

Questions and Answers List (EIE)

1. The use of _____ instruments is merely confined within laboratories as standardizing instruments.

- (a) absolute
- (b) indicating
- (c) recording
- (d) integrating
- (e) none of the above

Ans: a

2. Which of the following instruments indicate the instantaneous value of the electrical quantity being measured at the time at which it is being measured?

- (a) Absolute instruments
- (b) Indicating instruments
- (c) Recording instruments
- (d) Integrating instruments

Ans: b

3. _____ instruments are those which measure the total quantity of electricity delivered in a particular time.

- (a) Absolute
- (b) Indicating
- (c) Recording
- (d) Integrating

Ans: d

4. Which of the following are integrating instruments ?

- (a) Ammeters
- (b) Voltmeters
- (c) Wattmeters
- (d) Ampere-hour and watt-hour meters

Ans: d

5. Resistances can be measured with the help of

- (a) wattmeters
- (b) voltmeters
- (c) ammeters
- (d) ohmmeters and resistance bridges

Ans: d

6. According to application, instruments are classified as

- (a) switch board
- (b) portable
- (c) both (a) and (b)
- (d) moving coil

Ans: c

7. Which of the following essential features is possessed by an indicating instrument ?

- (a) Deflecting device
- (b) Controlling device
- (c) Damping device
- (d) All of the above

8. A _____ device prevents the oscillation of the moving system and enables the latter to reach its final position quickly

- (a) deflecting
- (b) controlling
- (c) damping
- (d) any of the above

Ans: c

9. The spring material used in a spring control device should have the following property.

- (a) Should be non-magnetic
- (b) Must be of low temperature co-efficient
- (c) Should have low specific resistance
- (d) All of the above

Ans: d

10. The disc of an instrument using eddy current damping should be of

- (a) conducting and magnetic material
- (b) non-conducting and magnetic material
- (c) conducting and non-magnetic material
- (d) none of the above

Ans: c

11. The switch board instruments

- (a) should be mounted in vertical position
- (b) should be mounted in horizontal position
- (c) either (a) or (b)
- (d) neither (a) nor (b)

Ans: a

12. The function of shunt in an ammeter is to

- (a) by pass the current
- (b) increase the sensitivity of the ammeter
- (c) increase the resistance of ammeter
- (d) none of the above

Ans: a

13. The multiplier and the meter coil in a voltmeter are in

- (a) series
- (b) parallel
- (c) series-parallel
- (d) none of the above

Ans: a

14. A moving iron instrument can be used for

- (a) D.C. only
- (b) A.C. only
- (c) both D.C. and A.C.
- (d) None of the above

Ans: c

15. The scale of a rectifier instrument is

- (a) linear

- (b) non-linear
- (c) either (a) or (b)
- (d) neither (a) nor (b) Ans: a

16. For measuring current at high frequency we should use

- (a) moving iron instrument
- (b) electrostatic instrument
- (c) thermocouple instrument
- (d) none of the above

Ans: c

17. The resistance in the circuit of the moving coil of a dynamometer wattmeter should be

- (a) almost zero
- (b) low
- (c) high
- (d) none of the above Ans: c

18. A dynamometer wattmeter can be used for

- (a) both D.C. and A.C.
- (b) D.C. only
- (c) A.C. only
- (d) any of the above

Ans: a

19. An induction wattmeter can be used for

- (a) both D.C. and A.C.
- (b) D.C. only
- (c) A.C. only
- (d) any of the above Ans: b

20. The pressure coil of a wattmeter should be connected on the supply side of the current coil when

- (a) load impedance is high
- (b) load impedance is low
- (c) supply voltage is low
- (d) none of the above

Ans: a

21. In a low power factor wattmeter the pressure coil is connected

- (a) to the supply side of the current coil
- (b) to the load side of the current coil
- (c) in any of the two meters at connection
- (d) none of the above

Ans: b

22. In a low power factor wattmeter the compensating coil is connected

- (a) in series with current coil
- (b) in parallel with current coil
- (c) in series with pressure coil

(d) in parallel with
pressure coil Ans: c

23. In a 3-phase power measurement by two wattmeter method, both the wattmeters had identical readings. The power factor of the load was

- (a) unity
- (b) 0.8 lagging
- (c) 0.8 leading
- (d) zero

Ans: a

24. The adjustment of position of shading bands, in an energy meter is done to provide

- (a) friction compensation
- (b) creep compensation
- (c) braking torque
- (d) none of the above

Ans: a

25. An ohmmeter is a

- (a) moving iron instrument
- (b) moving coil instrument
- (c) dynamometer instrument
- (d) none of the above

Ans: b

26. When a capacitor was connected to the terminal of ohmmeter, the pointer indicated a low resistance initially and then slowly came to infinity position. This shows that capacitor is

- (a) short-circuited
- (b) all right
- (c) faulty
- (d) None of the

Ans: b

27. For measuring a very high resistance we should use

- (a) Kelvin's double bridge
- (b) Wheat stone bridge
- (c) Meggar
- (d) None of the above

Ans: c

28. The electrical power to a meggar is provided by

- (a) battery
- (b) permanent magnet D.C. generator
- (c) AC. generator
- (d) any of the above

Ans: b

29. In a meggar controlling torque is provided by

- (a) spring
- (b) gravity
- (c) coil
- (d) eddy current

Ans: c

30. The operating voltage of a meggar is about

- (a) 6 V
- (b) 12 V
- (c) 40 V
- (d) 100V

Ans: d

31. Murray loop test can be used for location of

- (a) ground fault on a cable
- (b) short circuit fault on a cable
- (c) both the ground fault and the short-circuit fault
- (d) none of the above

Ans: c

32. Which of the following devices should be used for accurate measurement of low D.C. voltage ?

- (a) Small range moving coil voltmeter
- (b) D.C. potentiometer
- (c) Small range thermocouple voltmeter
- (d) None of the above

Ans: b

33. It is required to measure the true open circuit e.m.f. of a battery. The best device is

- (a) D.C. voltmeter
- (b) Ammeter and a known resistance
- (c) D.C. potentiometer
- (d) None of the above

Ans: c

34. A voltage of about 200 V can be measured

- (a) directly by a D.C. potentiometer
- (b) a D.C. potentiometer in conjunction with a volt ratio box
- (c) a D.C. potentiometer in conjunction with a known resistance
- (d) none of the above

Ans: b

35. A direct current can be measured by

- (a) a D.C. potentiometer directly
- (b) a D.C. potentiometer in conjunction with a standard resistance
- (c) a D.C. potentiometer in conjunction with a volt ratio box
- (d) none of the above

Ans: b

36. To measure a resistance with the help of a potentiometer it is

- (a) necessary to standardise the potentiometer
- (b) not necessary to standardise the potentiometer
- (c) necessary to use a volt ratio box in conjunction with the potentiometer
- (d) none of the above

Ans: b

37. A phase shifting transformer is used in conjunction with

- (a) D.C. potentiometer
- (b) Drysdale potentiometer
- (c) A.C. co-ordinate potentiometer
- (d) Crompton potentiometer

Ans: b

38. Basically a potentiometer is a device for

- (a) comparing two voltages
- (b) measuring a current
- (c) comparing two currents
- (d) measuring a voltage
- (e) none of the above

Ans: a

39. In order to achieve high accuracy, the slide wire of a potentiometer should be

- (a) as long as possible
- (b) as short as possible
- (c) neither too small nor too large
- (d) very thick

Ans: a

40. To measure an A.C. voltage by using an A.C. potentiometer, it is desirable that the supply for the potentiometer is taken

- (a) from a source which is not the same as the unknown voltage
- (b) from a battery
- (c) from the same source as the unknown voltage
- (d) any of the above

Ans: c

41. The stator of phase shifting transformer for use in conjunction with an A.C. potentiometer usually has a

- (a) single-phase winding
- (b) two-phase winding
- (c) three-phase winding
- (d) any of the above

Ans: b

42. In an A.C. co-ordinate potentiometer, the currents in the phase and quadrature potentiometer are adjusted to be

- (a) out of phase by 90°
- (b) out of phase by 60°

- (c) out of phase by 30°
- (d) out of phase by 0°

Ans: a

43. A universal RLC bridge uses

- (a) Maxwell bridge configuration for measurement of inductance and De Santas bridge for measurement of capacitance
- (b) Maxwell Wein bridge for measurement of inductance and modified De Santy's bridge for measurement of capacitance
- (c) Maxwell Wein bridge for measurement of inductance and Wein bridge for measurement of capacitance
- (d) Any of the above.

Ans: b

44. For measurements on high voltage capacitors, the suitable bridge is

- (a) Wein bridge
- (b) Modified De Santy's bridge
- (c) Schering bridge
- (d) Any of the above

Ans: c

45. In an Anderson bridge, the unknown inductance is measured in terms of

- (a) known inductance and resistance
- (b) known capacitance and resistance
- (c) known resistance
- (d) known inductance

Ans: b

46. Wagner earthing device is used to eliminate errors due to

- (a) electrostatic coupling
- (b) electromagnetic coupling
- (c) both (a) and (b)
- (d) none of the above

Ans: a

47. For measurement of mutual inductance we can use

- (a) Anderson bridge
- (b) Maxwell's bridge
- (c) Heaviside bridge
- (d) Any of the

above Ans: c

48. For measurement of inductance having high value, we should use

- (a) Maxwell's bridge
- (b) Maxwell Wein bridge
- (c) Hay's bridge
- (d) Any of the above

Ans: c

49. If the current in a capacitor leads the voltage by 80° , the loss angle of the capacitor is

- (a) 10°
- (b) 80°
- (c) 120°
- (d) 170°

Ans: a

50. In a Schering bridge the potential of the detector above earth potential is

- (a) a few volts only
- (b) 1 kV
- (c) 5 kV
- (d) 10 kV

Ans: a

51. To avoid the effect of stray magnetic field in A.C. bridges we can use

- (a) magnetic screening
- (b) Wagner earthing device
- (c) wave filters
- (d) any of the above

Ans: a

52. If an inductance is connected in one arm of bridge and resistances in the remaining three arms

- (a) the bridge can always be balanced
- (b) the bridge cannot be balanced
- (c) the bridge can be balanced if the resistances have some specific values
- (d) None of the above

Ans: b

53. A power factor meter has

- (a) one current circuit and two pressure circuits
- (b) one current circuit and one pressure circuit
- (c) two current circuits and one pressure circuit
- (d) none of the above

Ans: a

54. The two pressure coils of a single phase power factor meter have

- (a) the same dimensions and the same number of turns
- (b) the same dimension but different number of turns
- (c) the same number of turns but different dimensions
- (d) none of the above

Ans: a

55. In a single phase power factor meter the phase difference between the currents in the two pressure coils is

- (a) exactly 0°
- (b) approximately 0°
- (c) exactly 90°
- (d) approximately 90°

Ans: c

56. In a dynamometer 3-phase power factor meter, the planes of the two moving coils are at

- (a) 0°
- (b) 60°
- (c) 90°
- (d) 120°

Ans: d

57. In a vibrating reed frequency meter the natural frequencies of two adjacent reeds have a difference of

- (a) 0.1 Hz
- (b) 0.25 Hz
- (c) 0.5 Hz
- (d) 1.5 Hz

Ans: c

58. In a Weston frequency meter, the magnetic axes of the two fixed coils are

- (a) parallel
- (b) perpendicular
- (c) inclined at 60°
- (d) inclined at 120°

Ans: b

59. A Weston frequency meter is

- (a) moving coil instrument
- (b) moving iron instrument
- (c) dynamometer instrument
- (d) none of the above

Ans: b

60. A Weston synchronoscope is a

- (a) moving coil instrument
- (b) moving iron instrument
- (c) dynamometer instrument
- (d) none of the above

Ans: c

61. In a Weston synchronoscope, the fixed coils are connected across

- (a) bus-bars
- (b) incoming alternator
- (c) a lamp
- (d) none of the above

Ans: b

62. In Weston synchronoscope the moving coil is connected across

- (a) bus-bars
- (b) incoming alternator
- (c) fixed coils
- (d) any of the above

Ans: a

63. The power factor of a single phase load can be calculated if the instruments available are

- (a) one voltmeter and one ammeter
- (b) one voltmeter, one ammeter and one wattmeter
- (c) one voltmeter, one ammeter and one energy meter
- (d) any of the above

Ans: b

64. The desirable static characteristics of a measuring system are

- (a) accuracy and reproducibility
- (b) accuracy, sensitivity and reproducibility
- (c) drift and dead zone
- (d) static error

Ans: b

65. The ratio of maximum displacement deviation to full scale deviation of the instrument is called

- (a) static sensitivity
- (b) dynamic deviation
- (c) linearity
- (d) precision or accuracy

