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Question Paper

Duration: 30 Mins

Total Marks: 422

ID: ITISKILL5223VK

Student Name: _____	Roll No: _____
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1. What is the colour code for 100 Ohm resistor?
 

A) Black, brown, black	B) Brown, black, brown	A) 2 V	B) 2.2 V
C) Brown, black, red	D) Brown, brown, brown	C) 1.8 V	D) 2.1 V

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2. What is the maximum reverse voltage that can be applied across the general purpose LED?
 

A) 32 V	B) 8 V
C) 15 V	D) 12 V

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

A) Inverting	B) Demodulating
C) Amplifying	D) Rectifying

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4. What is the function of schottky diode BA 157 in SMPS circuit?
 

A) Fast recovery diode	B) Error amplifier
C) Voltage regulator	D) Switching diode

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5. How the overlapping of excess sheet metal causing bulge at seam and edge is prevented?
 

A) L - angles	B) Notches
C) Mallet	D) Square stake

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6. What is stationary electric charges?
 

A) Electrical charges	B) Static charges
C) Chemical charges	D) Kinetic charges

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7. Which is the first step followed in troubleshooting of electronic circuit?
 

A) Physical and sensory test	B) Chemical test
C) Thermal test	D) Mechanical test

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8. What is the maximum possible number of flip-flops in a decade counter?
 

A) $2^n$	B) $1^n$
C) $2^{n+1}$	D) $3^n$

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9. What is the typical forward voltage drop of the yellow colour LED?
 

A) 2 V	B) 2.2 V
C) 1.8 V	D) 2.1 V

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10. Which of the device is opto-coupled TRIACS?
 

A) B3202	B) BT136
C) MOC3020	D) 2N2648

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11. What is the important feature of instrumentation amplifier?
 

A) Increase the output voltage	B) Low gain accuracy
C) Low gain accuracy	D) Reduce the output off set voltage

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12. Which is the additional percentage of power delivered by the lithium Ion compared to NiMH battery?
 

A) 40%	B) 60%
C) 0.15	D) 25%

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13. Which type of toe caps are used to avoid crushing of feet at the time of shifting equipments?
 

A) Leather toe caps	B) Plastic toe caps
C) Rubber toe caps	D) Steel toe caps

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14. What is the forward voltage drop of single colour Red LED?
 

A) 2.2 V	B) 2.1 V
C) 1.8 V	D) 2 V

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15. Which factor influences the severity of electrical shock?
 

A) Very low DC voltage	B) Person receives the shock
C) Level of current in micro ampere	D) Duration of current passing

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16. Which is electronic simulation software?
 

A) MS Office	B) Macspice
C) Photoshop	D) AutoCAD

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17. What is the purpose of using IC74LS190?
 

A) Modulator	B) Comparator
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C) Up/down counter      D) Attenuator

A) 0.3mA to 2.7mA

B) 0.2mA to 1.6mA

C) 0.4mA to 3.8mA

D) 0.1mA to 1.2mA

18. What is the advantage of SMPS in computer?

- A) Bulky      B) High frequency noise low  
C) Servicing of SMPS is easy      D) High efficiency

28. What is the formula used to calculate the current gain (alpha) of common base amplifier?

- A)  $I_C / I_E$       B)  $I_E / I_C$   
C)  $I_E / I_C$       D)  $I_B / I_E$

19. What is the advantage of photo transistors over photo diodes?

- A) Limit voltage handling capacity      B) Considerable greater sensitivity  
C) Considerably lower sensitivity      D) Vulnerable to electrical sources

29. What is the voltage gain in a transistor if the input voltage in 40mv and the output voltage in 3.6V?

- A) 180      B) 270  
C) 90      D) 45

20. What is the package type for BF 245B?

- A) TO-92      B) TO-72  
C) TO-102      D) TO-82

30. Which component is used to remove the heat generated inside the SMPS?

- A) Silicon grease      B) Cooler fan  
C) Mica film spacer      D) Heat sink

21. Which component opposes any change in current?

- A) Resistor      B) Diode  
C) Capacitor      D) Inductor

31. Which energy is converted by the battery to produce electricity?

- A) Electrical energy into light energy      B) Mechanical energy into electrical energy  
C) Chemical energy into electrical energy      D) Electrical energy into mechanical energy

22. When does the rosin flux melts in a soldering process?

- A) When the solder is heated      B) During the solder is melting  
C) After the solder melts      D) When the solder is melting

32. What is the use of flip - flop?

- A) It stores current      B) It stores energy  
C) It stores voltage      D) It stores binary information

23. What is the advantage of IGBT?

- A) It has low input impedance      B) Low efficiency and slow switching  
C) High efficiency and fast switching      D) IGBT is a gate current driven device

33. Which tool is used for seaming the funnel like taper?

- A) Vices      B) Blow horn stake  
C) Hatchet stake      D) Angle steel

24. What is the resonant frequency range of a crystal?

- A) Between 0.5 and 30 MhZ      B) Between 0.1 and 1MHZ  
C) Between 0.1 and 10 MHZ      D) Between 0.5 and 25 MHZ

34. What type of feed back is used by the Wein-bridge oscillator to oscillate the signal?

- A) Negative feedback      B) Both positive and negative feedback  
C) Positive feedback      D) No feedback

25. What is the purpose of flux in soldering electronic circuit components?

- A) Form the oxide layer      B) Increase the melting temperature of solder  
C) Dissolve the oxide layer on the metal surface      D) Reduce the solder cooling time

35. What is the maximum drain- source voltage, VDS for the JFET BF 245B?

- A) 10 V      B) 40 V  
C) 20 V      D) 30 V

26. How the stationary electric charges are called?

- A) Electrical charges      B) Chemical charges  
C) Kinetic charges      D) Static charges

36. Which method is used for blanketing with foam to extinguish the fire?

- A) Starving      B) Heating  
C) Cooling      D) Smothering

27. What is the range of photo current for photo transistor BPX 38?

37. Which type of wave is generated in Schmitt trigger

circuit?

- A) Sine wave
- B) Square wave
- C) Triangular wave
- D) Saw tooth wave

38. What is the maximum power dissipation  $P_{max}$  for BF 245B?

- A) 400 mw
- B) 200 mw
- C) 100 mw
- D) 300 mw

39. Which electrical quantity controls the operation of the bipolar transistor device?

- A) Frequency
- B) Energy
- C) Current
- D) Voltage

40. When does the complementary metal oxide type MOSFET configuration consumes power?

- A) During switching
- B) Always consumes power
- C) Never consumes power
- D) While it holds its state

41. What is the name of the circuit that shifts the waveform upward or downward without disturbing its shape?

- A) Biased clipper circuit
- B) Combination clipper circuit
- C) Clipper circuit
- D) Clamper circuit

42. What is the shape of mandatory signs?

- A) Triangular
- B) Circular
- C) Rectangular
- D) Square

43. What is the percentage of conductivity of electric current in silver?

- A) 0.56
- B) 0.94
- C) 1
- D) 0.67

44. How the gas and liquefied gases are classified

- A) Class C fire
- B) Class D fire
- C) Class A fire
- D) Class B fire

45. What is the gate current ( $I_g$ ) of the JFET, when reverse biased?

- A) Practically unity
- B) Practically very low
- C) Practically zero
- D) Practically infinity

46. Why the plunger desoldering tool needs periodical cleaning?

- A) To remove the flux collected in chamber
- B) To help the joint to be soldered
- C) To melt the solder quickly
- D) To prevent clogging of the nozzle

47. What is the colour of positive electrode in fully charged lead acid battery?

- A) Spongy grey colour
- B) Reddish brown
- C) Grey colour
- D) Red colour

48. In computer processing data, which table maintain the size of the partition?

- A) Process table
- B) Partition table
- C) Procedure table
- D) Program table

49. What is the first step to rescue the person in electrical contact?

- A) Pull the person from electrical contact
- B) Break the contact
- C) Switch OFF power supply
- D) Call the doctor

50. What is the typical forward voltage drop of the RED colour LED?

- A) 2 V
- B) 1.8 V
- C) 2.2 V
- D) 2.1 V

51. How many time constants required to change a capacitor to 63.2% of its full charge voltage?

- A) Four time constant
- B) Two time constant
- C) Three time constant
- D) One time constant

52. How is the soldering method used for joining large metal called?

- A) Welding
- B) Hot soldering
- C) Soft soldering
- D) Brazing

53. Which fire extinguisher is used to put off class C type of fire?

- A) Dry powdered
- B) Foam type
- C) Jet of water
- D) Carbon-di-oxide

54. What is the function of solid state relay(SSR)?

- A) High frequency oscillator
- B) High gain amplifier
- C) High speed switching
- D) Low pass filter

55. What is the limitation of integrated circuits?

- A) Drains more current
- B) Greater flexibility
- C) Greater flexibility
- D) Increased reliability

56. How many inputs are available in the 7447 BCD-to-seven segment decoder used to drive the LED display?

- A) One
- B) Four
- C) Seven
- D) Eight

57. What is the minimum forward current  $I_f$  for single colour

LEDs?

