

14. The purpose of SWG is :

(A) Measure current   (B) Measure voltage

(C) Measure diameter of wire   (D) Measure insulation of wire

15. A multimeter is used to measure :

(A) Resistance   (B) Current

(C) Voltage   (D) All of the above

16. An ammeter is connected in ——————with a circuit to measure current :

(A) Series   (B) Parallel

(C) Series or parallel   (D) None of the above

17. The correction of mechanical zero error of panel meter is done :

    (A)   By replacing moving coil

    (B)   By replacing pointer

    (C)   Keeping the meter in vertical position

    (D)   By adjusting the screw

18. A galvanometer can be converted into voltmeter by connecting a ————— with it :

    (A)   High resistance in series   (B)   Low resistance in parallel

    (C)   Battery in series   (D)   Variable resistance in series

19. Generally batteries can be mainly classified into two categories, namely

    (A)   Cylindrical cells and rectangular cells   (B)   Primary cells and secondary cells

    (C)   Dry cells and alkaline cells   (D)   Button cells and lithium cells

20. The electrolyte used in lead acid cell is :

    (A)   Alkaline solution   (B)   Sulphuric acid

    (C)   Zinc chloride   (D)   Hydrochloric acid

21. The nominal voltage of a single cell in lead acid battery :

    (A)   2.2 V   (B)   1.1 V

    (C)   2.0 V   (D)   1.5 V

22. Usually ————— is used to express the capacity of a battery :

    (A)   Ampere Hour   (B)   KWH

    (C)   Volt   (D)   None of the above

23. What is the colour code of 1000 ohm resistor?

    (A)   Black, Brown, Black   (B)   Brown, Brown, Brown

    (C)   Brown, Black, Brown   (D)   Brown, Black, Red

24. The amount of current flowing through a series connection or resistors :

    (A)   Similar

    (B)   Changes based on resistance value

    (C)   Different

    (D)   Stable

25. When the current flowing through a 10K resistor is 5mA. The power is :

    (A)   250 mW   (B)   200 mW

    (C)   100 mW   (D)   None of the above

26. Unit of mutual inductance is :

    (A)   Henry   (B)   Ohm

    (C)   Ampere   (D)   Volts

27. The component which opposes any change in current is :

    (A)   Inductor   (B)   Capacitor

    (C)   Resistor   (D)   Diode

28. —————— is a polarised capacitor.