Ans: c

66. Systematic errors are

- (a) instrumental errors
- (b) environmental errors
- (c) observational errors
- (d) all of the above

Ans: d

67. Standard resistor is made from

- (a) platinum
- (b) manganin
- (c) silver
- (d) nichrome

Ans: b

68. Commonly used standard capacitor is

- (a) spherical type
- (b) concentric cylindrical type
- (c) electrostatic type
- (d) multilayer parallel plate type

Ans: b

69. Operating torques in analogue instruments are

- (a) deflecting and control
- (b) deflecting and damping
- (c) deflecting, control and damping
- (d) vibration and balancing

Ans: c

70. Commonly used instruments in power system measurement are

- (a) induction

- (b) moving coil or iron
- (c) rectifier
- (d) electrostatic

Ans: a

71. Damping of the Ballistic galvanometer is made small to

- (a) get first deflection large
- (b) make the system oscillatory
- (c) make the system critically damped
- (d) get minimum overshoot

Ans: a

72. If an instrument has cramped scale for larger values, then it follows

- (a) square law
- (b) logarithmic law
- (c) uniform law
- (d) none of the above

Ans: b

73. Volt box is a component to

- (a) extend voltage range
- (b) measure voltage
- (c) compare voltage in a box
- (d) none of the above

Ans: a

74. E.m.f. of a Weston cell is accurately measured by

- (a) electrostatic voltmeter
- (b) hot wire voltmeter
- (c) isothermal voltmeter
- (d) electrodynamic voltmeter

Ans: a

75. The gravity controlled instrument has crowded scale because current is proportional to

- (a) balancing weight
- (b) deflection angle
- (c) sine of deflection angle
- (d) None of the above

Ans: c

76. A sensitive galvanometer produces large deflection for a

- (a) small value of current
- (b) large value of current
- (c) large value of power
- (d) large value of voltage

Ans: a

77. A multirange instrument has

- (a) multiple shunt or series resistances inside the meter
- (b) multicoin arrangement
- (c) variable turns of coil

- (d) multi range meters inside the measurement system
- (e) any of the above

Ans: a

78. The rectifier instrument is not free from

- (a) temperature error
- (b) wave shape error
- (c) frequency error
- (d) all of the above

Ans: c

79. Alternating current is measured by

- (a) induction ammeter
- (b) permanent magnet type ammeter
- (c) electrostatic ammeter
- (d) moving iron repulsion type voltmeter

Ans: a

80. Most sensitive galvanometer is

- (a) elastic galvanometer
- (b) vibration galvanometer
- (c) Duddlb galvanometer
- (d) spot ballistic galvanometer

Ans: d

81. Instrument transformers are

- (a) potential transformers
- (b) current transformers
- (c) both (a) and (b)
- (d) power transformers

Ans: c

82. An instrument transformer is used to extend the range of

- (a) induction instrument
- (b) electrostatic instrument
- (c) moving coil instrument
- (d) any of the above

Ans: a

83. Wattmeter cannot be designed on the principle of

- (a) electrostatic instrument
- (b) thermocouple instrument
- (c) moving iron instrument
- (d) electrodynamic instrument

Ans: c

84. In an energy meter braking torque is produced to

- (a) safe guard it against creep
- (b) brake the instrument
- (c) bring energy meter to stand still
- (d) maintain steady speed and equal to driving torque

Ans: d

85. Various adjustments in an energy meter include

- (a) light load or friction
- (b) lag and creep
- (c) overload and voltage compensation
- (d) all of the above

Ans: d

86. The power of a n-phase circuit can be measured by using a minimum of

- (a) $(n - 1)$ wattmeter elements
- (b) n wattmeter elements
- (c) $(n + 1)$ wattmeter elements
- (d) 2n wattmeter elements

Ans: a

87. Two holes in the disc of energy meter are drilled at the opposite sides of the spindle to

- (a) improve its ventilation
- (b) eliminate creeping at no load
- (c) increase its deflecting torque
- (d) increase its braking torque

Ans: b

88. Which of the following is measured by using a vector voltmeter ?

- (a) Amplifier gain and phase shift
- (b) Filter transfer functions
- (c) Complex insertion loss
- (d) All of the above

Ans: d

89. The principle on which vector voltmeter is based is

- (a) that it works on the principle of complex variation
- (b) that it measures the response of linear ramp voltage
- (c) same as digital meter
- (d) that it measures the amplitude of a signal at two points and at the same time measures their phase difference

Ans: d

90. To measure radio frequency, the suitable frequency meter is

- (a) Weston frequency meter
- (b) reed vibrator frequency meter
- (c) heterodyne frequency meter
- (d) electrical resonance frequency meter

Ans: c

91. The percentage limiting error, in the case of an instrument reading of 8.3V with a 0 to 150V voltmeter having a guaranteed accuracy of 1% full-scale reading is

- A) 1.810%
- B) 0.181%
- C) 0.0018%
- D) 18.10%

92. The induction of a high Q inductor can be measured by a

- A) Schering Bridge
- B) Hay Bridge
- C) Maxwell Bridge
- D) Wien Bridge

93. If a DC voltmeter is made from an ammeter having a full scale deflection of $100\mu\text{A}$ then its sensitivity (in $\text{K}\Omega/\text{V}$) will be

- A) 1
- B) 100
- C) 10
- D) 1000

94. It is desired to convert a 0-1000A meter movement, with an internal resistance of 100 ohms, into a 0-100mA meter. The required value of shunt resistance is about

- A) 0.1 ohms
- B) 1 ohms
- C) 99 ohms
- D) 100 ohms

95. In moving coil meters, damping is provided by

- A) damping vane in the air tight chamber.
- B) the aluminium frame of the coil.
- C) eddy current disk.
- D) The coil spring attached to the moving mechanism.

96. A 0 to 300V voltmeter has a guaranteed accuracy of 1% of full scale reading. The voltage measured by the instrument is 83V. The percentage limiting error is

- A) 95%
- B) 4.85%
- C) 3.62%
- D) 1.81%

97. An Ayrton shunt is used to make a D'Arsonval galvanometer into a

- A) single range voltmeter
- B) single range ammeter
- C) multi range ammeter
- D) multi range voltmeter

98. A 12 bit counter type A/D converter uses a 1 MHz clock. Its maximum conversion time is

- A) $1\mu\text{s}$
- B) $12\mu\text{s}$
- C) $4096\mu\text{s}$
- D) $4\mu\text{s}$

99. A 12 bit counter type A/D converter uses a 1 MHz clock. Its maximum conversion rate is

- A) 10^6 conversions/sec
- B) 244 conversions/sec
- C) 488 conversions/sec
- D) 83 kilo conversions/sec

100. An 8 bit converter type A/D converter makes at least 8000 conversions/sec. The clock frequency used is

- A) 2MHz
- B) 8MHz
- C) 1MHz
- D) 4MHz

101. The conversion time of a 12 bit successive approximation A/D converter using a 1 MHz clock is

- A) 1 μ s
- B) 12 μ s
- C) 4096 μ s
- D) 4095 μ s

102. The resolution of a 12 bit D/A converter using a binary ladder is

- A) 4096
- B) 0.02%
- C) 2.4%
- D) 4%

103. A 12 bit counter type A/D converter uses a 1 MHz clock. If the full scale output is +10V, its resolution output is

- A) 2.44mV
- B) 2.4mV
- C) 0.02V
- D) 0.02mV

104. A 10 bit resistive divider is constructed such that the current through the LSB resistor is 100 μ A. The maximum current that will flow through the MSB resistor is

- A) 200 μ A.
- B) 1mA
- C) 51.2mA
- D) 102.4mA

105. For a certain 4 bit successive approximation A/D converter, the maximum ladder output is +8V. if a constant +6V is applied to the analog input the sequence of binary states for the SA register is

- A) 1111
- B) 1010
- C) 0110
- D) 1011

106. In the case of power measurement by two wattmeter method in a balanced 3 Φ system with a pure inductive load

- A) both the Wattmeter will indicate the same but of opposite sign.
- B) both the Wattmeters will indicate zero.
- C) both the Wattmeters will indicate same value and of the same sign.
- D) one Wattmeter will indicate zero and the other non-zero value.

107. The sensitivity of an instrument is

- A) smallest increment in the output the can be detected with certainty.
- B) largest input change to which the instrument fails to respond.
- C) ratio of the change in the magnitude of the output to the corresponding change in the magnitude of the input.
- D) closeness of the output values for repeated applications of a constant input.

108. The most preferred material for the control spring is

- (a) German silver
- (b) Platinum silver
- (c) Silicon bronze
- (d) Phosphor bronze

109. A moving coil instrument is used as an ohmmeter. The indicating scale of the meter will be

- (a) Hyperbolic
- (b) Logarithmic
- (c) Linear
- (d) Inverse linear

110. For high accuracy the meter has

- (a) Supporting mirror
- (b) Hand drawn scale
- (c) Printed scale
- (d) Scale with sharp pointer

111. Among the voltages to various electrodes in a CRT the voltage is the highest on

- (a) Aquadag
- (b) Focusing anode
- (c) Deflection plates
- (d) PD anode

112. In a free running oscilloscope the horizontal deflection system is driven by awaveform

- (a) Step
- (b) Impulse
- (c) Ramp
- (d) DC

113. A Lissajous patterns are used to measure

- (a) Voltage and frequency
- (b) Frequency and Phase shift
- (c) Frequency and amplitude distortion
- (d) Amplitude and flux

114. The shunt used in milliammeter

- (a) will extend the range and reduce the meter resistance
- (b) will extend the range and increase the meter resistance
- (c) will decrease the range and meter resistance
- (d) will not affect the meter

115. The electrostatic instruments can be used without serious loss of accuracy upto frequency

- (a) 100Hz
- (b) 100kHz
- (c) 1 MHz
- (d) 10MHz

116. In the case of PMMC rectifier type instruments, the deflecting torque is proportional to

- (a) Average value of AC current
- (b) RMS of AC
- (c) Instantaneous value
- (d) Peak value

117. Inductance and capacitance in the electrostatic system of units has the dimensions of

- (a) mass
- (b) mass-time
- (c) mass length/time
- (d) length

118. For the indicating instrument the preferred damping condition is

- (a) Critically damped
- (b) a damping coefficient of 0.8 to 1
- (c) Overdamped
- (d) Underdamped

119. One international ohm is equal to

- (a) 1.00049 absolute ohm
- (b) 0.99951 absolute ohm
- (c) 0.969 absolute ohm
- (d) 1.049 absolute ohm

120. A milliammeter can be used as

- (a) Voltmeter and ammeter
- (b) Wattmeter
- (c) Ohmmeter
- (d) Frequency meter

121. Which instrument has identical calibration for ac as well as dc values?

- (a) Hot wire type
- (b) Moving coil type
- (c) Induction type
- (d) Moving iron type

122. An instrument to be used for measurement and control should preferably have

- (a) Dead zone and dead time
- (b) Linear output and fast response

- (c) Non-linear output
- (d) A highly damped response

123. The current coil of a wattmeter is connected to the CT of R-phase. The potential coil is connected across Y and B phases. The wattmeter measures

- (a) Active power in R phase
- (b) Active power of Y phase
- (c) Reactive power of R phase
- (d) Power proportional to 3 phase power if the load is balanced

124. The problem of Electro-static coupling in a transformer is acute at

- (a) Low frequencies
- (b) Power frequencies
- (c) High frequencies
- (d) High load on the transformer

125. Which meter is suitable for the measurement of 10mV at 50MHz?

- (a) Moving iron voltmeter
- (b) VTVM
- (c) Moving coil voltmeter
- (d) CRO

126. It can be stated that

- (a) CT operates at almost the same flux density as a PT
- (b) CT operates with a higher flux density than PT
- (c) CT operates with considerably lower flux density than a PT
- (d) no generalisation can be made with regard to the flux densities in CT and PT

127. The thermocouple instruments do not have

- (a) High sensitivity
- (b) Absence of frequency error
- (c) Independence of ambient temperature
- (d) High degree of measuring accuracy

128. Some wire-wound resistors have bifilar winding. This type of winding is used to

- (a) Increase the thermal stability
- (b) Reduce the tolerance
- (c) Reduce the inductance of winding
- (d) Double the power rating of the resistor

129. Wien bridge is useful for measuring

- (a) Very high frequency
- (b) Low frequency
- (c) Medium frequency
- (d) High frequency

130. A megger is usually

- (a) Moving iron type instrument
- (b) Electro-static type instrument
- (c) Hot-wire type instrument
- (d) Moving coil type instrument

131. A moving iron ammeter may be compensated for frequency errors by

- (a) a shunt resistance
- (b) a series inductance
- (c) shunt capacitance
- (d) series resistance