- A) 10 MA
- B) 20 MA
- C) 5 MA
- D) 30 MA

58. What is the package type for BF 245B?

- A) TO-72
- B) TO-82
- C) TO-102
- D) TO-92

59. What is the full of the abbreviation DPDT used in switches?

- A) Dual Phase Dual Throw
- B) Double Pole Direct Throw
- C) Direct Pole Double Throw
- D) Double Pole Double Throw

60. What is the effect of over heating on soldering a joint?

- A) Dull grainy surface
- B) Poor wetting
- C) Flux trapped against lead
- D) Cold joint

61. What is the maximum forward gate current (I<sub>g</sub>) for BFW10 JFET?

- A) 5 mA
- B) 20 mA
- C) 8 mA
- D) 10 mA

62. What is the maximum blocking voltage of very high current handling IGBT modules?

- A) 440 V
- B) 6000 V
- C) 1000 V
- D) 5000 V

63. What is the load current handled by the solid state relay that must be mounted to some heatsink to protect the device?

- A) 3 Amp
- B) 2 Amp
- C) Greater than 4 Amp
- D) 1 Amp

64. What is the name of multi-stage amplifiers?

- A) Darlington pair amplifier
- B) Complementary symmetry amplifier
- C) Cascaded amplifier
- D) Cascode amplifier

65. Which type of defects are occurring in solid state relays?

- A) Intermittent working
- B) Tendency to fail shorted
- C) More sparking
- D) Tendency to fail open

66. Which bonding material is used for soldering a joint?

- A) Flux
- B) Acid
- C) Grease
- D) Oil

67. Which parameter is used in the working of moving coil meter?

- A) Permanent magnetic fields
- B) Spring control
- C) Stray magnetic fields
- D) Eddy current damping

68. Which circuit uses the F to V converter section?

- A) Up/down counter circuit
- B) Schmitt trigger circuit
- C) Digital frequency meter circuit
- D) Digital frequency meter circuit

69. What is the term stands for TRIAC?

- A) Triode Alternate control
- B) Triode Access console
- C) Triode AC semiconductor
- D) Triode DC semiconductor

70. Which step is important for soldering a joint?

- A) Cleaning the joint
- B) Cooling the joint
- C) Pasting the joint
- D) Heating the joint

71. Which metal coating is used on compact disk?

- A) Chromium
- B) Aluminium
- C) Nickel
- D) Silver

72. Which tool works on the principle of air suction?

- A) Desoldering pump
- B) Soldering iron
- C) Soldering wick
- D) Desoldering braid

73. What is the full form of the abbreviation SPDT used in switches?

- A) Single Pole Single Throw
- B) Shared Pole Double Throw
- C) Single Pole Double Throw
- D) Single Phase Dual Throw

74. What is the unit of electric charge?

- A) Hertz
- B) Volts
- C) Coulomb
- D) Ampere

75. Which diode is used in low power communication circuits?

- A) High power diodes
- B) Signal diodes
- C) Switching diodes
- D) Rectifier diodes

76. Which value is equal to one picofarad?

- A) 10<sup>-6</sup> Farad
- B) 10<sup>-12</sup> Farad
- C) 10<sup>12</sup> Farad
- D) 10<sup>6</sup> Farad

77. When does the biased positive clipper removes the portion of input signal?

- A) Signal voltage is lesser than bias battery
- B) Signal voltage becomes greater than bias battery voltage
- C) During the negative half cycle of input
- D) Signal voltage equals the bias battery voltage

78. Which circuits commonly use parallel-fed Hartley oscillators?

- A) Automatic voltage stabilizers
- B) Stereo amplifiers
- C) Television receivers
- D) Radio receivers

79. How the mechanical zero error of panel meter is corrected?

- A) By replacing pointer
- B) By replacing moving coil
- C) By replacing moving coil
- D) Keeping the meter in vertical position

80. How batteries are classified?

- A) Dry cells and alkaline cells
- B) Button cells and lithium cells
- C) Primary cells and secondary cells
- D) Cylindrical cells and rectangular cells

81. What is the reason for the use of contactors in control circuits?

- A) To protect the load from arcing
- B) To decrease load current
- C) Supply power to loads
- D) To increase load current

82. Which cores are used in intermediate frequency transformers?

- A) Steel
- B) Ferrite
- C) Cobalt
- D) Nickel

83. Why the transformer core is made as thin laminations?

- A) To minimize eddy current losses
- B) To increase core saturation losses
- C) To maximize eddy current losses
- D) To increase the hysteresis losses

84. How many layers of PN - junctions are used in SCR fabrication?

- A) Four layer three junctions
- B) Three layer four junctions
- C) Three layer three junctions
- D) Two layer two junctions

85. Which terminal of the meter is connected for measuring electrical quantity?

- A) Output terminal
- B) Output terminal
- C) Pointer mechanism
- D) Input terminal

86. How many types of soldering is used for joining metal surfaces?

- A) Five
- B) Three
- C) Four
- D) Two

87. What is the defect on the soldered joint, if it is cooled by

blowing air?

- A) Dry solder joint
- B) Pits and voids
- C) Poor wetting
- D) Dull grainy surface

88. Which circuit photo SCR opto couplers are used?

- A) Amplifier circuits
- B) Counter circuits
- C) DC circuits
- D) AC powered circuits

89. Which software is used to simulate electronic circuits?

- A) Auto cad
- B) Photo shop
- C) MS office
- D) Multi sim

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

- A) IDE port
- B) Com 2 port
- C) Floppy drive port
- D) Com 1 port

91. What is the code number of TRIAC?

- A) 2N1597
- B) 2N2646
- C) BT136
- D) BFW10

92. How gate is biased in JFET?

- A) AC supply function
- B) Forward biased
- C) Reverse biased
- D) Dual supply function

93. Which is the 3 terminal, negative voltage regulator IC?

- A) IC 7905
- B) LM 340
- C) IC 7812
- D) LM 320

94. Which type of amplifier is used to operate the loud speaker?

- A) RF Amplifier
- B) Voltage Amplifier
- C) IF Amplifier
- D) Power Amplifier

95. How the single strand wire is called?

- A) Multistrand wire
- B) Twisted wire
- C) Hook - up wire
- D) Flexible wire

96. Which meter is used to find the exact resistance value of resistors?

- A) Ohm meter
- B) Watt meter
- C) Ammeter
- D) Volt meter

97. How the thick layers of oxide is removed before doing the soldering activity?

- A) Use abrasive method
- B) Apply flux
- C) Use Isopropyl Alcohol
- D) Clean normally

98. Why the soft iron pieces in the moving iron meter is

tongue shaped?

- A) To achieve uniformity of scale
- B) To produce magnetic attraction
- C) To generate heat
- D) To damp the oscillations

**99.** Which semiconductor devices are composed inside the solid state relays?

- A) UJYs and FETs
- B) MOSFETs and IGBTs
- C) Thyristor and transistors
- D) Diodes and transistors

**100.** What is the effect on a secondary cell supplying current to the load?

- A) Discharging
- B) Leaking
- C) Unloading
- D) Charging

**101.** What is the full form of electronic component MOV?

- A) Metal Over Varistor
- B) Metal Over Varactor
- C) Metal Oxide Varactor
- D) Metal Oxide Varistor

**102.** What is the maximum specified voltage for the TRIAC TIC 201D?

- A) 2.5 V
- B) 2.1 V
- C) 1.5 V
- D) 1.7 V

**103.** What is the percentage of sulphuric acid in electrolyte used for lead-acid batteries?

- A) 25%
- B) 27%
- C) 40%
- D) 12%

**104.** Which control is used in repulsion type moving iron instrument to keep the pointer at zero position?

- A) Air damping control
- B) Magnetic repulsion control
- C) Magnetic attraction control
- D) Spring control

**105.** Which metal has very good conductivity of electric current?

- A) Copper
- B) Gold
- C) Aluminium
- D) Silver

**106.** What is the digital signal value for the analog signal value 6V?

- A) 110
- B) 111
- C) 101
- D) 100

**107.** Which is the major factor determines the quality performance of A/D converter?

- A) Depends on data latch
- B) Measuring parameter
- C) Measuring parameter
- D) Conversion cycle

**108.** Which is the major factor determines the quality performance of A/D converter?

- A) Conversion cycle
- B) Measuring parameter
- C) Measuring parameter
- D) Depends on data latch

**109.** Rate of change of input voltage

- A) Rate of change of output frequency
- B) Rate of change of input voltage
- C) Rate of change of output voltage
- D) Rate of change of output voltage