    (A)   Plastic film capacitor   (B)   Paper capacitor

    (C)   Ceramic capacitor   (D)   Tantalum electrolytic capacitor

29. How electrical energy is stored in a capacitor?

    (A)   As magnetic field   (B)   As electrostatic field

    (C)   As chemical form   (D)   All the above

30. The ability of material to retain its magnetism is called :

    (A)   Retentivity   (B)   Residual magnetism

    (C)   Resistivity   (D)   None of the above

31. The capacitive reactance is —————— when the frequency is increased :

    (A)   Infinity   (B)   Decreased

    (C)   Increased   (D)   Same

32. The winding of a transformer to which electrical energy is applied is known as :

    (A)   Main winding   (B)   Auxillary winding

    (C)   Primary winding   (D)   Secondary winding

33. Which impurity is added to pure semiconductor to form N-type material?

    (A)   Boron   (B)   Indium

    (C)   Arsenic   (D)   Gallium

34. What is the output pulse frequency of the full wave rectifier with input frequency of 50 Hz?

    (A) 40 Hz   (B) 60 Hz

    (C) 100 Hz   (D) 200 Hz

35. What is the name of the process of converting AC into DC voltage?

    (A) Inverting   (B) Rectifying

    (C) Amplifying   (D) Demodulating

36. Forbidden energy gap at 0°K for Si and Ge respectively are :

    (A) 0.5 eV and 0.7 eV   (B) 1 eV and 0.6 eV

    (C) 1.21 eV and 0.785 eV   (D) 0.72 eV and 0.785 eV

37. Which of the following will serve as a donor impurity in silicon?

    (A) Boron   (B) Indium

    (C) Germanium   (D) Antimony

38. The temperature coefficient of an intrinsic semiconductor is :

    (A) Negative   (B) Positive

    (C) Like that of Metals   (D) Zero

39. Current flow in a semiconductor depends on the phenomenon of :

    (A) Drift   (B) Diffusion

    (C) Recombination   (D) All of the Above

40. Rectification efficiency of a full wave bridge rectifier will be :

    (A) 40.6%   (B) 81.2%

    (C) 95.8%   (D) 60.8%

41. What is the meaning of first letter indicated in the transistor code number BC 107?

    (A) Germanium material used   (B) Antimony material used

    (C) Silicon material used   (D) Indium material used

42. When a reverse bias is applied to PN junction the width of the depletion layer?

    (A) Remains Same   (B) Is Increased

    (C) Is Decreased   (D) May Increase or Decrease

43. Which of the following diode operated in reverse bias mode?

   (A) P_N junction   (B) Schottky

   (C) Tunnel   (D) Zener

44. Which configuration of transistor amplifier is most commonly used in electronic circuits?

   (A) Common base configuration

   (B) Common emitter configuration

   (C) Common collector configuration

   (D) Common drain amplifier configuration

45. How the negative feedback is called?

   (A) Degenerative feedback   (B) Regenerative feedback

   (C) Current controlled feedback (D) Voltage controlled feedback

46. What type of packaging is generally used to transistors utilized for low power amplification?

   (A) Metal packaging

   (B) Plastic packaging

   (C) Ceramic packaging

   (D) Plastic packaging with metal heat sinks

47. Which class of amplifier will give less distortion for input signals?

   (A) Class – A   (B) Class – B

   (C) Class – AB   (D) Class – C

48. What is the function of pin number 4 of the IC 555?

   (A) Set   (B) Reset

   (C) Control voltage   (D) Threshold

49. The medium doped region in a transistor is :

   (A) Collector   (B) Base

   (C) Emitter   (D) Gate

50. A common collector amplifier has the highest :

   (A) Voltage Gain   (B) Output Impedance

   (C) Power Gain   (D) Current Gain

51. The lowest input resistance is obtained in which transistor configuration :

    (A)   Common Collector   (B)   Common source

    (C)   Common Base   (D)   Common Emitter

52. Transistor is a :

    (A)   current controlled voltage device   (B)   current controlled current device

    (C)   voltage controlled voltage device   (D)   voltage controlled current device

53. A relaxation oscillator is one which :

    (A)   produces sinusoidal output   (B)   no signal output

    (C)   relaxes indefinitely   (D)   produce non sinusoidal output

54. Ideal value of Common Mode Rejection Ratio in OP-Amp is :

    (A)   unity   (B)   zero

    (C)   infinity   (D)   0.50

55. What is the closed loop voltage gain of a inverting OP-amp circuit when feedback resistor value is $10K\Omega$ and input resistor value is $1K\Omega$?