132. Ryall crest voltmeter is used for measurement of

- (a) AC voltage of any form
- (b) Low frequency voltage
- (c) High DC voltage
- (d) High AC voltage

133. Jewels are used in instruments for the purpose of

- (a) Damping
- (b) Torque control
- (c) Suppressing noise
- (d) Bearing

134. The thermocouple instrument will measure

- (a) Current
- (b) Voltage
- (c) Flux
- (d) None of the above

135. A 10MHz CRO has

- (a) 5MHz sweep
- (b) 10MHz vertical oscillator
- (c) 10MHz horizontal oscillator
- (d) 10MHz supply frequency

136. Which of the following instruments can be used to measure AC current only?

- (a) Permanent Magnet Type ammeter
 - (b) Induction type ammeter
 - (c) Moving iron voltmeter
 - (d) Moving iron ammeter
1. D only
 2. B only
 3. A, B, D
 4. B and D only

137. An oscilloscope indicates

- (a) Peak to peak value of voltage
- (b) DC value of voltage
- (c) RMS value
- (d) Average value

138. In a ballistic galvanometer, the deflecting torque is proportional to

- (a) the current through coil
- (b) square of current through coil
- (c) square-root of current through coil
- (d) sine of measured

139. The error of an instrument is normally given as a percentage of

- (a) measured value

- (b) full-scale value
- (c) mean value
- (d) rms value

140. If the instrument is to have a wide range, the instrument should have

- (a) Linear scale
- (b) Square-law scale
- (c) Exponential scale
- (d) Logarithmic scale

141. The resistance can be measured most accurately by

- (a) Voltmeter-ammeter method
- (b) bridge method
- (c) multimeter
- (d) Megger

142. The repeat accuracy of an instrument can be judged from its

- (a) static error
- (b) linearity error
- (c) dynamic error
- (d) standard deviation of error

143. Which of the following meters has a linear scale?

- (a) Thermocouple meter
- (b) Moving iron meter
- (c) Hot wire meter
- (d) Moving coil meter

144. No eddy current and hysteresis losses occur in

- (a) Electrostatic instruments
- (b) PMMC instruments
- (c) Moving iron instruments
- (d) Electrodynamic meter instruments

145. Two voltmeters have the same range 0-400V. The internal impedances are 30,000 Ohms and 20,000 Ohms. If they are connected in series and 600V be applied across them, the readings are

- (a) 360V and 240V
- (b) 300V each
- (c) 400V and 200V
- (d) one of the meters out of the range and other 100V

146. The full-scale deflection current of an ammeter is 1 mA and its internal resistance is 100 Ohms. If this meter is to have full deflection at 5A, what is the value of the shunt resistance to be used?

- (a) 49.99 Ohms

- (b) 1/49.99 ohms
- (c) 1 Ohm
- (d) 2 Ohms

147. The full-scale deflection current of an ammeter is 1 mA and its internal resistance is 100 Ohm. This is to have full deflection when 100V is measured. What is the value of series resistor to be used?

- (a) 99.99 K ohms
- (b) 100 K ohms
- (c) 99.99 ohms
- (d) 100 ohms

148. Why is a MISC meter not recommended for DC measurement?

- (a) The meter is calibrated for AC and it's error for DC would be high
- (b) The meter does not respond to DC signals
- (c) The error is high due to hysteresis effect
- (d) The error is high due to eddy current effect

149. The EMF of Weston standard cell is measured using

- (a) Moving- iron meter
- (b) Moving-coil meter
- (c) Digital Volt meter
- (d) Potentiometer

150. A CRO can display

- (a) AC signals
- (b) DC signals
- (c) Both AC and DC signals
- (d) Time invariant signals

151. The internal resistance of an ammeter should be

- (a) Very small
- (b) medium
- (c) High
- (d) Infinity

152. A galvanometer has

- (a) air friction damping
- (b) fluid friction damping
- (c) Spring coil damping
- (d) Eddy current damping

153. Electrostatic instruments are normally used for

- (a) Low current measurements
- (b) High current measurements
- (c) Low voltage measurements
- (d) High voltage measurements

154. In a moving coil instrument, the deflecting torque is proportional to

- (a) Current

- (b) Square of the current
- (c) Squareroot of the current
- (d) sine of the measurand

155. The absolute measurement of resistance is done by

- (a) Ohm's law method
- (b) Bridge Method
- (c) Rayleigh method
- (d) Lorenz method

156. To measure the flux, devices used are based on

- (a) Voltaic effect
- (b) Piezo-electric effect
- (c) Hall effect
- (d) Photo-voltaic effect

157. The form factor in AC is the ratio of

- (a) peak value to average value
- (b) peak value to rms value
- (c) rms value to average value
- (d) rms value to peak value

158. PMMC type instruments normally use

- (a) Air friction damping
- (b) Fluid friction damping
- (c) Eddy current damping
- (d) None of the above

159. In a moving iron meter, the deflecting torque is proportional to

- (a) Current through the coil
- (b) Square of the current through the coil
- (c) Sine of the measurand
- (d) Squareroot of the measurand

160. In a gravity controlled instrument, the deflection angle is proportional to

- (a) Measurand
- (b) Square of the measurand
- (c) sine inverse of measurand
- (d) sine of the measurand

161. Ampere is one of the

- (a) Supplementary units
- (b) Derived units
- (c) Base units
- (d) Units used to measure charge

162. Direct method is used to measure

- (a) Length
- (b) Temperature
- (c) Pressure
- (d) Voltage

KEY for questions from 1 to 162 (EIE):

Q.No	Ans
1	A
2	B
3	D
4	D
5	D
6	C
7	D
8	C
9	D
10	C
11	A
12	A
13	A
14	C
15	A
16	C
17	C
18	A
19	B
20	A
21	B
22	C
23	A
24	A
25	B
26	B
27	C
28	B
29	C
30	D
31	C
32	B
33	C
34	B
35	B
36	B
37	B
38	A
39	A
40	C
41	B
42	A
43	B
44	C
45	B
46	A
47	C
48	C
49	A
50	A

Q.No	Ans
51	A
52	B
53	A
54	A
55	C
56	D
57	C
58	B
59	B
60	C
61	B
62	A
63	B
64	B
65	C
66	D
67	B
68	B
69	C
70	A
71	A
72	B
73	A
74	A
75	C
76	A
77	A
78	C
79	A
80	D
81	C
82	A
83	C
84	D
85	D
86	A
87	B
88	D
89	D
90	C
91	D
92	B
93	C
94	B
95	C
96	B
97	C
98	C
99	B
100	A

Q.No	Ans
101	B
102	B
103	A
104	C
105	C
106	A
107	C
108	D
109	A
110	B
111	D
112	C
113	B
114	A
115	B
116	A
117	D
118	B
119	A
120	D
121	A
122	B
123	C
124	C
125	D
126	C
127	D
128	C
129	D
130	D
131	C
132	D
133	D
134	D
135	C
136	B
137	A
138	A
139	B
140	D
141	B
142	D
143	D
144	A
145	A
146	B
147	A
148	C
149	D
150	C

Q.No	Ans
151	A
152	D
153	D
154	A
155	D
156	C
157	C
158	C
159	B
160	C
161	C
162	A

ELECTRONICS & COMMUNICATION

- A long wire carrying 100 amp is placed in an external magnetic field of 50 gauss. The wire is at right angles to the field.
 - There will not be any null field
 - The field lines terminate on the wire
 - The field is null surrounding the vicinity of the wire
 - The field is null above the wire and crowded below**
- Poynting vector for an electron Magnetic wave is equal to
 - $H \cdot E$
 - $H \times E$
 - $E \times H$**
 - $E \cdot H$
- A crow is sitting on a conductor carrying 11,000 volts
 - It will die to shock
 - It will not die of shock because its claws are insulated
 - It will not die because it is insulated from earth and other conductors**
 - None of the above
- The relative permeability is taken as unity for
 - Bismuth
 - Vacuum**
 - Air
 - Cobalt
- Which of the following is a scalar quantity?
 - Electric displacement density
 - Potential in electric field**
 - Electric field strength
 - None of the above
- A lightning conductor on top of a building is made into a pointed spike because
 - Rain drops may not collect
 - Dust particles may not accumulate
 - Charge per unit area becomes very high for lightning to discharge**
 - None of the above
- On doubling the number of turns of a coil the inductance
 - Remain the same
 - Doubles
 - Quadruples**
 - Becomes one-fourth
- VSWR is defined as
 - $\frac{E_{\min}}{E_{\max}}$
 - $\frac{E_{\max}}{E_{\min}}$
 - $E_{\max} \times E_{\min}$
 - $\frac{E_{\min} - E_{\max}}{E_{\max} + E_{\min}}$
- Cross product of two vectors A and B is
 - $\vec{A} \times \vec{B} = AB \sin a$
 - $\vec{A} \times \vec{B} = AB \tan a$
 - $\vec{A} \times \vec{B} = AB \sin a \cdot \text{unit vector}$**
 - $\vec{A} \times \vec{B} = AB \cos a$

10. Intrinsic impedance of free space is given as
- 75 Ω
 - 73 Ω
 - 377 Ω**
 - 300 Ω
11. A current set up in along copper pipe. Choose the correct statement.
- There is magnetic field inside the pipe
 - There is a magnetic field outside the pipe**
 - There is magnetic field both inside and outside the pipe
 - A back e.m.f. is set up in the pipe
12. The polarisation of dielectric material results in
- absorption of electrons
 - release of high velocity protons
 - Creation of electric dipoles**
 - production of eddy currents
13. A conductor and an insulator is heated:
- Conductivity increases and insulator unaffected
 - Insulating power increases while conducting power remains same
 - Insulator decreases in insulating power and conductor decreases in conducting power**
 - Both are unaffected
14. One volt equals :
- One joule
 - One joule/coulomb
 - One coulomb / joule**
 - None of these
15. The magnitude of the electric field strength at a distance r from a charge q is equal to:
- $\frac{q}{4\pi r^2}$
 - $\frac{q}{4\pi\epsilon r^2}$**
 - $\frac{q}{4\epsilon r^2}$
 - $\frac{1}{4\pi\epsilon r}$
16. Vectors can be added
- Differentially
 - Commutatively
 - By compounding**
 - None of these
17. The current in a circuit with resistance in 6 amp. When an additional resistance of 4 ohms is inserted the current drops to 4 amp. The original resistance in ohms is
- 16
 - 8**
 - 2
 - 4
18. A medium is said to be isotropic when
- ϵ is zero

b) ϵ is a scalar constant

c) $\epsilon = \mu$

d) $\epsilon = \mu\sigma$

19. When charges are applied to a gold leaf electroscope
- a) The leaves converge for positive charges
 - b) The leaves remain stationary
 - c) The leaves diverge for negative charges
 - d) **The leaves diverge for both positive and negative charges**
20. The unit of electric field strength E is
- a) Volts/metre
 - b) nt/coul
 - c) joules/coulmetre
 - d) **all**
21. A low-loss transmission line has
- a) $R = \omega L, G = \omega C$
 - b) **$R \ll \omega L; G \ll \omega C$**
 - c) $R \gg \omega L; G \gg \omega C$
 - d) none of these
22. The electric flux and field intensity inside a conducting sphere is:
- a) **zero**
 - b) uniform
 - c) maximum
 - d) minimum
23. The unit of conductivity is:
- a) mho/metre²
 - b) **mho / metre**
 - c) ohm / metre
 - d) ohm/metre²
24. the electric field strength of a charge
- a) increase with distance
 - b) decrease with distance
 - c) **decreases with square of distance**
 - d) decreases with cube of distance
25. the unit of magnetic flux density is
- a) **tesla**
 - b) Ohm / metre
 - c) Ampere / metre
 - d) Farad / metre
26. Between a hollow and solid metal sphere charges reside
- a) **On the outer surface in both**
 - b) On outer surface in hollow and throughout in solid
 - c) Throughout in both
 - d) None of the above
27. Diffraction of electromagnetic waves
- a) Is caused by reflections from the ground
 - b) Arises only with spherical wave fronts
 - c) Will occur when the waves pass through a large slot

d) May occur around the edge of a sharp obstacle

28. Arrange the following forces in descending order of their strength:

- 1) Electro magnetic
 - 2) Nuclear
 - 3) Gravitational
 - 4) Radioactive decay
- a) 1,2,3,4
 - b) 1,3,2,4
 - c) 1,4,3,2
 - d) 2,1,4,3**

29. The relation for electric field intensity is

- a) $E = \frac{Q}{4\pi r}$
- b) $E = \frac{Q}{4\pi r^2}$
- c) $E = \frac{Q}{4\pi \epsilon r}$
- d) $E = \frac{Q}{4\pi \epsilon r^2}$