**110.** Which ratio of tin-lead combination is used for electronic component soldering work?

- A) 60:40:00
- B) 63:37:00
- C) 20:40
- D) 40:60

**111.** What is the effect on the current flow with increased diameter of conductor?

- A) Allows high current flow
- B) Resistance increases
- C) More voltage dropped
- D) Opposes more current

**112.** The speed of spindle motor rotates inside the hard disk

- A) 4000 to 800 r.p.m
- B) 3600 to 7200 r.p.m
- C) 3500 to 6000 r.p.m
- D) 2500 to 5000 r.p.m

**113.** What is the maximum forward gate current (I<sub>g</sub>) for BFW10 JFET?

- A) 10 mA
- B) 8 mA
- C) 20 mA
- D) 5 mA

**114.** How can you confirm a transistor as defective?

- A) By ohm meter testing
- B) By physical testing
- C) By circuit testing
- D) By voltage measurements

**115.** How the flux residue is removed after soldering a joint?

- A) Water
- B) Organic flux
- C) Isopropyl alcohol
- D) Petrol

**116.** What is the minimum current rating of four diode bridge rectifier to supply load current of 1.8 Amp?

- A) 5.0 Amp
- B) 1.8 Amp
- C) 0.9 Amp
- D) 2.0 Amp

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

- A) Arsenic
- B) Boron
- C) Indium
- D) Gallium

**118.** What is the name of Multi-turn potentiometers?

- A) Multi turn dual pots      B) Multi turn trim pots  
C) Single turn dual pots      D) Single turn trim pots

**119.** Which is the fastest A/D conversion techniques?

- A) High to medium speed data acquisition applies      B) Absolute conversion accuracy  
C) Absolute conversion accuracy      D) Low speed data acquisition applies

**120.** Which type of transistors are required to amplify signals from the microphone /transducer?

- A) Epitaxial versa watt transistors      B) High power transistors  
C) Medium power transistors      D) Low power transistors

**121.** What is the maximum drain current ID for BFW10?

- A) 5 mA      B) 30 mA  
C) 10 mA      D) 20 mA

**122.** What is successive approximation (SAR)?

- A) Method of SMT      B) Method of IC fabrication  
C) Method of D/A conversion      D) Method of D/A conversion

**123.** What is the process of adding impurities to a pure semi conductor material?

- A) Diffusion      B) Forming  
C) Doping      D) Etching

**124.** What is the disadvantage of the two diode full wave rectifier compared with a bridge rectifier?

- A) The ripple frequency is higher      B) The need of bulky transformer  
C) DC output level is higher      D) Each diode carries half the load current

**125.** Which battery is made from non-toxic materials?

- A) Nickel cadmium (Nicad)      B) Lithium polymer (Li-Poly)  
C) Nickel metal hydride (NiMH)      D) Lithium ion (Li-Ion)

**126.** At which temperature the 6040 solder start meeting?

- A) 100 Degree Centigrade      B) 380 Degree Centigrade  
C) 300 Degree Centigrade      D) 200 Degree Centigrade

**127.** What is the use of battery analyzers with rapid-test program?

- A) Test the battery life      B) Test the load current delivered  
C) Test the charging current of battery      D) Indicate the health condition of battery

**128.** What is the main application of photo resistor?

- A) Demodulation purpose      B) Controls of street lighting systems  
C) To generate oscillations      D) Voltage rectification

**129.** What is the cause of injuring at the time of lifting a load?

- A) Heavy load      B) Object striting the load  
C) Falling object      D) Wrong lifting technique

**130.** Find the total inductance value of two inductors 10H and 15H of connected in series.

- A) 15 H      B) 25 H  
C) 05 H      D) 10 H

**131.** What is the name of defect if the flux is unable to remove the tarnish from the soldered joint?

- A) Pits and voids      B) Dull gravity surface  
C) Cold joint      D) Poor wetting

**132.** Which option opens a list of programs, currently installed in the computer?

- A) Recent documents      B) Help menu  
C) Start menu      D) All program

**133.** What is the input impedance of darlington pair transistors?

- A) Uniter      B) Medium input impedance  
C) Very low input impedance      D) Very high input impedance

**134.** Which component, which reads the command from memory and executes?

- A) Random Access Memory      B) Graphics card  
C) Read Only Memory      D) Processor

**135.** Which electrolyte is used in maintenance free lead acid batteries?

- A) Sodium electrolyte      B) Gelled electrolyte  
C) Potassium electrolyte      D) Ceramic electrolyte

**136.** What is the maximum power dissipation for a 555 IC?

- A) Below 500 mW      B) Above 800 mW  
C) Exactly 300 Mw      D) Exactly 300 Mw

**137.** What is the range of output voltage of regulator IC LM 317?

- A) 0 to 25 V      B) 1.2 V to 32 V  
C) 0 to 30 V      D) 0 to 32 V

138. Which current flows in TRIAC between MT1 and MT2?

- A) Reverse current
- B) Leakage current
- C) Principal current
- D) Conventional current

139. How the solid state relays are working for increased lifetime?

- A) Spark generated during switching
- B) Bulky profile
- C) No moving parts to wear and tear
- D) Slower in operations

140. How the insulation coating stays without damage, even on bending the wire?

- A) Due to high current flow
- B) Due to elastic property of insulation
- C) Due to the strength of the wire material
- D) Due to wire resistance

141. How the performance of the amplifier designed using the simulation software is tested?

- A) Using test and measuring equipments
- B) Using virtual instrumentation testing
- C) Using multimeter
- D) Using measuring equipments

142. Which bearing is supporting the shaft of moving coil assembly in a PMMC instrument?

- A) Bush bearings
- B) Steel bearings
- C) Gun metal bearings
- D) Jewelled bearings

143. What is the name of the ratio of ON-time pulse to the OFF-time pulse of multivibrator?

- A) Pulse repetition
- B) Pulse repetition
- C) Threshold comparator
- D) Control voltage

144. Which type of soldering is used for electronic circuit?

- A) Hard soldering
- B) Hot soldering
- C) Soft soldering
- D) Brazing

145. Which circuit uses the enhancement type MOSFET?

- A) Integrated MOS switching circuits
- B) High frequency switching circuits
- C) High power amplifier circuits
- D) Low power oscillator circuits

146. What is the maximum emitter to base voltage  $V_{EB}$  (max) for the transistor BC 147?

- A) 5V
- B) 6V
- C) 4V
- D) 8V

147. What are the uses of simulation softwares?

- A) Design and test a circuit
- B) Solder and desolder components
- C) Design a circuit
- D) Replace defective components

148. What is the unit of inductance?

- A) Watts
- B) Farad
- C) Joule
- D) Henry

149. Which signal is sent by the SMPS to computer mother board?

- A) Peripheral signal
- B) Processor signal
- C) Device signal
- D) Power good signal

150. What is the purpose of using positive feed back in amplifiers?

- A) To produce oscillation
- B) To produce demodulation
- C) To produce modulation
- D) To produce multiplexion

151. What is the common and popular application of U.J.T?

- A) Motor speed controller
- B) Voltage regulator
- C) Relaxation oscillator
- D) Multivibrator

152. What is the input impedance of IGBT?

- A) High input impedance
- B) Low input impedance
- C) Medium input impedance
- D) Infinity input impedance

153. What is the use of photo transistor?

- A) Used as demodulator
- B) Used in comparator circuit
- C) Used as light controlled switch
- D) Used as oscillator

154. Which is the drain current ( $I_d$ ) in JFET?

- A) Electron from gate to source
- B) Electron from drain to source
- C) Electron from drain to gate
- D) Electron from source to drain

155. Which method is adopted to charge a car battery with voltage rating of 2.3 V per cell?

- A) Float charging method
- B) Constant current charging method
- C) Constant voltage charging method
- D) Trickle charging method

156. Which is the device made and interconnected by two transistors?

- A) SCR
- B) LED
- C) UJT
- D) FET

157. Which battery is used for cellular phones?

- A) Nickel ion                      B) Zinc chloride  
C) Sodium sulphur                D) Lithium ion

158. What is the decimal number for the binary number 0101?

- A) 7                                      B) 4  
C) 5                                      D) 6

159. What is the natural shape of a quartz crystal?

- A) Cube shape with pyramid at ends    B) Hexagonal prism with pyramid at ends  
C) Pentagonal prism with pyramid at ends    D) Cylindrical shape with pyramid at ends

160. What is the maximum drain - source voltage, VDS for BFW10?

- A) 30 V                                      B) 20 V  
C) 40 V                                      D) 50 V

161. What is the result of forced air is blown to cool the joint while soldering?

- A) Disturbs the chemical bonding                      B) Results in dry brittle joint  
C) Joint becomes mechanically stronger                      D) Solder setting very slowly

162. What is the full form of the abbreviation CD-ROM in computer?

- A) Classified Device Read Only Memory                      B) Computer Disk Read Only Memory  
C) Compact Disk Read Only Memory                      D) Connectivity Digital Read Only Memory

163. What is the phase relationship between the applied voltage and current in the primary of a transformer with open secondary winding?