    (A)   10   (B)   −10

    (C)   1   (D)   11 A

56. Which Multivibrator can be used for storing digital data?

    (A)   Astable Multivibrator   (B)   Mono Stable Multivibrator

    (C)   Bistable Multivibrator   (D)   None of these

57. Which is the output pin number LM 741 OP_AMP?

    (A)   Pin number 6   (B)   Pin number 4

    (C)   Pin number 5   (D)   Pin number 3

58. When a transistor work as an amplifier its operation is in :

    (A)   Cut Off Region   (B)   Active Region

    (C)   Saturation Region   (D)   Inverted Region

59. How many Op-Amps are fabricated inside the LM 324 IC pack?

    (A)   Two Op-Amps   (B)   Three Op-Amps

    (C)   Four Op-Amps   (D)   Five Op-Amps

60. Bistable Multivibrator has :

    (A)   One Stable State
          (B)   Two Stable State

    (C)   Three Stable States
          (D)   Two Quasi Stable States

61. Which sensor detect the presence of object without any physical contact?

    (A)   Load cell
          (B)   Proximity Sensor

    (C)   Thermo Couple
          (D)   LVDT

62. Which one of the following is used for measuring torque ?

    (A)   Strain gauge
          (B)   RTD

    (C)   Load cell
          (D)   Wheat Stone Bridge

63. What is the maximum forward gate current for BFW 10 FET?

    (A)   4 mA
          (B)   12 MA

    (C)   10 mA
          (D)   20 mA

64. The input impedance of IGBT is :

    (A)   Medium
          (B)   Low

    (C)   Infinity
          (D)   High

65. In UJT when the temperature increases the intrinsic stand of ratio is :

    (A)   Remains the same
          (B)   Decreases

    (C)   Increases
          (D)   None of these

66. Which sensor can be used to stop the flow of a liquid into a pipe by means of an electric current?

    (A)   Load cell
          (B)   Solenoid valve

    (C)   Water level sensor
          (D)   Switch

67. The desirable change over period for a UPS is :

    (A)   10 ms
          (B)   5 ms

    (C)   1 micro second
          (D)   1 ms

68. Which type of PV cell has the highest efficiency?

    (A)   Hybrid
          (B)   Amorphous Silicon

    (C)   Polycrystalline silicon
          (D)   Mono Crystalline Silicon

69. Which technique is achieved by switching of the choppers in battery charging circuit?

    (A)   Constant current   (B)   Constant frequency

    (C)   Constant Voltage   (D)   Constant Power

70. Which sensor is suitable for process temperature measurement of steel?

    (A)   Thermister   (B)   strain gauge

    (C)   Thermocouple   (D)   Capacitive transducer

71. Which material is coated as a thin layer on the PV cells to reduce surface reflection?

    (A)   Gallium Indium Nitride   (B)   Gallium Phosphide

    (C)   Silicon monoxide   (D)   Silicon dioxide

72. What is the decimal number for the octal number $(5642)_8$?

    (A) 12660_{10} (B) 13012_{10}

    (C) 12861_{10} (D) 12967_{10}

73. Which one of these ICs used as a Demultiplexer?

    (A)   IC 74LS138   (B)   IC 74LS83

    (C)   IC 74LS86   (D)   IC 74LS92

74. Which memory device is a volatile memory?

    (A)   RAM   (B)   ROM

    (C)   Hard Disk   (D)   CD

75. Which one of the following is a search engine?

    (A)   Hot mail   (B)   WWW

    (C)   outlook   (D)   Bing

76. Which protocol is used for transferring the file from one machine to another?

    (A)   HTTP   (B)   FTP

    (C)   TCP   (D)   IP

77. Which decimal number is equivalent to binary number 11110?

    (A)   20   (B)   12

    (C)   30   (D)   16

78. A hard disk is divided into tracks, which are further subdivided into :

    (A)   Clusters   (B)   Sectors

    (C)   Vectors   (D)   None of these

79. In ink jet Printers the droplets of ink are deflected by :

    (A)   Electrically charge plates   (B)   Multi directional nozzle

    (C)   High Pressure jets   (D)   None of these

80. The effect due to which a semi conductor converts sunlight into emf is called :

    (A)   Photo resistive effect   (B)   Seebeck effect

    (C)   Photo voltaic effect   (D)   Hall's effect

81. How many connecting pins are there of USB (Universal Serial Bus) port?

    (A)   2   (B)   3

    (C)   4   (D)   5

82. Which port is used to connect the HDD on the mother board?

    (A)   IDE port   (B)   Com 1 port

    (C)   Com 2 port   (D)   Floppy drive port

83. The process of converting an analog signal into a sequence of samples that are uniformly spaced is called :

    (A)   Quantization   (B)   Sampling

    (C)   Encoding   (D)   Modulation

84. How many I/O ports are there in Microcontroller 8051?

    (A)   2   (B)   3

    (C)   4   (D)   6

85. What is the range of frequency for medium wave band?

    (A)   550 KHz to 650 KHz

    (B)   3 MHz to 30 MHz

    (C)   30 MHz to 100 MHz

    (D)   200 MHz to 300 MHz

86. Which type of antenna is used for point to point communication of radio waves?

(A) Yagi antenna

(B) Dipole antenna

(C) Omnidirectional antenna

(D) Parabolic antenna

87. Which pin is marked as the master reset (RST) function in microcontroller IC 8051?

(A) Pin No : 9   (B) Pin No : 20

(C) Pin No : 30   (D) Pin No : 40

88. Which of given device used in speed control of a DC motor?

(A) UJT   (B) Transistor

(C) FET   (D) SCR

89. Which of the given logic family provide minimum power dissipation?

(A) ECL   (B) RTL

(C) TTL   (D) CMOS

90. One Kilo byte is equal to ———————— bytes :

(A) 1024   (B) 64

(C) 256   (D) 32

91. The internal RAM memory of 8051 micro controller is :

(A) 256 bytes   (B) 256 Bits

(C) 128 bytes   (D) 64 Bytes

92. How many instructions are available in the micro controller family instruction set?

(A) 23   (B) 37

(C) 95   (D) 111

93. Register that is used to hold the memory address of the next instruction to be executed is:

(A) Instruction decoder

(B) Control unit

(C) Program Counter

(D) Program Memory

94. In which of the following modes of propagation the ionosphere acts as the reflecting surface of the waves :

(A) Ground wave   (B) Sky wave

(C) Space Wave   (D) Direct wave

95. In an AM wave useful power is carried by :

(A) Carrier   (B) Side bands

(C) Both side bands and carrier   (D) None of these

96. A K map (Karnaugh) is an abstract form of which diagram organized as a square matrix :

(A) Block diagram   (B) Cycle diagram

(C) Venn diagram   (D) Square diagram

97. Which device convert a physical quantity into electrical quantity?

(A) Oscillator   (B) modulator

(C) Amplifier   (D) Transducer

98. A binary decoder with four inputs will have :

(A) 16 outputs   (B) 12 outputs

(C) 8 outputs   (D) 4 outputs

99. A microprocessor is a programmable logic device, 8085 microprocessor has :

(A) 16 address lines   (B) 8 address lines

(C) 4 address lines   (D) 2 address lines

100. In how many different modes a universal shift register operates :

(A) 4   (B) 5

(C) 3   (D) 1

———————

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