30. The difference between an emf and potential difference is

- a) Both are same
- b) emf is generated and pd is across two points
- c) emf is the voltage measured in open circuit and there is a pd when the load is connected**
- d) pd is higher than emf

31. Dielectric Constant and Dielectric Strength are

- a) same**
- b) different
- c) one is a number and the other indicates when the breakdown of the dielectric occurs when a p.d is applied
- d) one is dimensionless and the other is kV/mm

32. The resistance of a conductor will be least

- a) For dc**
- b) At 50 Hz
- c) At 1 KHz
- d) At 1 MHz

33. In a conductor, the static electric field is

- a) Unity
- b) Infinite
- c) Zero**
- d) None of these

34. The velocity of electromagnetic waves in a dielectric medium ($\epsilon_r = 4$) is

- a) 3×10^8 metres/second
- b) 1.5×10^8 metres/second**
- c) 6×10^8 metres/second
- d) 12×10^8 metres/second

35. At an equipotential surface, the electric field is

- a) Always parallel to the surface
- b) Always perpendicular to the surface**
- c) Zero
- d) None of the above

36. Which type of fading causes serious distortion of modulated signal:
- a) **Selective fading**
 - b) Interference fading
 - c) Absorption fading
 - d) Polarisation fading
37. Antenna commonly used for microwave links are
- a) Loop antennas
 - b) Log periodic antennas
 - c) **Paraboloidal dishes**
 - d) Rhombic antennas
38. UHF band is given by
- a) 3 MHz to 30 MHz
 - b) 30 MHz to 300 MHz
 - c) **300 MHz to 3000 MHz**
 - d) 300 KHz to 30 MHz
39. Television receiver antenna is usually
- a) Loop type
 - b) **Yagi antenna**
 - c) Parabolic dishes
 - d) None of the above
40. Yagi antenna contains
- a) One reflector, one director
 - b) No reflector, 2 directors
 - c) **Dipole, one reflector and many directors**
 - d) None of these
41. Radar antennas are usually
- a) Dipoles
 - b) Yagi antennas
 - c) **Parabolic dishes**
 - d) None of the above
42. The thermal noise is due to random
- a) Motion of atoms and molecules
 - b) **Motion of free electrons**
 - c) Vibrations of atoms about their mean position, inside the conducting medium
 - d) None of these
43. Yagi antenna has
- a) Only driven antenna
 - b) Driven antenna and a reflector
 - c) Driven antenna and directors
 - d) **Driven antenna, reflector and directors**
44. A higher directivity is specified by
- a) High gain high BW
 - b) Low gain high BW
 - c) **High gain low BW**
 - d) None of these
45. A balun is virtually
- a) **An impedance transformer**

- b) Frequency compensator
 - c) Flying resistor
 - d) None of the above
46. Troposphere mode of propagation is used in
- a) VLF
 - b) **VHF**
 - c) HF
 - d) SHF
47. Which is of the following has the least wavelength?
- a) **X – rays**
 - b) Ultra-violet
 - c) Infra-red
 - d) UHF
48. Satellite tracking stations are located in remote areas in order to minimise the effect of
- a) Solar noise
 - b) **Man-made noise**
 - c) Cosmic noise
 - d) Thermal noise
49. Television broadcasting generally uses
- a) **Line of sight propagation**
 - b) Ionospheric propagation
 - c) Ground wave propagation
 - d) None of the above
50. Quantising noise can be reduced by increasing
- a) Bandwidth
 - b) Sampling rate
 - c) **Number of standard quantum levels**
 - d) All of these
51. The velocity of the wave as it passes from air into ionosphere
- a) **Increases**
 - b) Decreases
 - c) Reduces to zero
 - d) Remains unaltered
52. A satellite that simply reflects back the signals from one region of the earth to the other region is known as
- a) Orbiting satellite
 - b) Geostationary satellite
 - c) Active satellite
 - d) **Passive satellite**
53. Which one of the following effects occur in tropospheric scatter propagation?
- a) Faraday effect
 - b) **Fading**
 - c) Super refraction
 - d) Atmospheric storms
54. The shunt admittance of a transmission line is given by
- a) $Y = R + j \omega L$
 - b) $Y = R - j \omega L$
 - c) **$Y = G + j \omega C$**

d) $Y = j + j \omega G + C$

55. The velocity of electromagnetic wave in free space is given by

- a) $\sqrt{\mu/\epsilon}$
- b) $\sqrt{\mu\epsilon}$
- c) $\sqrt{1/\mu\epsilon}$
- d) $\sqrt{\epsilon/\mu}$

56. Electrical length of an antenna is

- a) Equal to its physical length
- b) Smaller than physical length
- c) **Greater than physical length**
- d) May be smaller or greater than its physical length

57. The effect of ground on radiation pattern is :

- a) To increase its wavelength
- b) To produce more number of nulls
- c) To cause cancellation of radiation along with ground
- d) **Both (b) and (c)**

58. The number of parasitic elements in yagi antenna is

- a) 1
- b) **2**
- c) 3
- d) 4

59. Rheostats are usually rated in

- a) **Watts and Amperes**
- b) Watts and Volts
- c) Volts and Amperes
- d) Amperes

60. Transient current are associated with the

- a) Resistance of the current
- b) Impedance of the circuit
- c) **Changes in the stored energy in the inductors and capacitors**
- d) Applied voltage to the circuit

61. Cells are connected in series to

- a) Increase the current rating
- b) **Increase the voltage rating**
- c) Decrease the internal resistance
- d) None of these

62. The hot resistance of a bulb's filament is higher than its cold resistance because the temperature coefficient of the filament is:

- a) Zero
- b) Negative
- c) **Positive**
- d) About 2 Ω per deg C

63. There are three 100 bulbs in parallel across 220 V.50 Hz line. If one bulb burns out:

- a) Remaining two will not operate
- b) All the three will produce light
- c) There will be heavy current in the mains line
- d) **Remaining two bulbs will produce light**

64. Kirchhoff's current law is valid for:

- a) DC circuits only
 - b) AC circuits only
 - c) Both DC and AC circuits**
 - d) Sinusoidal sources only
65. A 4 Ω resistor carrying 2 Amp current will dissipate power equal to
- a) 4 watts
 - b) 16 watts**
 - c) 8 watts
 - d) None of these
66. In an RLC parallel circuit, the impedance at resonance is
- a) Maximum**
 - b) Minimum
 - c) Zero
 - d) Infinity
67. Power factor of a pure inductor is
- a) 1
 - b) $1/\sqrt{2}$
 - c) Zero**
 - d) $\sqrt{3/2}$
68. For a pure capacitor, the voltage current relationship is:
- a) Voltage lags current by 90***
 - b) Voltage leads current by 90*
 - c) Current lags voltage by 90*
 - d) Current leads voltage by 180*
69. Which is of the following is a dry storage cell
- a) Either cell
 - b) Carbon zinc cell
 - c) Mercury cell
 - d) Nickel cadmium cell**
70. The voltage across a capacitor _____ the current through it by _____
- a) Lag, 45
 - b) Lags, 90**
 - c) Leads, 0
 - d) Leads, 90
71. The capacitor charging current is
- a) An exponential growth function**
 - b) An exponential decay function
 - c) A linear decay function
 - d) A linear rise function.
72. One coulomb contains
- a) One electron
 - b) 6.3×10^{17} atoms
 - c) 6.3×10^{18} electrons**
 - d) One ampere
73. Two capacitors connected in parallel results in

- a) **More capacitance**
- b) Less capacitance
- c) Equal to the previous value
- d) None of above

74. The Dimension of $\frac{L}{RC}$ is

- a) $\frac{\text{volt}}{\text{ampere}}$
- b) $\frac{\text{Ampere}}{\text{Volt}} \text{sec}^2$
- c) *seconds*
- d) None of the above

75. A capacitor stores energy in

- a) **Dielectric dipole**
- b) A magnetic field
- c) An electromagnetic field
- d) All the above

76. Microwave links are preferred for TV transmission because

- a) They are free from impulse noise
- b) **They produce less phase distortion**
- c) They are cheaper
- d) They have large bandwidth

77. A helical antenna is used for satellite tracking because of its

- a) Broad bandwidth
- b) Easy manoeuvrability
- c) **Circular polarization**
- d) Good front to back ratio

78. A PIN diode is

- a) A metal semiconductor point-contact diode
- b) A microwave mixer diode
- c) Often used as a microwave detector
- d) **Suitable for use as a microwave switch**

79. The skin effect causes current to flow

- a) In the centre of the conductor
- b) **Near the surface of the conductor**
- c) Through central core of the conductor
- d) Uniformly through the conductor

80. Which one of the following diode is square law device?

- a) Varactor diode
- b) Zener diode
- c) Tunnel diode
- d) **Crystal diode**

81. Waveguide are used mainly for microwave signals because

- a) They depend on straight line propagation which applies to microwaves only
- b) Losses would be too heavy at lower frequencies
- c) There are no generators powerful enough to excite them at lower frequencies
- d) **They would be too bulky at lower frequencies.**

82. What is the direction of data bus?

- a) Unidirectional into μP
 - b) Unidirectional out μP
 - c) **Bidirectional**
 - d) Mixed direction i.e., some lines into and some others out of μP
83. How many lines are there in address bus of 8085 μP
- a) 6
 - b) 8
 - c) 12
 - d) **16**
84. A four bit number is given as 0110. Its 2's complement is
- a) 1001
 - b) 1000
 - c) **1010**
 - d) None of these
85. In medium-scale integration (MSI), a chip contains
- a) Less than 12 gates
 - b) **Less than 100 gates**
 - c) Less than 1000 gates
 - d) Less than 5000 gates
86. Which of the following memories normally has highest storage capacity
- a) **Magnetic disc**
 - b) Magnetic tape
 - c) Semiconductor memory
 - d) Core memory
87. A memory of 8 K means
- a) 10^8
 - b) 8000
 - c) **8 x 1024**
 - d) 5×10^3
88. What is the direction of control bus
- a) Unidirectional into μp
 - b) Unidirectional out of μp
 - c) Bidirectional
 - d) **Mixed direction i.e., some lines into μp and some others out of μp**
89. A parity check usually can detect
- a) **One-bit error**
 - b) Double-bit error
 - c) Three-bit error
 - d) Any-bit error
90. Semiconductor memories are
- a) Volatile
 - b) Non volatile
 - c) **Volatile, small size**
 - d) Non-volatile, small size
91. The advantage of self-correcting code is that
- a) It is a weighted code
 - b) It has even parity

c) **It is easy to decode electronically**

d) All of these

92. A sample flip-flop is a

a) **1 bit storage cell**

b) 2 bit storage cell

c) 3 bit storage cell

d) 4 bit storage cell

93. A microcomputer has a 64 K memory. What is the hexadecimal notion for the first memory location?

a) **0000**

b) FFFF

c) 0FFF

d) 3FFF

94. A six-bit alpha-numeric code is able to code

a) 36 characters

b) 48 characters

c) **64 characters**

d) 128 characters

95. Which of the following is a 16-bit microprocessor

a) Intel 8085

b) **Intel 8086**

c) Zilog 80

d) Motorola 6800

96. A gate in which all inputs must be low to get a high output is called

a) An inverter

b) **A NOR gate**

c) An AND gate

d) a NAND gate

97. In integrated circuit electronics the basic universal gate is

a) NAND gate

b) XOR gate

c) **AND gate**

d) OR gate

98. The function of a multiplexer is

a) **To select 1 out of N input data sources and to transmit it to single channel**

b) To transmit data on N lines

c) To perform serial-to-parallel conversion

d) To decode information.