- A) Current leads voltage by 90 Degree                      B) Voltage leads current by 45 Degree  
C) Voltage lags current by 45 Degree                      D) Current lags voltage by 90 Degree

164. What is the full form of the abbreviation LBA in computer system?

- A) Logical block accessing                      B) Large block accessing  
C) Large boot addressing                      D) Low block accessing

165. Which component filter the ripples in the rectifier circuit?

- A) Diode                                      B) Capacitor  
C) DIAC                                      D) TRIAC

166. What is the main problem caused for severe pitting in

relays?

- A) Low contact current                      B) Chatter during a slow release  
C) Excessive number of operations                      D) Excessive contact current

167. Which is the N - channel FET?

- A) AC supply connected to drain termin                      B) S-terminal connected to positive  
C) Main current flows through P-doped material                      D) Main current flows through N-doped material

168. Which three terminal voltage regulator IC has adjustable output?

- A) LM 100                                      B) LM 305  
C) LM 317                                      D) LM 105

169. How the maximum permissible voltage that can be applied across the collector ? Emitter junction of a transistor is indicated?

- A) VBE (max) in volts                      B) VCC in volts  
C) VCB (max) in volts                      D) VCE (max) in volts

170. Which circuit is used to clip portion of both positive and negative half cycle of input signal voltage?

- A) Biased positive clipper circuit                      B) Unbiased clipper circuit  
C) Combination clipper circuit                      D) Biased negative clipper circuit

171. Which IC is used for (DEMUX) function in data transmission?

- A) IC 7483                                      B) 74 LS 151  
C) 74 LS 138                                      D) IC 7486

172. What is the range of current rating of lead acid batteries used in automobiles?

- A) 10 to 25 Amp                                      B) 100 to 400 Amp  
C) 2.5 to 4.5 Amp                                      D) 5 to 10 Amp

173. What is the type of transistor BPX81?

- A) PNP - Photo transistor                      B) Uni - Junction transistor  
C) NPN - Photo transistor                      D) Audio frequency transistor

174. In which analog meter the battery is provided?

- A) Watt meter                                      B) Voltmeter  
C) Ammeter                                      D) Ohm meter

175. What type of arrangement is required to sustain the oscillations of the oscillator circuit?

- A) Provide negative feedback      B) Provide regenerative feedback  
 C) Increase the value of inductor      D) Increase the bias voltage

**176.** What is the overall base emitter voltage required to turn the darlington pair?

- A) 1.4 V      B) 0.3 V  
 C) 0.7 V      D) 0.2 V

**177.** Why transistors made of silicon is preferred over the germanium semiconductor material?

- A) Silicon transistor needs low cut-in-voltage      B) Higher thermal stability  
 C) Requires complicated bias arrangement      D) Complex design

**178.** What is the cause of burnt relay contacts?

- A) Chatter during a slow release      B) Excessive contact current  
 C) Low contact current      D) Excessive number of operations

**179.** Which device is used to test the fully charged condition of a lead acid battery cell?

- A) Multimeter      B) Hydrometer  
 C) DC voltmeter      D) High rate discharge tester

**180.** What is the advantage of MOSFET?

- A) Low driving power      B) Superior current conduction capability  
 C) Low gate signal power requirements      D) Very low on-state voltage

**181.** What is the switching speed of solid state relays?

- A) 1 to 100 milli seconds      B) 1 to 100 nano seconds  
 C) 10 to 60 nano seconds      D) 1 to 25 nano seconds

**182.** In which quantity affects the Q point of a transistor amplifier?

- A) Mismatching signals      B) Proper biasing methods  
 C) Increased temperature      D) Decreased temperature

**183.** What is the specified Vcc voltage of 4 bit digital switch with 4 independent lines?

- A) 2.3 V to 3.6 V      B) 4.5 V to 5.5 V  
 C) 5.0 V to 7.5 V      D) 1.5 V to 2.2 V

**184.** Which class of fire is classified involving metals?

- A) Class C      B) Class A  
 C) Class D      D) Class B

**185.** What is the maximum specified voltage for the TRIAC TIC 201D?

- A) 2.1 V      B) 1.5 V  
 C) 1.7 V      D) 2.5 V

**186.** When does the biased negative clipper removes the portion of input signal?

- A) Signal voltage is lesser than bias battery voltage      B) Signal voltage equals the bias battery voltage  
 C) Signal voltage becomes greater than bias battery voltage      D) During the positive half cycle of input

**187.** How does the values of bias resistors selected for collector current in class -B amplifiers?

- A) Quiescent current over the cut-off value      B) Quiescent current at mid point  
 C) Quiescent current beyond the cut-off point      D) Q point set slightly below cut-off

**188.** How the electrical quantity measured by the meter is marked in it?

- A) Directly printing the specifications      B) Using colour codes  
 C) Printing the valves      D) Printing the valves

**189.** Which parameter of the wire is directly proportional to the current carrying capacity?

- A) Conductor s diameter      B) Conductor s shape  
 C) Wire resistance      D) Passing current

**190.** What is the name of the motion of charged particles in any medium?

- A) Current      B) Resistance  
 C) Frequency      D) Voltage

**191.** What is the output frequency of the pulsating DC in a two diode fullwave rectifier?

- A) Same frequency of the A/C input      B) Three times the input A/C frequency  
 C) Double the input A/C frequency      D) Half of the input A/C frequency

**192.** What is the power dissipation of the standard TTL chip?

- A) 20 mW/gate      B) 10 mW/gate  
 C) 15 mW/gate      D) 5 mW/gate

**193.** What is the relation of wire diameter with current carrying capacity of conductor?

- A) Inversely proportional      B) Directly proportional  
 C) Wire gets less heat      D) Drops more voltage across it

194. Which unit is used to measure capacitance value?

- A) Henry
- B) Ohm
- C) Mho
- D) Farad

195. Why the complementary - symmetry amplifier is preferred over the other types of amplifier configurations?

- A) To minimize the gain
- B) To get less distortion
- C) To get more voltage gain
- D) To eliminate the transformer

196. Which material contains eight electrons in valency layer?

- A) Insulators
- B) Intrinsic semiconductors
- C) Conductors
- D) Semiconductors

197. How the accuracy of amplitude and frequency measured by CRO is checked?

- A) By complex wave form
- B) By sine wave signal
- C) By built-in calibration signal
- D) By function generator

198. How many transistors are built inside the Very Large Scale Integration (VLSI) IC package?

- A) 1000 and above
- B) 10 to 100 transistors
- C) 1 to 10 transistors
- D) 100 to 1000 transistors

199. Which is the combination of photo transistor?

- A) LASER diode and pin diode
- B) Photo resistor and TRIAC
- C) Photo transistor and DIAC
- D) Photo diode and transistor

200. Which property of the capacitor stores electrical energy in electrostatic field?

- A) Dielectric
- B) Capacitance
- C) Stray capacitance
- D) Capacitive reactance

201. 6 What is the input impedance of IGBT?

- A) Unity
- B) Low
- C) High
- D) Infinity

202. Which parameter controls the current flow in a BI-polar transistor?

- A) Current
- B) Voltage
- C) Frequency
- D) Resistance

203. What is the output produced in the ADC circuit?

- A) Analog output
- B) Triangular wave output
- C) Triangular wave output
- D) Sinewave output

204. What will happen in SCR with forward biased condition

and gate current is applied?

- A) Forward current conduction stops
- B) Reverse current conduction commences
- C) Reverse current turned off
- D) Forward current conduction commences

205. Which formula is used to find the conductance?

- A)  $Q / V$
- B)  $V / I$
- C)  $I \times R$
- D)  $I / V$

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

- A) 100 Hz
- B) 200 Hz
- C) 40 Hz
- D) 60 Hz

207. Which is the major factor to determine the quality performance of A/D converter?

- A) Number of bits used
- B) Number of bits used
- C) Proportional to the binary weight
- D) Degree of accuracy

208. How batteries are classified based on their working?

- A) Primary cells and secondary cells
- B) Button cells and lithium cells
- C) Dry cells and alkaline cells
- D) Cylindrical cells and rectangular cells

209. Which parameter of passive component can be calculated using the formula ?

- A) Inductance
- B) Capacitive reactance
- C) Capacitance
- D) Inductive reactance

210. Which IC package consist of 100 to 1000 transistors?

- A) Medium scale integration (MSI)
- B) Large scale integration (LSI)
- C) Small scale integration (SSI)
- D) Very large scale integration (VLSI)

211. Which device is a unipolar transistor?

- A) UJT
- B) IGBT
- C) FET
- D) BJT

212. What is the maximum drain- source voltage,  $V_{DS}$  for the JFET BF 245B?

- A) 40 V
- B) 30 V
- C) 20 V
- D) 10 V

213. What is the current rating of voltage regulator IC LM338K?

- A) 5A
- B) 3A
- C) 2A
- D) 4A

214. What is the shape of standard wire gauge?

- A) Square metal disk
- B) Cylindrical glass disk
- C) Circular metal disk
- D) Rectangular plastic disk

215. What is the name of the procedure carried out to ensure the trustworthy standards of the measuring instrument?

- A) Calibration
- B) Testing standards
- C) Range test
- D) Re-alignment

216. What is the electrolyte level maintained above the top of the plates in lead acid battery cells?

- A) 2 mm to 4 mm
- B) 10 mm to 15 mm
- C) 5 mm to 8 mm
- D) 16 mm to 25 mm

217. What is the effect on the output voltage in a bridge rectifier circuits, with one diode open?

- A) Full output rated voltage
- B) Half of the rated output voltage
- C) No output DC voltage
- D) Very low voltage

218. How much time is required to make a quality soldered joint using soldering iron?

- A) 15 - 20 seconds
- B) 10 - 15 seconds
- C) 7 - 10 seconds
- D) 3 - 7 seconds

219. How the active and passive components are added in the circuit using simulation software?

- A) Clicking on the list of components
- B) Copy and paste from similar circuit
- C) Clicking on the component group
- D) Clicking from the similar circuit

220. What is the function of clipper circuit?

- A) Wave shaping
- B) Rectification
- C) Regulation
- D) Amplification

221. What is the purpose of wood rasp file?

- A) Cutting metals
- B) Preliminary rough work
- C) 90 Degree corners
- D) Finishing flat edges

222. Which is the property of IGBT?

- A) High efficiency and fast switching
- B) Low gate signal
- C) Low input impedance
- D) Significant power consumption

223. What is the advantage of using digital multimeter?

- A) Linear scale
- B) Logarithmic scale
- C) Accuracy
- D) Easy portability

224. What is the name of effect of changing current in one coil, induces EMF in nearby coil?

- A) Mutual induction
- B) Self induction
- C) Induction
- D) Coupling

225. What is the power supply required to operate the most standard TTL ICs properly?

- A) + 1.5v to +2.5V
- B) + 4.75v to + 5.25V
- C) + 7.5v to + 12V
- D) - 1.5v to - 2.5V

226. What is the efficiency transformer coupled class A amplifier?

- A) Unity
- B) Less than 20%
- C) About 50%
- D) More than 60%

227. Which electrolyte is used in lead-acid battery?

- A) Potassium hydroxide solution
- B) Zinc chloride
- C) Sulphuric acid
- D) Alkaline solution

228. Which electrical quantity is directly proportional to the current carrying capacity of the conductor?

- A) Conductor s diameter
- B) Passing current
- C) Conductor s shape
- D) Wire resistance

229. Why the electronic device IGBT is preferred over the power MOSFET?

- A) Suitability for medium power applications
- B) Higher switching repetition rates
- C) Low switching speed
- D) Higher driving power requirement

230. What will happen when the forward bias voltage across the PN junction is increased excessively?

- A) Junction ruptured and short circuited
- B) No current flows through the junction
- C) Barrier width of junction increases
- D) Increases the cut - in - voltage

231. How the lamp failures caused by the high inrush currents in lamp dimmer circuits using TRIAC is eliminated?

- A) By the fuse
- B) Using MCB
- C) By soft start circuit
- D) Using Safety resistor

232. What is the current gain of a common ? base amplifier?

- A) Greater than 1
- B) Infinity
- C) Unity
- D) Less than 1

233. Which tool is used for the simplest method of skinning wires?

- A) Mechanical wire stripper
- B) Manual wire stripper

C) Electrician's knife      D) Thermal wire stripper

**234.** Which current flows in TRIAC between MT1 and MT2?

A) Conventional current      B) Principal current  
C) Reverse current      D) Leakage current

**235.** Which component is used to prevent over voltage of AC supply in SMPS?

A) Metal oxide varistor      B) Carbon film resistor  
C) Wire wound resistor      D) Metal film resistor

**236.** Which parameter is maintained constant in zener diode?

A) Current      B) Resistance  
C) Power      D) Voltage

**237.** Which device is used to produce hard copy of a document in a computer?

A) Modem      B) Monitor  
C) Printer      D) Speaker

**238.** Which material conducts electricity?

A) Copper      B) Mica  
C) Paper      D) Glass

**239.** Why the solvent Iso Propyl Alcohol (IPA) is used on the solder joint?

A) Cleaning before soldering the joint      B) To break down the acid within the joint  
C) Remove residual flux and prevent corrosion      D) To help the corrosive action

**240.** Which measuring instrument is used to check the working condition of a photo resistor (LDR)?

A) Ohmmeter      B) Ammeter  
C) Oscilloscope      D) Voltmeter

**241.** Which electrical property opposes the flow of electrons?

A) Voltage      B) Current  
C) Resistance      D) Power

**242.** What is the main advantages of IGBT over BJT?

A) Fast switching speed      B) Superior current conduction capability  
C) Thermal limits are pushed to the edge      D) Reverse bias secondary break downs

**243.** How the pass band gain of the circuit is expressed?

A) In hertz      B) In hertz  
C) In ampere      D) In volts

**244.** Which process the ICS are made?

A) Point contact junction process      B) Point contact junction process  
C) Micro photo - lithographic process      D) Grown junction process

**245.** How the insulators are called?

A) Thyristors      B) Semiconductors  
C) Molecules      D) Dielectrics

**246.** Which band is used for UHF in International Telecommunication System?

A) Band 9      B) Band 11  
C) Band 6      D) Band 4

**247.** What is the propagation delay of the standard TTL chip?

A) 10 ns      B) 8 ns  
C) 5 ns      D) 12 ns

**248.** Which metal has very good conductivity to the electric current?

A) Silver      B) Gold  
C) Copper      D) Aluminium

**249.** What is the use of clamper in electronic circuits?

A) For positive peak clipping      B) For negative peak clipping  
C) For DC component restoration      D) For slicing both peaks

**250.** Which is the N - channel FET?

A) Main current flows through P-doped material      B) AC supply connected to drain termin  
C) S-terminal connected to positive      D) Main current flows through N-doped material

**251.** What is the forward voltage for the single colour orange LEDs?

A) 2.5 V      B) 0.5 V  
C) 0.8 V      D) 2 V

**252.** What is the term stands for TRIAC?

A) Triode Alternate control      B) Triode AC semiconductor  
C) Triode Access console      D) Triode DC semiconductor

**253.** What is the power dissipated if 10mA current flows through a 10K Ohm resistor?

A) 3000 milli watts      B) 1000 milli watts  
C) 2000 milli watts      D) 4000 milli watts

**254.** What is the advantage of silicon over germanium for

transistor fabrication?

- A) Lower thermal stability
- B) Higher thermal stability
- C) Higher amplification factor
- D) Lower operating voltage

**255.** What is the name of the circuit that shifts the original signal in a vertical upward direction?

- A) Negative clamping circuit
- B) Peak clipper circuit
- C) Combination clipper circuit
- D) Positive clamping circuit

**256.** What is the decimal conversion number for the octal number (2374)<sub>8</sub>?

- A) (1276)<sub>10</sub>
- B) (1266)<sub>10</sub>
- C) (1286)<sub>10</sub>
- D) (1296)<sub>10</sub>

**257.** What is the full form of the abbreviation PMMC meter?

- A) Principle Magnet Moving Coil meter
- B) Parallel Magnet Moving Coil meter
- C) Position Magnet Moving Coil meter
- D) Permanent Magnet Moving Coil meter

**258.** Which function control in CRO, adjust the trace sharper?

- A) Focus
- B) Amplitude (V/Div)
- C) Intensity
- D) Time/Div trigger

**259.** Electrical conductivity of gold is

- A) 94%
- B) 67%
- C) 100%
- D) 56%

**260.** Which class of amplifier uses fixed bias because of its important advantage of transistor will never go to saturation?

- A) Class - B
- B) Class - A
- C) Class - AB
- D) Class - C

**261.** What is the result of hysteresis loss in magnetic material?

- A) Energy loss takes place
- B) Magnetic flux increases
- C) Eddy current decreases
- D) Back emf increases

**262.** What are the basic components required for a clipping circuit?

- A) Transistor and diode
- B) Diode and capacitor
- C) Capacitor and resistor
- D) Diode and resistor

**263.** Which is the package type for the JFET BFW10?

- A) TO-92
- B) TO-82
- C) TO-72
- D) TO-62

**264.** What is the minimum current ratings of solid state relays

available in low power packages?