99. The advantage of serial transport compared with parallel transfer for data transmission is that

a) **It needs only one wire**

b) It is faster

c) BCD is compatible

d) All of these

100. The value of the binary 1111 is

- a) $2^3 - 1$
- b) $2^4 - 1$**
- c) 2^4
- d) None of these

101. An oscillator circuit is mainly

- a) DC to AC converter**
- b) DC to DC converter
- c) AC to DC converter
- d) AC to AC converter

102. The main use of super-conductor is

- a) For generating magnetic field free regions
- b) For generating very strong magnetic field**
- c) For making super-conductor memory
- d) For minimizing $I^2 R$ losses in the wires

103. Typical loudspeaker impedance rating is

- a) 1 Ω**
- b) 8 Ω**
- c) 100 Ω
- d) 5000 Ω

104. An element used in semiconductors whose atoms have three valence electrons is

- a) Germanium
- b) A donor
- c) An acceptor**
- d) Silicon

105. Positive feedback is the same as

- a) Frequency synthesis
- b) Negative feedback
- c) Degeneration
- d) Regeneration**

106. Avalanche break down in a semiconductor diode occurs when

- a) The potential barrier is reduced to zero
- b) Forward bias exceeds a certain value
- c) Reverse bias exceeds a certain value**
- d) Forward current exceeds a certain value

107. The crystal oscillator frequency is very stable due to

- a) Rigidity of crystal
- b) Size of Crystal
- c) Structure of crystal
- d) High Q of the crystal.**

108. Fermi energy is the amount of energy which

- a) A valence electron can have at room temperature
- b) Must be given to an electron to move it to conduction band**
- c) Must be given to a hole to move it to valence
- d) A hole can have at room temperature

109. In a P type semiconductor

- a) The hole concentration is less than the electron concentration
- b) Electrons are the majority carriers
- c) At room temperature the hole concentration equals the acceptor concentration**

110. Which of the following is the fastest switching device

- a) JEET
- b) BJT
- c) **MOSFET**
- d) Triode

111. For good stability, the tuned circuit should have

- a) **High Q**
- b) Low R
- c) Low L
- d) Low C

112. In an FET

- a) Both the junctions are reverse biased
- b) One junction is reverse biased and the other forward biased
- c) **One junction has reverse bias on both sides of the junction**
- d) One junction has reverse bias on one side and forward bias on the other

113. A Zener diode is operated in the mode as a voltage stabiliser

- a) Forward bias
- b) Reverse bias
- c) **Reverse bias around the knee of breakdown region**
- d) Beyond the breakdown.

114. The co-efficient of coupling of two coils depends on

- a) Inductance of the circuit
- b) Frequency of the circuit
- c) The bandwidth of the circuit
- d) **Physical location of the coils**

115. Oscillators have

- a) No feedback
- b) Negative feedback
- c) **Positive feedback**
- d) Either positive or negative feedback

116. Among the three configuration the highest output impedance is obtained by

- a) CE
- b) CC
- c) **CB**
- d) CE and CB

117. A trimmer is

- a) Variable capacitor
- b) Another name for a gang
- c) **Another name for pre-set capacitor**
- d) None of these

118. For an amplifier, the coupling method which gives the highest gain is

- a) Impedance coupling
- b) **Transformer coupling**
- c) Capacitance coupling
- d) Resistance coupling

119. In a power supply a shorted input capacitor is likely to result in
- a) Excessive hum
 - b) Reduced voltage output
 - c) No voltage output**
 - d) None of the above
120. Negative feedback is used in audio amplifiers to
- a) Operate class C
 - b) Reduce distortion**
 - c) Increase distortion
 - d) Increase gain
121. LEDs do not require
- a) Heating
 - b) Warm up time
 - c) Both (a) and (b) above**
 - d) None of the above
122. The principle of emission of electrons from a metal surface, under the influence of light is known as
- a) Photo electric emission**
 - b) Seebeck effect
 - c) Secondary emission
 - d) None of the above
123. LEDs normally work on a voltage of
- a) 1 to 2 V**
 - b) 10 to 20 V
 - c) 50 to 60 V
 - d) 100 to 250 V
124. Snow in a television picture is a result of
- a) High Q in the tuned circuits
 - b) Random noise in the signal**
 - c) Insufficient wave traps
 - d) Excessive gain
125. The Darling ton pair consists of the following two stages
- a) CE and CC
 - b) Both CE
 - c) Both CC**
 - d) CE and CB
126. Which of the following elements does not have five valence electrons?
- a) Phosphorous
 - b) Arsenic
 - c) Antimony
 - d) Indium**
127. The anode material is usually
- a) Nickel**
 - b) Carbon
 - c) Copper
 - d) Aluminium
128. A dielectric material is placed in between the plates of a capacitor, it
- a) Decreases the capacitance
 - b) Increases the capacitance**

- c) Provides the strength to the capacitor plates
- d) None of the above

129. Wein bridge finds application in

- a) Frequency determination
- b) Resistance measurement only
- c) Harmonic distortion analyser
- d) **A and C both.**

130. To measure flux, devices used are based on

- a) Piezo-electric effect
- b) Voltaic effect
- c) **Hall effect**
- d) Photo-voltaic effect

131. ADVM has a 4 ½ digit display. The 1 volts range can read up to :

- a) 9999
- b) 9.99
- c) **1.9999**
- d) 0.19999

132. An ideal meter should have

- a) Infinite resistance
- b) Infinite resistance
- c) **Absolutely no effect on the circuit being measured**
- d) Definite effect on the circuit being measured

133. Thermocouple instruments are also known as

- a) RF instruments
- b) PMMC instruments
- c) **Rectifier instruments**
- d) Digital instruments

134. The principle of operation of Q-meter is based on

- a) Self-inductance
- b) Mutual inductance
- c) **Series resonance**
- d) Parallel resonance

135. A measure of the reproducibility of measurement is known as

- a) Accuracy
- b) Fidelity
- c) **Precision**
- d) Resolution

136. If we have 15 coulombs of charge then

- a) **3A can be flown for 5 sec**
- b) 1A can be flown for 5 sec
- c) 5A can be flown for 5 sec
- d) None of above

137. The dielectric loss of capacitance can be measured by

- a) Hay bridge
- b) **Schering bridge**
- c) Maxwell bridge
- d) Anderson bridge

138. The internal resistance of the ammeter should ideally be

- a) **Zero**
- b) Very large
- c) Very small
- d) Infinite

139. Potentiometer sensitivity can be increased by

- a) Decreasing the current in potentiometer wire
- b) **Increasing the length of potentiometer wire**
- c) Decreasing the length of potentiometer wire
- d) Replacing the standard cell by a regulated power supply

140. A fridge uses 220 watts from 110 V power source. The Fridge then draws a current from the source equal to

- a) 2 mA
- b) **2 amps**
- c) 4 amps
- d) 240 amps

141. Solar cell is an example of

- a) **Photo voltaic cell**
- b) Photo conductive cell
- c) Photo emissive cell
- d) None of the above

142. Speedometer used for measurement of speed of the automobile is

- a) **An indicating instrument**
- b) A recording instrument
- c) An absolute instrument
- d) A controlling instrument

143. The Lissajous pattern obtained on a CRO is used to determine:

- a) Amplitude of applied signal
- b) Current in a circuit
- c) **Phase shift and frequency**
- d) Distortion in a system

144. Which one out of the following instruments should be used to measure 600 kv ac voltage

- a) Hot wire instrument
- b) **Electrostatic voltmeter**
- c) Moving coil voltmeter
- d) Moving iron voltmeter

145. Harmonic distortion is due to

- a) Change in the behaviour of circuit elements due to change in temperature
- b) Change in the behaviour of circuit elements due to change in environment
- c) Linear behaviour of circuit elements
- d) **Non-linear behaviour of circuit elements**

146. If we increase the current sensitivity of a galvanometer the voltage sensitivity will

- a) Also increase
- b) **Decrease**
- c) Does not depend on current resistivity
- d) May increase or decrease

147. Which of the following is a primary cell

- a) **Zinc – carbon dry cell**
- b) Lead – acid wet cell
- c) Nickel – cadmium wet cell
- d) None of these

148. The major difference between a current probe and voltage probe is that current probe

- a) Has a lower input impedance
- b) Can measure a.c. signals only
- c) Provides a method of inductive coupling
- d) **All the above**

149. Amp hour is the unit for measuring

- a) Power of the meter
- b) Energy
- c) **Capacity of a cell**
- d) None of the above

150. If the resistance of an ammeter is too high, it will cause the current in the circuit to

- a) Increase
- b) **Decrease**
- c) Stop
- d) Fluctuate

151. The internal resistance of a cell is

- a) Directly proportional to the electrolyte concentration
- b) Inversely proportional to the electrodes plate area
- c) Determined by the nature of electrolyte used
- d) **All the above**

152. The coil of a moving coil meter is wound on

- a) **An aluminium frame**
- b) An iron frame
- c) An insulating material
- d) A semiconductor material

153. The instrument used normally to check the insulation

- a) Multi-meter
- b) Ohm-meter
- c) Tong-tester
- d) **Megger**

154. The internal resistance of the voltmeter must be very high in order to have

- a) More current supplied by the voltage source
- b) High voltage range
- c) **Minimum current through the meter**
- d) Maximum loading effect

155. Q-meter is used to measure

- a) Electrical properties of the capacitors
- b) **Electrical properties of both the coils and the capacitors**
- c) Mechanical properties of the coils only
- d) Electrical properties of the coils only

156. Inductance coils are basically designed for

- a) **High Q**
- b) Low Q
- c) Medium Q
- d) Nothing to do with Q

157. Secondary batteries are usually

- a) Wet cells and light in weight
- b) Dry cells and light in weight
- c) Dry or wet cells
- d) **Wet cells and heavy in weight**

158. Force has the dimension of

- a) **LMT^{-2}**
- b) $L^2 M$
- c) $L^2 MT^{-2}$
- d) LMT

159. If R , L and C are the parameters of a resistor then the condition for the resistor to be non-inductive is

- a) $L = C$
- b) $C = LR^2$
- c) **$L = CR^2$**
- d) $R = LC$

160. The most efficient form of damping in an instrument is

- a) **Eddy current**
- b) Fluid friction
- c) Air friction
- d) None of these

161. The form factor in a.c. means the ratio of

- a) Peak value to average value
- b) Peak value to r.m.s. value
- c) **R.M.S. value to average value**
- d) R.M.S. value to peak value

162. Siemens is a unit for measuring

- a) **Conductance**
- b) Resistance
- c) Flux density
- d) Electric field

163. The rating of a battery is given by

- a) kW
- b) KVA
- c) **Ampere-hours**
- d) VARh

164. Steradian is a

- a) Base unit
- b) Derived unit
- c) **Supplementary unit**
- d) Unit of measuring susceptance

165. The error of an instrument is normally given as a percentage of

- a) Measured value
- b) Full-scale value**
- c) Mean value
- d) R.M.S. value.

166.The RADAR stands for

- a) Radio direction and reflection
- b) Radio detection and ranging**
- c) Radio waves despatching and receiving
- d) Random detection and re-radiation

167.Armoured submarine cable is used

- a) To protect the cable sat great depths
- b) To prevent inadvertent ploughing-in of the cable
- c) For the shallow shore ends of the cable**
- d) To prevent insulation breakdown from the high feed voltage

168.Telex is a

- a) Telephone service between various subscribers
- b) Tele-printer service between various subscribers**
- c) Television service between various subscribers
- d) Telegraph service between various subscribers

169.In the telephone, the dial tone has a frequency of

- a) 1Hz
- b) 13 Hz
- c) 33 Hz**
- d) 133 Hz

170.In TV system, picture and sound respectively use:

- a) AM, FM**
- b) FM, FM
- c) FM, AM
- d) AM, AM

171.Diversity reception system is used to minimize the troubles due to

- a) General fading
- b) Synchronous fading
- c) Both (a) and (b) above**
- d) None of the above

172.Which of the following noise is of great importance at high frequencies?

- a) Shot noise
- b) Agitation notice
- c) Flicker noise
- d) Transit time noise**

173.In order to reduce quantizing noise, one must

- a) Increase the number of samples per second
- b) Use and RF amplifier in the receiver
- c) Increase the number of standard amplitudes**
- d) Send pulses whose sides are more nearly vertical

174.Number of picture frames displayed per second in TV as per CCIR B-system is :

- a) 16
- b) 25**

- c) 50
 - d) 60
175. When power ratios are expressed in dBm, the reference power is
- a) 1 W
 - b) 0.1 W
 - c) 1 mW
 - d) 1 μ W
176. Most of the aircraft surveillance radar operate in
- a) C band
 - b) X band
 - c) L band
 - d) S band
177. A scheme in which several channels are inter-leaved and then transmitted together is known as
- a) A group
 - b) A sub group
 - c) Time division multiplex
 - d) Frequency division multiplex
178. The most modern telephone exchange system is:
- a) Strowger system
 - b) Crossbar system
 - c) Electronic system
 - d) None of these
179. The maximum Usable Frequency is dependent on
- a) The distance of the receiving station from the transmitter
 - b) The range of frequencies the transmitter can generate
 - c) Eleven year sunspot cycle
 - d) On the electron density of the ionospheric layer
180. VHF range is between (MHz)
- a) 300-300
 - b) 3-40
 - c) 30-300
 - d) 3-300
181. Telex is the abbreviated name for
- a) Telephone exchange
 - b) Telegraph exchange
 - c) Tele-printer exchange
 - d) Tele-link exchange
182. Tropospheric mode of propagation is used in
- a) VLF
 - b) VHF
 - c) HF
 - d) UHF
183. In CCIR system B standard, the line frequency
- a) 15,625 lines/sec
 - b) 18,750 lines/sec
 - c) 15,750 lines/sec
 - d) None of these
184. Distortion caused on telephone line by an adjacent one is called:

- a) Cross fire
 - b) Inductive disturbance
 - c) Cross talk
 - d) None of these
185. The power consumption of LEDs may be of the order of
- a) 5 to 10 nano amperes
 - b) 5 to 10 micro amperes
 - c) 5 to 10 milli-amperes
 - d) 5 to 10 amperes
186. Commonly used standard capacitor is
- a) Concentric cylinder type
 - b) Parallel plate type
 - c) Concentric sphere type
 - d) None of the above
187. DVM is the abbreviation for
- a) Digital vacuum meter
 - b) Digital volume meter
 - c) Digital voltmeter
 - d) Divider voltage meter
188. Electrostatic instruments are normally used for
- a) Low current measurement
 - b) High current measurement
 - c) Low voltage measurement
 - d) High voltage measurement
189. Low resistance is measured by
- a) De Sauty's bridge
 - b) Maxwell's bridge
 - c) Kelvin's double bridge
 - d) Wien bridge
190. The price of capacitor will increase as
- a) Voltage rating of the capacitor increases
 - b) The size of the capacitor increases
 - c) Microfarad rating of the capacitor increases
 - d) None of the above
191. The current capacity of the battery depends upon
- a) The kind of electrode metals used
 - b) The size of the electrodes
 - c) Volume of the electrolyte contained
 - d) All the above
192. The internal resistance of an ammeter should be
- a) Very small
 - b) Medium
 - c) High
 - d) Infinity
193. A DVM has a 3 1/2 digit display. The 1 volt range can read upon
- a) 9999
 - b) 9.99

- c) 1.999
- d) 0.19999

194. Electrostatic instrument uses the principle of the variation of

- a) Capacitance with the current
- b) Inductance with the voltage
- c) Inductance with the current
- d) **Capacitance with the voltage**

195. The phenomenon of creeping occurs in

- a) Ammeters
- b) Voltmeters
- c) Watt-meters
- d) **Energy meters**

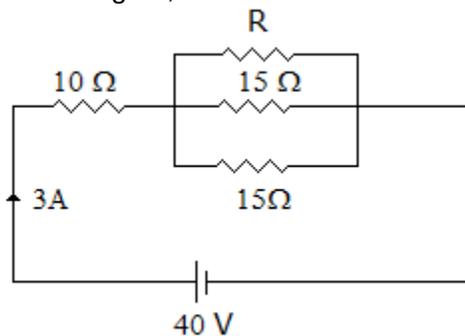
196. Henry is equivalent to

- A. Volts/Ampere
- B. Weber/Volt
- C. **Weber/Ampere**
- D. Weber/Ampere²

197. The resistance of a 230 V, 100 W lamp is

- A. **529 Ω**
- B. 2300 Ω
- C. 5290 Ω
- D. 23 Ω

198. In figure, the value of R should be



- A. 12 Ω
- B. **6 Ω**
- C. 3 Ω
- D. 1.5 Ω

199. Two similar coils have self inductance of 1 mH each. Coefficient of coupling is 0.5.

The mutual inductance M is

- A. 0.25 mH
- B. 0.5 mH**
- C. 0.707 mH
- D. 1 mH

200. 2's complement of binary number 0101 is

- A. 1011**
- B. 1111
- C. 1101
- D. 1110

201. The number of bits in ASCII is

- A. 12
- B. 10**
- C. 9
- D. 7

202. Kelvin's double bridge is used to measure low resistances because

- A. it has high sensitivity
- B. there is no thermoelectric emf
- C. resistance variation due to temperature
- D. effect of contact and lead resistances is eliminated**

203. The noise generated by a resistor depends upon

- A. its resistance value
- B. its operating temperature**
- C. both its resistance value and operating temperature
- D. none of the above

204. The function of an AM detector circuit is to

- A. rectify the input signal
- B. discard the carrier
- C. provide audio signal
- D. all of the above**

205. Noise limiter is provided on AM receivers to

- A. reduce interfering noise due to ignition system
- B. reduce noise due to electrical storms
- C. reduce interference due to electrical machinery
- D. all of the above

206. A trimmer is basically a

- A. insulator
- B. inductor
- C. capacitor
- D. variable resistor

207. DC tachogenerator can be used in

- A. speed control system
- B. position control system
- C. both (a) and (b)
- D. neither (a) nor (b)

208. At room temperature the current in an intrinsic semiconductor is due to

- A. holes
- B. electrons
- C. ions
- D. holes and electrons

209. Which of these has 3 layers?

- A. PIN diode
- B. Zener diode
- C. Schottky diode
- D. Photo diode

210. An air gap provided in the iron core of an inductor prevents

- A. flux leakage
- B. hysteresis loss
- C. core saturation
- D. heat generation

211. Natural commutation can be used in ,

- A. DC circuits only
- B. AC circuits only**
- C. both AC and DC circuits
- D. none of the above

212. When parallel resistors are of three different values, which has the greatest power loss?

- A. The smallest resistance**
- B. The largest resistance
- C. They have the same power loss.
- D. Voltage and resistance values are needed.

213. What happens to total resistance in a circuit with parallel resistors if one of them opens?

- A. It increases.**
- B. It halves.
- C. It remains the same.
- D. It decreases.

214. If two parallel-connected resistors dissipate 6 watts and 10 watts of power, then what is the total power loss?

- A. 3.75 watts
- B. 4 watts
- C. 16 watts**
- D. 60 watts

215. Kirchhoff's current law for parallel circuits states that the:

- A. sum of all branch voltages equals zero
- B. total circuit resistance is less than the smallest branch resistor
- C. sum of currents into a junction is equal to the difference of all the branch currents
- D. sum of the total currents flowing out of a junction equals the sum of the total currents flowing into that junction**

216. The transformer turns ratio determines

- A. the ratio of primary and secondary voltages
- B. the ratio of primary and secondary currents
- C. the reflected impedance
- D. all of the above**

217. Mutual induction is dependent on

- A. winding ratios
- B. output polarities
- C. dc voltage levels
- D. **current changes**

218. If the resistance total in a series circuit doubles, current will:

- A. be the same
- B. be doubled
- C. reduce source voltage
- D. **be halved**

219. A voltage divider is always a _____

- A. series-parallel circuit
- B. **series circuit**
- C. parallel circuit
- D. bridge circuit

220. If four 90 ohm resistors are connected in series across an 18 V source, the current equals

- A. **50 mA**
- B. 0.2 A
- C. 5 A
- D. 20 A

221. A sine wave's peak-to-peak voltage value is always twice its peak voltage value.

- A. **True**
- B. False

222. If a wave has frequency of 2 Hz, it has a period of ?

- A. 1s
- B. **1/2 s**
- C. 2.5s
- D. 2s

223. Convert the binary number 1011010 to hexadecimal.

- A. 5B
- B. **5F**

C. 5A

D. 5C

224. Which bus is bidirectional?

A. data bus

B. control bus

C. address bus

D. multiplexed bus

225. The software used to drive microprocessor-based systems is called:

A. assembly language programs

B. firmware

C. BASIC interpreter instructions

D. flowchart instructions

226. Which of the following is not a computer bus?

A. data bus

B. timer bus

C. control bus

D. address bus

227. The universal gate is

A. NAND gate

B. OR gate

C. AND gate

D. None of the above

228. The inverter is

A. NOT gate

B. OR gate

C. AND gate

D. None of the above

229. The NOR gate is OR gate followed by

A. AND gate

B. NAND gate

C. NOT gate

D. None of the above

230. A single transistor can be used to build which of the following digital logic gates?

A. AND gates

B. OR gates

C. NOT gates

D. NAND gates

231. A NAND gate has:

A. LOW inputs and a LOW output

B. HIGH inputs and a HIGH output

C. LOW inputs and a HIGH output

D. None of these

232. For attenuation of high frequencies we should use

A. shunt capacitance

B. series capacitance

C. inductance

D. resistance

233. A woofer should be fed from the input through a

A. low pass filter

B. high pass filter

C. band pass filter

D. band stop filter

234. Which of the following types of noise assumes greater importance at high frequencies?

A. Transit time noise

B. Shot noise

C. Impulse noise

D. Random noise

235. For a system to be designated as hi-fi, the signal to noise ratio should be at least

A. 25 dB

B. 50 dB

C. 75 dB

D. 100 dB

236. In the television system in India, the aspect ratio is

A. 4 : 3

B. 3 : 4

C. 5 : 4

D. 4 : 5

237. A remote control for TV uses

A. LED in receiver and photodiode in transmitter

B. LED in transmitter and photodiode in receiver

C. LED in both transmitter and receiver

D. Photodiode in both transmitter and receiver

238. Which of the following microphones has an inbuilt amplifier?

A. Condenser

B. Moving coil

C. Ribbon

D. Carbon

239. A receiver has poor selectivity. It will also have poor

A. sensitivity

B. double spotting

C. blocking

D. diversity reception

240. Ground wave can be used for communication upto

A. 5 kHz

B. 12 kHz

C. 16 kHz

D. 25 kHz

241. When large amount of power is required, a push pull amplifier is designed for operation as

A. class A

B. class B

C. class C

D. class AB

242. In communication systems, the modulating signal is also called

A. base band signal

B. side bands

C. auxiliary signal

D. none of the above

243. Satellites used for international communication are called

A. cossort

B. domsat

C. marisat

D. intelsat

244. In AM the amplitude of carrier components ... while in FM it

A. remains constant, does not remain constant

B. does not remain constant ... remains constant

C. remains constant... also remains constant

D. does not remain constant, also does not remain constant

245. A communication receiver is

A. TRF receiver

B. a superheterodyne receiver

C. either (a) or (b)

D. neither (a) nor (b)

246. The velocity factor of a transmission line depends on

A. temperature

B. skin effect

C. relative permittivity of dielectric

D. none of the above

247. Frequencies in the UHF range propagate by means of

A. space wave

B. surface waves

C. sky waves

D. ground waves

248. Tropospheric scatter is used with frequencies in the

A. HF

B. VHF

C. UHF

D. VLF

249. Whenever a wave is incident on a perfect conductor then the reflection coefficient is

A. 1

B. 0

C. $1 < 180^\circ$

D. depend upon η_1, η_2

250. Radar principle is used in

A. detection of aircraft

B. burglar alarms

C. garage door openers

D. all of the above

251. When the light falling on a photodiode increases, the reverse minority current

A. increases

B. increases or decreases

C. decreases

D. remains the same

252. Piezoelectric materials serve as a source of

A. microwaves

B. ultrasonic waves

C. musical waves

D. resonant waves

253. The sensitivity of human eyes is maximum at

A. white portion of spectrum

B. green portion of spectrum

C. red portion of spectrum

D. violet portion of spectrum

254. Figure represents a



A. LED

B. Varistor

C. SCR

D. Diac

255. An ideal Op-amp is an ideal

A. voltage controlled current source

B. voltage controlled voltage source

C. current controlled current source

D. current controlled voltage source

256. The bandwidth of optical fiber

A. 900M Hz

B. 900 PHz

C. 900 THz

D. 900 EHz

257. A phase-locked loop (PLL) is a feedback circuit consisting of a

A. phase detector.

B. low-pass filter.

C. VCO.

D. all of the above

258. The demodulator recovers the audio signal from the IF output.

A. True

B. False

Write Full Form of the following:-

1. PSTN-_____Public Switched Telephone Network
2. PAM-_____Pulse Amplitude Modulation
3. DWDM-_____Dense Wavelength Division Multiplexing
4. TDM-_____Time Division Multiplexing
5. MOSFET-_____Metal Oxide Semiconductor Field Effect Transistor
6. QFSK-_____Quadrature Frequency Shift Keying
7. MASER-_____Microwave Amplification by Stimulated Emission of Radiation
8. AGC-_____Automatic Gain Control
9. BALUN-_____Balanced Unbalanced
10. BER-_____Bit Error Rate
11. BIT-_____Binary Digit
12. BPSK-_____Binary Phase Shift Keying
13. CAD-_____Computer Aided Design
14. CCD-_____Charge Coupled Device
15. CMRR-_____Common Mode Rejection Ratio
16. SNR-_____Signal to Noise Ratio
17. CRO-_____Cathode Ray Oscilloscope
18. DECT-_____Digital Enhanced Cordless Telecommunication
19. DID-_____Direct Inward Dialing