- A) 100 milli Ampere
- B) Few micro Amperes
- C) 50 milli Ampere
- D) 10 milli Ampere

**265.** What is the effect of shaking the soldered joint while cooling?

- A) Flux will not dissolve
- B) It results in oxidation of solder
- C) It disturbs the chemical bonding take place
- D) It will corrode the joint

**266.** Which electrode controls brightness of the image on the screen of oscilloscope?

- A) Cathode
- B) Focussing electrode
- C) Control grid
- D) Anode

**267.** Which frame is used for winding the coil of PMMC meter?

- A) Ceramic frame
- B) Aluminium frame
- C) Wooden frame
- D) Steel frame

**268.** Find the total resistance value of 10 ohms and 20 ohms connected in parallel.

- A) 6.666 Ohms
- B) 666.6 Ohms
- C) 66.66 Ohms
- D) 6666 Ohms

**269.** What is the function of opto-coupler in the switching operation of digital input signal?

- A) Produces electrical noise
- B) Defects the operation of switching signal
- C) Converts voltage into current
- D) Amplifier the signal

**270.** Which type of clipper is that a small portion of the negative half cycle of signal is removed?

- A) Biased positive clipper
- B) Biased negative clipper
- C) Combination clipper
- D) Positive clamper

**271.** Which materials are used for semiconductor?

- A) Arsenic and antimony
- B) Silver and aluminium
- C) Gallium and indium
- D) Silicon and germanium

**272.** What is the purpose of standard wire gauge (SWG)?

- A) Measure diameter of wire
- B) Measure voltage
- C) Measure current
- D) Measure insulation of wire

**273.** How much is the maximum load current of the negative voltage regulator IC 7912?

- A) 1.0 A
- B) 2.0 A
- C) 0.55 A
- D) 1.5 A

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

- A) Set
- B) Reset
- C) Reset
- D) Threshold

275. What is the switching speed of solid state relays?

- A) 1 to 100 nano seconds
- B) 10 to 60 nano seconds
- C) 1 to 25 nano seconds
- D) 1 to 100 milli seconds

276. In which arrangement the high value of resistor is connected to extend the range of voltmeter?

- A) Parallel
- B) Star
- C) Series
- D) Delta

277. What is the drawbacks of LDR?

- A) Cannot be used to determine precise light levels and specifications
- B) Available different sizes
- C) More sensitive
- D) Made of low resistance material with few holes

278. What is the total voltage of six 1.5 V cells, connected in series?

- A) 6 VDC
- B) 9 VDC
- C) 12 VDC
- D) 3 VDC

279. Which angle is checked by the try square?

- A) 90 Degree
- B) 60 Degree
- C) 75 Degree
- D) 45 Degree

280. Why LC tuned circuits are not used in audio frequency oscillators?

- A) LC values required is too large
- B) LC tank circuit operation requires high voltage
- C) LC tank circuit does not produce AF signals
- D) LC components are not available

281. Which circuit is determined by the frequency of LC tank circuit?

- A) Multiplexed
- B) Amplifier
- C) Oscillator
- D) Demodulator

282. What is the percentage of conductivity of electric current in copper?

- A) 1
- B) 0.94
- C) 0.56
- D) 0.67

283. Which fire extinguisher is used to put off class A type of fire?

- A) Dry powdered
- B) Jet of water
- C) Carbon-di-oxide
- D) Foam type

284. What is the purpose of covering provided over the electrical conductor?

- A) Reduce current flow
- B) Increase current flow
- C) Decrease voltage rating
- D) Protection against weather

285. What is the difference of Colpitts oscillator compare to Hartley oscillator?

- A) Uses split inductor
- B) Uses SCR combination
- C) Uses crystal oscillator
- D) Uses split capacitor

286. Which memory device loses data on power failure?

- A) CD ROM
- B) Hard disc
- C) RAM
- D) ROM

287. What is the maximum safe reverse voltage rating of a diode?

- A) Knee voltage
- B) Break down voltage
- C) Forward break down voltage
- D) PIV voltage

288. Which material is used for negative terminal of alkaline manganese dioxide batteries?

- A) Zinc
- B) Nickel hydroxide
- C) Cadmium
- D) Lithium

289. What is the expansion of PRF related to frequency?

- A) Power regulated frequency
- B) Pulse repetition frequency
- C) Pulse repetition frequency
- D) Pulse probability frequency

290. What is the name of instrument used to measure electrical quantities?

- A) Vernier caliper
- B) Tester
- C) Tester
- D) Meter

291. What will happen if the photo resistor (LDR) is exposed to low level light condition?

- A) Resistance will increase to around 1 Mega Ohm
- B) Resistance will decrease to 100 Ohm
- C) Resistance will decrease to 10 Ohm
- D) Resistance will increase to 1 Kilo Ohm

292. Which measuring instrument is used to make quick test on a TRIAC?

- A) Ammeter
- B) Voltmeter
- C) Oscilloscope
- D) Ohmmeter

293. What is the drawback of IGBT compared to the power MOSFET?

- A) Not suitable for power applications
- B) Poor switching speed
- C) Higher driving power requirement
- D) Poor current conduction capability

**294.** Which method is followed to troubleshoot the problem causing section by the symptom?

- A) Step by step method
- B) Logical approach method
- C) Trial and error method
- D) Sensory test method

**295.** How many operational amplifiers are fabricated in the LM741 IC?

- A) Four Op-Amps
- B) Two Op-Amps
- C) Two Op-Amps
- D) One Op-Amp

**296.** Which circuits requires the flip - flops for their operation?

- A) Modulator circuits
- B) Oscillator circuits
- C) Memory circuits
- D) Amplifier circuits

**297.** Which section is used by the processor to save instructions?

- A) Graphics card
- B) Micro processor
- C) System unit
- D) Memory

**298.** How many electrons are contained in coulomb of electric charge?

- A)  $6.25 \times 10^{18}$  electrons
- B)  $6.25 \times 10^8$  electrons
- C)  $6.25 \times 10^{12}$  electrons
- D)  $6.25 \times 10^{16}$  electrons

**299.** What is the full form of the abbreviation ISA?

- A) Institution Standard Architecture
- B) Industry Software Architecture
- C) Industry Standard Architecture
- D) Industry System Architecture

**300.** Which type of voltage regulator is IC 723?

- A) Three pin negative voltage regulator
- B) Multipin variable voltage regulator
- C) Three pin adjustable voltage regulator
- D) Three pin positive voltage regulator

**301.** Which material is used for making instrument cabinets?

- A) Plastic
- B) Hard rubber
- C) Wood
- D) Sheet metal

**302.** Which part of the relay causes most trouble?

- A) Hinges
- B) Frame and core
- C) Relay contacts
- D) Relay coil

**303.** Which type of amplifier is used to operate the loud

speaker?

- A) RF amplifier
- B) IF amplifier
- C) Power amplifier
- D) Voltage amplifier

**304.** Which gauge number of rosin-cored solder is suitable for soldering medium sized joints?

- A) 18 gauge rosin cored
- B) 24 gauge rosin cored
- C) 22 gauge rosin cored
- D) 16 gauge rosin cored

**305.** What is the name of the process to maintain the recommended level of electrolyte in lead-acid battery cell?

- A) Recharging
- B) Charging the cell
- C) Topping up
- D) Cycling of the cell

**306.** What is the advantage of MOSFET?

- A) Low thermal ionisation of electron-holes
- B) Higher power gate signal
- C) Fast switching speed
- D) Slow switching speed

**307.** Which device generates high frequency radio frequency indeferences by the extremely rapid turn-ON time?

- A) Op-Amp
- B) Transistor
- C) UJT
- D) TRIAC

**308.** How many gauge numbers in SWG, changed to double the cross section area of the conductor?

- A) Five gauge sizes increased
- B) Three gauge sizes decreased
- C) Four gauge sizes increased
- D) Two gauge sizes decreased

**309.** What is the information stored in digital registers?

- A) Binary values
- B) Analog values
- C) Alphanumeric values
- D) Decimal values

**310.** Which characteristics exhibits the current conduction increases while the voltage across the devices decreases in a DIAC?