20. SIM-_____Subscriber Identity Module
21. DLP-_____Digital Light Processing
22. DTMF-_____Dual Tone Multi Frequency
23. EDP-_____Electronic Data Processing
24. EOF-_____End Of File
25. FDDI-_____Fiber Distributed Data Interface
26. FEP-_____Front End Processor
27. NEXT-_____Near End Cross Talk
28. FEXT-_____Far End Cross Talk
29. LFD-_____Large Format Display
30. FTTH-_____Fiber To The Home
31. UTP-_____Unshielded Twisted Pair
32. GIF-_____Graphics Interchange Format
33. IDLC-_____Integrated Digital Loop Carrier
34. ISO-_____International Organisation of Standardisation
35. LCD-_____Liquid Crystal Display
36. IDF-_____Intermediate Frame
37. MDF-_____Main Distribution Frame
38. MIL-_____Military Standard
39. VLSI-_____Very Large Scale Integration
40. MS-DOS - _____Microsoft Disk Operating System
41. MTTR-_____Mean Time To Repair
42. MTBF-_____Mean Time Between Failure
43. NiMH-_____Nickel Metal Halide
44. NMS-_____Network Management System
45. NMOS-_____N-Type Metal Oxide Semiconductor
46. OTDR-_____Optical Time Domain Reflectometer
47. PABX-_____Private Automatic Branch Exchange
48. PDF-_____Portable Document Format
49. PDH-_____Plesiochronous Digital Hierarchy
50. PON-_____Passive Optical Network

KEY for questions from 1 to 258 (ECE):

Q.No	Ans
1	D
2	C
3	C
4	B
5	B
6	C
7	C
8	B
9	C
10	C
11	B
12	C
13	C
14	C
15	B
16	C
17	B
18	B
19	D
20	D
21	B
22	A
23	B
24	C
25	A
26	A
27	D
28	D
29	D
30	C
31	A
32	A
33	C
34	B
35	B
36	A
37	C
38	C
39	B
40	C
41	C
42	B
43	D
44	C
45	A
46	B
47	A
48	B
49	A
50	C

Q.No	Ans
51	A
52	D
53	B
54	C
55	C
56	C
57	D
58	B
59	A
60	C
61	B
62	C
63	D
64	C
65	B
66	A
67	C
68	A
69	D
70	B
71	A
72	C
73	A
74	A
75	A
76	B
77	C
78	D
79	B
80	D
81	D
82	C
83	D
84	B
85	A
86	A
87	C
88	D
89	A
90	C
91	C
92	A
93	A
94	C
95	B
96	B
97	C
98	A
99	A
100	B

Q.No	Ans
101	A
102	B
103	A
104	C
105	D
106	C
107	D
108	B
109	C
110	C
111	A
112	C
113	C
114	D
115	C
116	C
117	C
118	B
119	C
120	B
121	C
122	A
123	A
124	B
125	C
126	D
127	A
128	B
129	D
130	C
131	C
132	C
133	C
134	C
135	C
136	A
137	B
138	A
139	B
140	B
141	A
142	A
143	C
144	B
145	D
146	B
147	A
148	D
149	C
150	B

Q.No	Ans
151	D
152	A
153	D
154	C
155	B
156	A
157	D
158	A
159	C
160	A
161	C
162	A
163	C
164	C
165	B
166	B
167	C
168	B
169	C
170	A
171	C
172	D
173	C
174	B
175	C
176	C
177	D
178	C
179	D
180	C
181	C
182	B
183	A
184	C
185	C
186	A
187	D
188	D
189	C
190	A
191	B
192	A
193	C
194	D
195	D
196	C
197	A
198	B
199	B
200	A

Q.No	Ans
201	d
202	D
203	B
204	D
205	D
206	C
207	C
208	D
209	A
210	C
211	B
212	A
213	A
214	C
215	D
216	D
217	D
218	D
219	B
220	A
221	A
222	B
223	C
224	A
225	A
226	B
227	A
228	A
229	C
230	C
231	C
232	A
233	A
234	A
235	B
236	A
237	B
238	A
239	C
240	C
241	B
242	A
243	D
244	A
245	B
246	C
247	A
248	C
249	B
250	A

Q.No	Ans
251	A
252	B
253	B
254	A
255	B
256	A
257	D
258	A

GENERAL KNOWLEDGE

1. what is the Head Quarters of South central Railway (A)
A) Secunderabad B) Mumbai C) Chennai D) Bangalore
2. what is the name of the river in Hyderabad (D)
A) Godavari B) Krishna C) Penna D) Musi
3. Charminar is Located at (C)
A)Warganal B) KURNOOL C)HYDERABAD D) Vijayawada
4. Who is the Governor of Andhrapradesh& Telangana States (A)
A)E.S.L.Narsimhan B) Dattatreya C) Kishan Reddy D) K. Srlhari.
5. The name of the woman Tennis Star Who belongs to Hyderabad is (B)
A) HAMPPI B) Sania Mirza C) Midali Raj D) Karanam Laskmi.
6. Who is the president of INDIA (A)
A) Pranab Mukherji B) Manmohan singh C) Sarath pawar D) Nitish kumar.
7. Who is the prime minster of INDIA (B)
A)Venkaiah Naidu B) Narendra Modi C) Rahul Gandhi D) Molayam Yadav
8. The Festival of Christmas is Celebrated on (D)
A)January 25th B) April 25th C) OCTOBER 25TH D) December 25th
9. Whose Birth day we celebrate on October 2Nd (A)
A)Mahatma Gandhi B) Nehru C) Indra Gandhi D) Rajiv Gandhi
10. The Birth place of Mahatma Gandhi is (B)
A)Hyderabad B) Pour Bander C) Delhi D) Mumbai
11. Who is the writer of poem Sare Jahan se Accha Hindusitan hamara (C)
A) Kasim B) Kabir C) Muhammad Iqbal D) Rahim
12. The writer of National Anthem of INDIA Jana Gana Mana ? (A)
A) Rabindranath Tagore B) S.C.Bose C) Nehru D) C.Narayana Reddy
13. Which city Located on the banks of river Hoogly (A)
A) Kolkata B) Delhi C) Mumbai D) JAIPUR
14. Which award is given to the coaches of Sportspersons? (A)
A) Dronacharya award B) savyasachi award C) Keshav Award D) Champion Award.

15. The Chief Minister of Telangana state (A)
A) K.Chandrasekhar Rao B) T.Harish Rao C) K.T.Rama Rao D) T.Srinivas Yadav
16. The Chief Minister of Andhrapradesh (A)
A) N.Chandrababu Naidu B) K.E.Krishana murthy C) Y.S.Jagan Mohan Reddy D) N.Balakrishna.
17. Who is the First Woman President of INDIA (C)
A) Vijayalakshmi pandit B) Sheela Dikshit C) Prathiba patil D) Sonia Gandhi
18. The Parliament Bhavan situated at (A)
A) NewDelhi B) Kolkata C) Mumbai D)Chennai
19. Which Telugu movie won National film fare Award (C)
A) Srimanthudu B) Gopala Gopala C) Bahubali D) Gabber Singh
20. Where The Lord Venkateswara swami Seven Hills situated at (A)
A)Tirupathi B) Kadapa C) Kurnool D) Hyderabad
21. Golkonda Fort Situated at Ans (A)
A) Hyderabad B) Vizag C) Vijayawada D) Warangal
22. The capital of Rajasthan Ans (C)
A) Udaipur B) Jodhpur C) Jaipur D) Mount Abu
23. The Famous Dilwara Temples located at Ans (A)
A)Mount Abu B) Kolkata C) New Delhi D) Mumbai
24. The speaker of Andhra Pradesh Assembly Ans (B)
A) N.Chandra Babu Naidu B) Dr. K.Siva Prasad C) Y.JaganMohan Reddy D) Smt. P.Sujatha
25. Which is International Yoga Day? Ans (A)
A) June 21 B) March 22 C) September 22 D) December 23
- 26) What is the formation Day of Telengana Ans (A)
A)02.06.2014 B) 02.07.2014 C) 02.09.2014 D) 02.10.2014
- 27) The oldest Stock Exchange of India is (C)
A) Bangalore Stock Exchange B) Ahmedabad Stock Exchange
C) Bombay Stock Exchange D) Hyderabad St5ock Exchange
- 28) Which of the following describes India as a secular State ? (C)
A) Fundamental Rights B) Ninth Schedule
C) Preamble to the Constitution D) Directive Principles
- 29) Land of Midnight Sun is (C)
A) Japan B) Finland C) Norway D) Canada

- 30) The Head quarters of International Labour Organisation (C)
A) New York B) London C) Geneva D) Rome
- 31) The Head quarters of United Nations International Children's Emergency Fund (D)
(UNICEF)
A) London B) Berne C) Paris D) New York
- 32) Headquarters of International Crime Police (INTERPOL) (B)
A) Geneva B) Paris C) New York D) Rome
- 33) Head quarters of Red Cross (A)
A) Geneva B) Norway C) Berne D) Montreal
- 34) The Highest Award in India (D)
A) Padma Bhushan B) Jnanpith C) Arjun D) Bharat Ratna
- 35) The Longest River in India (B)
A) The Godavari B) The Ganges C) The Krishna D) The Yamuna
- 36) The largest populated City in India (C)
A) Kolkata B) Hyderabad C) Mumbai D) Bangalore
- 37) The largest State in India (Area) (A)
A) Rajasthan B) Uttar Pradesh C) Punjab D) Tamil Nadu
- 38) The Largest State in terms of population in India (D)
A) Rajasthan B) Bihar C) Kerala D) Uttar Pradesh
- 39) The Biggest Cave Temple in India (B)
A) Ajantha B) Ellora C) Elephanta D) Dilwara
- 40) The Tallest Statue in India (C)
A) The Statue of Buddha B) The Statue of Gandhi
C) The Statue of Gomateswar D) The Statue of Ambedkar
- 41) The Largest Dam in India (B)
A) TheBakra Nangal Dam B) Hirakud Dam C) Nagarjuna Sagar D) Tehri Dam
- 42) The largest Public Sector Bank (D)
A) Andhra Bank B) Bank of India C) Syndicate Bank D) State Bank of India
- 43) The smallest State in Area (A)
A) Goa B) Assam C) Uttarakhand D) Delhi
- 44) The smallest state in Population (C)
A) Assam B) Goa C) Sikkim D) Meghalaya

- 45) The largest port in India (A)
A) Mumbai B) Krishnapatnam C) Kolkata D) Vishakhapatnam
- 46) The largest River in India (B)
A) Krishna B) Ganga C) Godavari D) Yamuna
- 47) The longest Railway Platform in India is situated at (C)
A) New Delhi B) Kolkata C) Kharagpur D) Mumbai
- 48) The Highest Air port in India (D)
A) Jammu B) Siachin C) Gwalior D) Leh(Laddakh)
- 49) The longest Dam in India (D)
A) Bakranangal Dam B) Nagarjuna Sagar Dam C) Tehri Dam D) Hirakud Dam
- 50) Total No. of states in India (A)
A) 29 B) 30 C) 28 D) 27
- 51) The capital city of Punjab (B)
A) Amritsar B) Chandigarh C) Ludhiana D) Patiala
- 52) The capital city of Uttarakhand (A)
A) Dehradun B) Manali C) Rampur D) Kulu
- 53) The capital city of Sikkim (C)
A) Kohima B) Dimapur C) Gangtok D) Ludhiana
- 54) The capital city of Jharkhand (D)
A) Jamshedpur B) Tatanagar C) Indore D) Ranchi
- 55) The capital city of Arunachal Pradesh (B)
A) Dispur B) Itanagar C) Panaji D) Imphal
- 56) Total No. of Union Territories in India (C)
A) 09 B) 10 C) 07 D) 06
- 57) The largest city in Madhya Pradesh (A)
A) Indore B) Bhopal C) Jhansi D) Vadodara
- 58) The Official language of the State of Nagaland (B)
A) Hindi B) English C) Manipuri D) Khasi
- 59) The capital city of Goa (A)
A) Panaji B) Vasco C) Guwahati D) Faridabad
- 60) The largest city in Uttar Pradesh (C)
A) Lucknow B) Banaras C) Kanpur D) Amedhi