- A) Positive resistance characteristics
- B) Negative resistance characteristics
- C) Linearity characteristics
- D) Nonlinearity characteristics

**311.** What is the purpose of trimmer capacitor?

- A) Fine tuning
- B) Decoupling
- C) Filtering
- D) Coupling

**312.** Which is the transistor used to operate the Colpitts oscillator?

- A) BC 148B
- B) BF 194B
- C) AC 188
- D) AC 127

313. What is produced by the power supply connected soldering iron?

- A) Water vapour
- B) Cool air
- C) Fire
- D) Heat

314. What is the current rating of voltage regulator IC LM317L?

- A) 0.4 A
- B) 0.1 A
- C) 0.3 A
- D) 0.2 A

315. Which port is used to connect a plug and play peripheral device to CPU?

- A) RJ45 port
- B) USB port
- C) COM 1 port
- D) COM 2 port

316. Which device is a unipolar transistor?

- A) UJT
- B) FET
- C) IGBT
- D) BJT

317. What is the percentage of charge accumulated by the capacitor at the end of 2 time constant limit?

- A) 0.5
- B) 0.4
- C) 0.864
- D) 0.632

318. What is the common and popular application of U.J.T?

- A) Motor speed controller
- B) Multivibrator
- C) Voltage regulator
- D) Relaxation oscillator

319. What is the advantage of PIN photo diodes?

- A) High sensitivity in the infrared range
- B) Medium sensitivity in the infrared range
- C) Low sensitivity in the infrared range
- D) Low sensitivity in the Ultraviolet range

320. Which meter movement is not affected by stray magnetic fields?

- A) Thermo couple meter
- B) MI meter - Repulsion type
- C) MI meter - attraction type
- D) PMMC meter

321. How many time constant period is required to fully charge a capacitor?

- A) 7 time constants
- B) 10 time constants
- C) 5 time constants
- D) 3 time constants

322. Which IC is used for the function of 4 bit shift register?

- A) IC 7493
- B) IC 7447
- C) IC 7495
- D) IC 7404

323. What is the reason for electric fire?

- A) Open circuit
- B) Proper earthing
- C) Overloading
- D) Deviation

324. What is the range of temperature used in soldering station?

- A) 150 Degree Centigrade to 450 Degree Centigrade
- B) 450 Degree Centigrade to 600 Degree Centigrade
- C) 600 Degree Centigrade to 800 Degree Centigrade
- D) 800 Degree Centigrade to 1000 Degree Centigrade

325. How the circuit schematic drawn using the simulation software is tested?

- A) Using multimeter
- B) Using analysis menu
- C) Using external oscilloscope
- D) Using virtual oscilloscope

326. Which rechargeable cell is designed with conductive polymer?

- A) Lead acid cell
- B) Nickel metal hydride cell
- C) Gelled electrolyte lead acid cell
- D) Plastic cell

327. What is the name of the circuit that shifts the original signal in a vertical downward direction?

- A) Combination clipper circuit
- B) Peak clipper circuit
- C) Positive clamping circuit
- D) Negative clamping circuit

328. Which purpose the cadmium sulfide cells (CDS cells) are used?

- A) Primary cells
- B) Voltage dependent resistor
- C) Rechargeable cells
- D) Light dependent resistor

329. How the negative feedback is called?

- A) Degenerative feedback
- B) Current controlled feedback
- C) Regenerative feedback
- D) Voltage controlled feedback

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

- A) Five Op-Amps
- B) Two Op-Amps
- C) Three Op-Amps
- D) Three Op-Amps

331. Which energy is converted into electrical energy in hydropower stations?

- A) Chemical energy
- B) Light energy
- C) Heat energy
- D) Mechanical energy

332. What is the effect on the transformer operated below the rated voltage?

- A) Leads to interwinding leakage  
B) Delivers reduced secondary voltage  
C) Transformer heated up excessively  
D) Burn out windings

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

- A) Ceramic packaging  
B) Plastic packaging with metal heatsinks  
C) Plastic packaging  
D) Metal packaging

**334.** Where does the depletion region exists in a bipolar transistor?

- A) Between emitter - base electrodes  
B) Between collector - base electrodes  
C) Between E-B and B-C electrodes  
D) Between collector and emitter electrodes

**335.** Which codes are stored in computer ROM BIOS chip?

- A) Permanent codes  
B) Temporary codes  
C) Partial change codes  
D) Change codes

**336.** Which factor determines the inductance value?

- A) Current flow through the coil  
B) Material of the coil  
C) Diameter of the coil  
D) Frequency of the current

**337.** Which meter uses a moving coil for measurement?

- A) LCR meter  
B) MI repulsion type  
C) MI attraction type  
D) PMMC meter

**338.** What is the minimum current ratings of solid state relays available in low power packages?

- A) 100 milli Ampere  
B) 10 milli Ampere  
C) 50 milli Ampere  
D) Few micro Amperes

**339.** Which parameter is measured by a multimeter?

- A) Frequency  
B) Time duration  
C) Voltage  
D) Energy

**340.** What is the use of screw driver?

- A) Tighten or loosen bolts  
B) Hold the screws  
C) Tighten or loosen rivets  
D) Tighten or loosen screws

**341.** Which instrument used to measure resistance, capacitance and inductance?

- A) Wein bridge  
B) LCR bridge  
C) Kelvin bridge  
D) Wheatstone bridge

**342.** How many ohms is equal to one Mega ohm?

- A) 1000 kW  
B) 2000 kW  
C) 10 kW  
D) 100 kW

**343.** What is the effect of electric shock at very low voltage levels (Less than 40v)?

- A) Burning of the skin  
B) Fibrillation  
C) Unpleasant tingling sensation  
D) Muscles contact

**344.** What is the maximum current ratings of solid state relays available in high power packages?

- A) 1 Amp  
B) 10 Amp  
C) 100 Amp  
D) 40 Amp

**345.** What is the peak to peak voltage in a bridge rectifier circuit with load current of 10 mA, capacitance of 470 F and 50 Hz supply frequency?

- A) 1.525 v  
B) 2.134 v  
C) 0.213 v  
D) 3.567 v

**346.** Which material is used to make LDR for higher end requirements?

- A) Lead selenide  
B) Copper sulfide  
C) Zinc sulfide  
D) Cadmium sulfide

**347.** Which material is used as electrical insulator?

- A) Gallium  
B) Porcelain  
C) Germanium  
D) Aluminium

**348.** What is the name of the pair of metal strips used in battery cell?

- A) Electrolyte  
B) Cathode  
C) Electrodes  
D) Carbon rod

**349.** Which application the clamper circuit is used in electronics?

- A) Storage counters  
B) Radio receivers  
C) Radars  
D) Power supplies

**350.** Which band of frequency is used for RADAR in frequency spectrum allotted by the International Telecommunication Union (ITU)?

- A) ITU band - 6  
B) ITU band - 8  
C) ITU band - 10  
D) ITU band - 4

**351.** Which electrical parameter opposes the flow of electrons?

- A) Current  
B) Voltage  
C) Power  
D) Resistance

352. How many alternating layers are there in IGBT?

- A) 2 layers
- B) 4 layers
- C) Single layer
- D) 3 layers

353. What is the lowest voltage level of discharging the lead-acid battery?

- A) 1.7 V
- B) 1.5 V
- C) 1.2 V
- D) 1.85 V

354. What is the full form of the abbreviation MOSFET?

- A) Metal organic serial FET
- B) Medium oscillator signal FET
- C) Minimum output signal FET
- D) Metal oxide semiconductor FET

355. What is the specific gravity of concentrated sulphuric acid?

- A) 1.245
- B) 1.835
- C) 1.175
- D) 1.945

356. How the single strand wire is called?

- A) Flexible wire
- B) Hook up wire
- C) Twisted wire
- D) Multi strand wire

357. How power rating is specified for transformers?

- A) Voltage (V)
- B) Volt ampere (VA)
- C) Watts (W)
- D) Horse power (HP)

358. Which shortcut key function is used to close the working window on the computer?

- A) Shift + F3
- B) Alt + F4
- C) Ctrl + S
- D) Ctrl + P

359. Which torque is used in PMMC meter movement?

- A) Insufficient torque
- B) Low torque
- C) High torque
- D) Moderate torque

360. What is the current gain of common collector amplifier?

- A) High
- B) Very high
- C) Low
- D) Medium

361. What should be the time constant  $t = RC$  for a good clamper circuit with reference to time period of the input signal?

- A) Five times the time period of signal
- B) Double the time of signal frequency
- C) RC values should be at least ten times
- D) Half the time period of signal

362. Which electrical parameter is measured by the megger?

- A) Insulation resistance
- B) Current
- C) Frequency
- D) Voltage

363. How the sensitivity of voltmeter is determined?

- A) Ohms per volt rating
- B) Maximum voltage measurement
- C) FSD current
- D) Meter coil resistance

364. What is the shape of warning sign board?

- A) Circular shape
- B) Square shape
- C) Triangular shape
- D) Hexagonal shape

365. Which mode is used in differential amplifier?

- A) Common - mode operation
- B) Common base
- C) Common emitter
- D) Common emitter

366. Which mouse action is used to move an object from one location to another?

- A) Right clicking
- B) Left clicking
- C) Drag and drop
- D) Double clicking

367. Which soldering instrument has hot air blowing facility?

- A) Soldering iron
- B) Temperature controlled soldering iron
- C) Wave soldering machine
- D) Soldering station

368. Which coding system for transistor type numbering system is followed by American standard?

- A) JEDEC standard
- B) JIS standard
- C) PRO-ELECTRON standard
- D) Home codes

369. What is the purpose of damping torque in PMMC meter?

- A) Control the swinging of the coil
- B) Control the magnetic field
- C) Control the pivot point
- D) Control the jewel bearing

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

- A) Antimony material used
- B) Indium material used
- C) Germanium material used
- D) Silicon material used

371. How the light sensitive photo transistor enclosed inside a tight package is activated?

- A) By the light sensitive receiver inside
- B) By the bias voltage to the photo transistor
- C) By IR light produced inside the package
- D) By the external signal to the transistor

372. When does the zener diode begins to conduct in the

reverse biased condition?

- A) After the barrier voltage cancelled
- B) When bias voltage reached 0.7V
- C) Voltage across zener reached 0.3V
- D) Voltage across it reached the zener voltage

**373.** Which device converts digital data from computer into analog data and transmit through telephone line?

- A) Chipset
- B) MODEM
- C) Cache memory
- D) Processor

**374.** Which material is used to make LDR for lower end requirements?

- A) Aluminium sulfide
- B) Copper sulfide
- C) Cadmium sulfide
- D) Zinc sulfide

**375.** Which insulation layer is used in MOSFET?

- A) Antimony material
- B) Germanium material
- C) Silicon-di-oxide
- D) Arsenic material

**376.** What is the advantage of IGBT?

- A) Used to isolate logic circuits
- B) Low gate signal power
- C) Low driving power
- D) Fast switching speed

**377.** What is the advantage of using bias in transistor circuits?

- A) Provides positive feed back
- B) Gives maximum distortion
- C) Easily sets saturated
- D) Never reach saturation

**378.** How the movement of electrons through a conductor in a particular direction is called?

- A) Conductance
- B) Inductance
- C) Resistance
- D) Electric current

**379.** Which circuit uses photo-darlington devices?

- A) DC circuits
- B) AC powered circuits
- C) Counter circuits
- D) Amplifier circuits

**380.** What is the rated output voltage of a silver oxide cell?

- A) 1.0 VDC
- B) 1.5 VDC
- C) 4.0 VDC
- D) 2.5 VDC

**381.** Which type of packaging is used to transistors utilized for medium power amplification?

- A) Plastic packaging
- B) Plastic packaging with metal heatsinks
- C) Ceramic packaging
- D) Metal packaging

**382.** How gate is biased in JFET?

- A) Reverse biased
- B) Dual supply function
- C) Forward biased
- D) AC supply function

**383.** What is the shape of prohibition sign?

- A) Rectangular
- B) Square
- C) Circular
- D) Triangular

**384.** Which tool is used to measure the size of wire?

- A) Steel rule
- B) Feeler gauge
- C) Try square
- D) Standard wire gauge

**385.** Why NPN type of transistors are preferred over the PNP type transistors?

- A) NPN has good bias stability
- B) NPN has higher switching speed
- C) NPN has lower switching speed
- D) Low operating voltage

**386.** What is the name of flux used for soldering electronic components?

- A) Resin
- B) Organic acid
- C) Rosin
- D) Mild acid

**387.** Which material is used to make photo resistors (LDR)?

- A) Cadmium sulfide
- B) Germanium
- C) Aluminium
- D) Silicon

**388.** Which electronic device inversely changes its resistance with the amount of light falling on it?

- A) Photo transistors
- B) Photo diodes
- C) Photo resistors
- D) Photo voltaic cells

**389.** Which condition the mechanical zero error occur in panel meters?

- A) At voltage connected condition
- B) At normal condition
- C) At load connected condition
- D) At load connected condition

**390.** What type of control is used for FET?

- A) Voltage controlled device
- B) Frequency controlled device
- C) Current controlled device
- D) Resistance controlled device

**391.** What is characteristics of instrumentation amplifier?

- A) High input impedance
- B) High input impedance
- C) Low input impedance
- D) Infinity output impedance

**392.** What is the unit of electric charge?

- A) Volts
- B) Ampere
- C) Coulomb
- D) Hertz

**393.** Which space is used to design circuit in schematic editor of the Tina software?

- A) Components groups space
- B) Components type space
- C) Circuit work space
- D) File operation space

**394.** What is the percentage of conductivity of electric current in aluminium?

- A) 0.47
- B) 0.56
- C) 0.22
- D) 0.76

**395.** Why the load testing is done on the lead-acid battery?

- A) Measure the rated output voltage
- B) Verify the rated power delivery
- C) Test the dimensional accuracy
- D) Test I<sup>2</sup>R power loss in the battery cell

**396.** How to overcome the problem of frequency drift in LC oscillators?

- A) Increase the supply voltage
- B) Provide negative feedback
- C) Using high Q coils and good quality capacitors
- D) Apply opposite polarity of signal

**397.** How to improve the frequency stability in oscillator circuits?

- A) Using L and C
- B) Increase the supply voltage
- C) By using quartz crystal
- D) Improve the property of circuits

**398.** What are the fundamental properties of insulation materials?

- A) Temperature and electrical hazards
- B) Length and cross sectional area
- C) Insulation resistance and dielectric strength
- D) Low resistance and thermal heat

**399.** What is the additional advantage of rosin flux used for soldering electronic components?

- A) It is a chemical paste
- B) Inorganic acid in nature
- C) It is good conductor
- D) It is non-conductive

**400.** Where the programs and datas are stored after execution in computer?

- A) Processor
- B) Buffer
- C) Memory
- D) Chip set

**401.** What is the gate current ( $I_g$ ) of the JFET, when reverse biased?

- A) Practically infinity
- B) Practically zero
- C) Practically very low
- D) Practically unity

**402.** What is the use of schmitt trigger circuit?

- A) Electronic thermostant
- B) Voltage regulator
- C) AC to DC converter
- D) AC to DC converter

**403.** Which is the output pin number IC 555 timer?

- A) Pin number 5
- B) Pin number 5
- C) Pin number 3
- D) Pin number 6

**404.** Which impurity is added to form P - type semiconductor material?

- A) Phosphorus
- B) Arsenic
- C) Antimony
- D) Gallium

**405.** What is the function of astable multivibrator in timer IC 555?

- A) Serving as comparator
- B) Acting as transducers
- C) Serving as an oscillator
- D) Serving as an oscillator

**406.** How the drive circuits for the power MOSFETs are coupled?

- A) Direct coupling method
- B) Using transistors
- C) Using logic circuitry
- D) Using pulse transformer

**407.** What type of ripple filter circuit is used for large load current requirements?

- A) Capacitor Input filter
- B) Inductor Input filter
- C) LC filter
- D) RC filter

**408.** What is the function of pin number 2 of IC 555 timer circuit?

- A) "+VCC"
- B) Trigger
- C) Trigger
- D) Reset

**409.** Which artificial respiration method to be avoided to a person with abdomen injury?

- A) Schafer's method
- B) Nose-to-mouth method
- C) Mouth-to-mouth method
- D) Mouth-to-nose method

**410.** What is the purpose of vacuum contactors in electrical panel?

- A) Slow switching
- B) Packet switching
- C) Fast switching
- D) Medium switching

**411.** What is the code number of TRIAC?

- A) BT136
- C) BFW10

- B) 2N1597
- D) 2N2646

412. What is the maximum drain current,  $I_D$  for BF 245B?

- A) 45mA
- C) 25mA
- B) 15mA
- D) 35mA

413. At which condition the cold resistance of the low voltage lamp is measured using ohmmeter?

- A) Lamp is ON at 320 Degree Centigrade
- C) Lamp is OFF at room temperature
- B) Lamp is ON at 400 Degree Centigrade
- D) Lamp is ON at 100 Degree Centigrade

414. Which characteristics enable the deflection of pointer in the attraction type moving iron meter?

- A) Deflection is independent of current direction
- C) Deflecting and controlling torques are
- B) Deflection is inversely proportional to current
- D) Weight of the soft iron pieces

415. Which is the maximum size of drill bit used in electrical hand drilling machine?

- A) 6.5 mm
- C) 1.5 mm
- B) 3.5 mm
- D) 0.35 mm

416. Which voltage level is reached to increase the current through DIAC rapidly?

- A) Break down voltage
- C) Zener voltage
- B) Cut in voltage
- D) Break over voltage

417. Which configuration of transistor amplifier is most

commonly used in electronic circuits?

- A) Common emitter configuration
- C) Common drain amplifier configuration
- B) Common collector configuration
- D) Common base configuration

418. Which is the package type for the JFET BFW10?

- A) TO-82
- C) TO-92
- B) TO-72
- D) TO-62

419. Which step is followed for treating a person from electric shock?

- A) Move the victim to a ventilated place
- C) Cover the victim with a coat
- B) Provide water
- D) Keep the victim cold

420. What is the rated voltage of a single cell in lead acid battery?

- A) 2.0 V
- C) 2.2 V
- B) 12 V
- D) 1.5 V

421. What is the meaning of maximum safe reverse voltage across a diode?

- A) PIV voltage
- C) Break down voltage
- B) Knee voltage
- D) Reverse break down voltage

422. Find the value of shunt resistance required for 1 mA meter to extend the range and measure 10 mA ( $R_M = 27 \text{ Ohm}$ ) ?

- A) 2 Ohms
- C) 4 Ohms
- B) 3 Ohms
- D) 1 Ohm