- 61) The Chief Minister of Tamilnadu state (B)
A) Karuna nidhi B) Jayalalitha C) capt .vijayakant D) Sasikala
- 62) The Chief Minister of Bihar (D)
A) Lalu Prasad Yadav B) Sarad Pawar C) Akhilesh Yadav D) Nitish Kumar
- 63) The Chief Minister of Gujarat (A)
A) Anandi Ben Patel B) Narendra Modi C) Amit shah D) Naveen Patnaik
- 64) The Chief Minister of Maharashtra (C)
A) Shivraj Singh Chouhan B) Mukul sangma C) Devendra Fadnavis D) K.T.Rama Rao
- 65) The Chief Minister of Jammu & Kashmir (B)
A) Harish Rawat B) Mahabooba Mufti C) Mamata Banerjee D) Jayalalitha
- 66) The Chief Minister of Rajasthan (D)
A) Prakash singh Badal B) Akhilesh Yadav C) Oomen Chandy D) Vasundhara Raje
- 67) The Governor of Manarashtra (B)
A) K.Rosaiah B) Ch.Vidya Sagar C) Kalyan Singh D) S.C.Jamir
- 68) The C.M. of West Bengal state (A)
A) Mamata Banerjee B) Kiran bedi C) Roopa Ganguly D) Kokana sen
- 69) The governor of west Bengal (C)
A) Krishn Kant Paul B) Mridula Sinha C) Keshari Nath Tripathi D) Nirbhay Sharma
- 70) The governor of Meghalaya (D)
A) P.Sadasivam B) S.C.Jamir C) Acharya Devvrat D) V.Shanmuganthan
- 71) The Chief Minister of Delhi (D)
A) N.Rangaswamy B) Manik Sarkar C) Harish Rawat D) Arvind Kejriwal
- 72) The governor of Puducherry (B)
A) Vijay Kumar B) A.K.Singh C) Ashish Kundra D) Kaptain Singh solanki
- 73) The governor of Delhi (C)
A) Ram Naik B) Kalyan Singh C)Najeeb Jung D) Vijay Kumar
- 74) The governor of Tamil Nadu (C)
A) Jayalalitha B) Karunanidhi C) K.Rosaiah D) Stalin
- 75) The governor of Kerala (B)
A) Oomen Chandi B) P.Sathasivam C) Mukul Sangma D) Naveen Patnaik

- 76) Who is Home Minister of Government of India (A)
A) Rajnath Singh B) Suresh Prabhu C) Venkaiah Naidu D) Sushma Swaraj
- 77) Who is Minister for Railways (D)
A) Sushma Swaraj B) Amit Shah C) Arun Jaitley D) Suresh Prabhu
- 78) Who is the Finance Minister of India (B)
A) Nitin Gadkari B) Arun Jaitley C) Smriti Irani D) Sadananda Gowda
- 79) The President of India in 1977 (D)
A) Pratibha Patil B) Sankar Dayal Sarma C) Hamid Ansari D) Neelam Sanjiva Reddy
- 80) The Nightingale of India, (C)
A) Kamala Gandhi B) Dr.Najma Heptullah C) Sarojini Naidu D) Vijayalaxmi Pandit
- 81) The Founder of Ramakrishna Mission ? (D)
A) Radhakant Dev B) Ram Mohan Roy C) Ramakrishna Paramhans D) Swami Vivekananda
- 82) The Longest River in the World is (A)
A) Nile B) Ganga C) Amazon D) Mississippi Misouri
- 83) In Which Place Rock Graden located (C)
A) Lucknow B) Mumbai C) Chandigarh D) Ahmedabad
- 84)The Number of Chromosomes in the nuclei of Human being is (B)
A) 23 B)46 C)44 D) 48
- 85)The Largest Muscle in Human body lies in (B)
A) Hands B)Hip C) Neck D) Leg
- 86) Lord Buddha got Nirvana at (A)
A)Bodh Gaya B) Lubini C) Sarnath D) Kushinagar
- 87)who was the only muslim lady to occupy the throne of Delhi ? (B)
A) Nurjahan B) Raziya Sultan C) Muntaj Mahal D) Hamidabanu Begum
- 88) In which state Panchayat Rai was first implemented ? (C)
A) Gujarat B) Bihar C) Rajasthan D)Uttar Pradesh
- 89) Who is the Father of Indian Constitution ? (D)
A) B.N.Roy B) N.G.Ayengar C) DR.Rajendra Prasad D) DR. B.R.Ambedkar
- 90) Siachen is a (A)
A) Glacier B) Mountain C) River D) Valley

- 91) The Biggest Employer in INDIA is (B)
A) Army B) Indian Railways C) LIC D) State Bank of India
- 92) How many Zones are there in Indian Railways (C)
A) 20 B) 18 C) 16 D) 15
- 93) The National Rail Museum is located at (D)
A) Hyderabad B) Kolkata C) Mumbai D) New Delhi
- 94) First underground Railway (B)
A) Mumbai Metro B) Kolkata Metro C) Delhi Metro D) Bangalore Metro
- 95) The busiest Railway Station in India (C)
A) Hyderabad B) Mumbai C) Howrah D) New Delhi
- 96) The train between India and Pakistan (A)
A) Samjhauta Express B) Himasagar Express C) Vivek Express D) Rapthisagar Express
- 97) The Headquarters of Indian Railways (C)
A) Bhubaneswar B) Hyderabad C) New Delhi D) Chennai
- 98) No. of divisions in South Central Railway (D)
A) 05 B) 04 C) 09 D) 06
- 99) The Highest Railway Station in India (A)
A) Ghum Railway Station B) Ooty C) Shimla D) Ahju
- 100) The world's longest Railway Platform is at (B)
A) Kollam B) Gorakhpur C) Kharagpur D) Bilaspur
- 101) The study of universe is known as ? (A)
A) Cosmology B) Galaxy C) Milky way D) Orbit
- 102) which is biggest planet ? (C)
A) Moon B) Earth C) Jupiter D) Mercury
- 103) which planet known as Red Planet ? (B)
A) Pluto B) Mars C) Venus D) Mercury
- 104) Study of Earth quakes called as ? (D)
A) Primary wave B) Surface wave C) Secondary wave D) Seismology
- 105) Vizag affected by Which cyclone ? (B)
A) Maysak B) Hudhud C) Noul D) Haiyan

- 106) Light Year is the unit of measurement of ? (B)
A) speed of light B) Distance between stars C) Time D) None of the above
- 107) The most appropriate unit to measure thickness of coin is ? (A)
A) Millimeter B) Centimeter C) Meter D) Decimeter
- 108) Which two metals will be attracted by a magnet? (A)
A) Iron and Steel B) Gold and Silver C) Aluminum and lead D) Wood and Iron
- 109) The Father of the Indian nuclear programme ? (B)
A) C.V.Raman B) Homi Jehangir Bhabha C) Radha Krishna D) None of the above
- 110) The Indian space research organization in AP ? (C)
A) Vijayawada B) Kurnool C) Sriharikota D) Tirupati
111. What are called primary colors? (C)
A) White ,blue, pink B) Purple , black , white C) Red, Green and Blue D) None of the above
- 112) 2016-17 Railway budget , the percentage of lower berth quota for senior citizens is (D)
A) 10% B) 20% C) 30% D) 50 %
- 113) One rupee note signed by (B)
A) RBI Governor B) Finance Secretary C) chief minister D) Speaker
- 114) The No of Languages on Rs 100 note are? (C)
A) 1 B) 5 C) 15 D) 10
- 115) Which country's Prime minister Residence is called as 7 race course ? (C)
A) British B) Bharat C) Nepal D) Japan
- 116) First game played at Space ? (C)
A) Hockey B) cricket C) Chess D) Tennis
- 117) Revolutions list
1. Black revolution - Petroleum production
2. Blue Revolution ; - Fish production
3. Golden Revolution ; - Fruits and Overall Horticulture development and Honey production
4. Green Revolution ; - Food Grains
5. Silver Revolution ; - Eggs and poultry Revolution
- 118) The number of Members nominated for Rajya sabha by president of India ? (D)
A) 10 B) 8 C) 6 D) 12
- 119) Two members nominated by president for Lok sabha belongs to which community ? (C)
A) Jain B) Hindu C) Anglo- Indian D) Sikh

- 120) Which district of Telangana famous for Nirmal paintings ? (A)
A) Adilabad B) Rangareddy C) Medak d) karimnagar
- 121) Hyderabad is famous for ? (B)
A) Cloths B) pearls C) JUTE products D) Watches
- 122) MMTS Suburban rail system operated at ? (C)
A) Kolkata B) Bangalore C) Hyderabad D) PUNE
- 123) New capital city of Andhar pradesh ? (B)
A)Kurnool B) Amaravati C) GUNTUR D) Nellore
- 124) which place receive first monsoon rains in India ? (A)
A) Kerala B) Mumbai C) Chennai D) Punjab
- 125) The Author of Wings of Fire ? (C)
A) Chatan bhagat B) Sudha murthy C) A.P.J.A.Kalam D) None of the above
- 126) Which city was the summer capital of India during British Rule ? (B)
A) Ooty B) Simla C) panmarchi D) Matheran
- 127) Which state is known as India's Spice Garden ? (D)
A) Karnataka B) Bihar C) Uttarakhand D) Kerala
- 128) Name the annual fair of Rajasthan that is famous for its Camel trading event ? (A)
A) puskkar Mela B) Kumbha Mela C) Sonapur Mela D) Suraj Kund Mela
- 129) Saina nehwal is a famous ---- player ? (C)
A) Tennis B) Golf C) Badminton D) Cricket
- 130) Numismatics is the study of ? (A)
A) Coins B) Numbers C) Stamps D) Space
- 131) Who is Known as the Iron man of India ? (C)
A) Jawaharlal Nehru B) Bal Gangadhar Tilak C) Sardar Vallabhai patel D)Mahatma Gandhi
- 132) who worked for the welfare of Deaf , dumb and blind persons ? (A)
A) Helen Keller B) Lady Ada Byron C) Amelia Earhart D) Dayana
- 133) world famous writer of Crime and thriller novels ? (B)
A) Charles Dickens B) Agatha Christie C) Ian Fleming D) Montessori
- 134) who is known as mother of Primary Education ? (D)
A) Queen mary B) Queen Elizebeth C) Queen Victoria D) Lady Montessori
- 135) Who discovered sea route to India ? (B)
A) Leif Ericsson B) Vascodo Gama C) Chirstopher Columbus D) Eric the Red

- 136) First Italian Traveller to reach China ? (A)
A) Marco Polo B) Bartholomeu Dias C) Ibn Battuta D) Amundsen
- 137) ----- is Roof of the world ? (C)
A) Korea B) Japan C) Tibet D) China
- 138) The first person to climb Mount Everest ? (A)
A) Edmund Hillary B) Neil Armstrong C) Piccard D) Mathew fontaine maury
- 139)The First Woman police officer climbed Mount Everest recently ? (B)
A) Kiran bedi B) G.R.Radhika C) Swathi Lakra D) Aruna Bhuguna
- 140) The most abundant Gas in the universe is ? (C)
A) Oxygen B) Nitrogen C) Hydrogen D) Helium
- 141) Which is Known as World Sugar Bowl ? (C)
A)China B) Chile C) Cuba D) Burma
- 142 Which is Known as City of Canals ? (A)
A) Venice B) Austrila C) New York D) Paris
- 143) The Largest Island is ? (A)
A) Green Land B) Ice Land C) Andaman and Nicobar D) Laksha dweep
- 144) The author of “My Experiments with truth” (A)
A) Mohan Das Karamchand Gandhi B) Ravindra Nath Tagore C) Nehru D) Advani
- 145) The slogan “Jai Jawan Jai Kisan” was given by (C)
A) Balgangadhar Sastry B) Bipin Chandra Pal C) Lalbahadur Sastry D) None of the above
- 146) The famous silk centre in Tamilnadu (B)
A) Ooty B) Conjeevaram C) Mahabalipuram D) Chidambaram
- 147) The grand old man of India (B)
A) Sardar Patel B) Dadabai Nauroji C)Subhash Chandra Bose D) Balagangadhar Tilak
- 148) Diesel Engine invented by (A)
A) Rudolph Diesel B) Alexander Fleming C) Right Brothers D) James Guttenburg
- 149) Dynamo invented by (D)
A) Davvison B) London C) Dalton D) Michael Faraday
- 150) Buland Darwaja located at (C)
A) Delhi B) Jhansi C) Fathepur Sikri D) Agra
151. Rajiv Gandhi International Airport situated at (C)
A) Mumbai B) Delhi C) Hyderabad D) Chennai

152. Lalbahadur Sastry Airport is at (A)
A) Varanasi B) Nagpur C) Jaipur D) Ahmedabad
153. Indira Gandhi International Airport is at (D)
A) Lucknow B) Bangalore C) Srinagar D) Delhi
154. Chhatrapati Shivaji International Airport is at (B)
A) Amritsar B) Mumbai C) Kolkata D) Cochin
155. Vir Savarkar Airport is at (A)
A) Port Blair B) Nagpur C) Jaipur D) Amritsar
156. Kempegowda International Airport is at (C)
A) Goa B) Cochin C) Bangalore D) Calicut
157. Netaji Subhash Chandra Bose International Airport is at (A)
A) Kolkata B) Ahmedabad C) Varanasi D) Lucknow
158. Sardar Vallabhai Patel International Airport is at (D)
A) Kolkata B) Guwahati C) Srinagar D) Ahmedabad
159. Sri Gaurambdasji International Airport is at (C)
A) Srinagar B) Tiruchunapalli C) Amritsar D) Coimbatore
- 160) Ambedkar Airport is at (A)
A) Nagpur B) Mumbai C) Lucknow D) Ahmedabad