

ELECTRONICS
(FINAL)

1. The flow of electric current in a conductor is due to the flow of
 - (A) electrons
 - (B) protons
 - (C) electrons and ions
 - (D) charged particles
2. Microprocessor 8086 all floating-point arithmetic calculations are in
 - (A) maximum mode
 - (B) both maximum and minimum modes
 - (C) minimum mode
 - (D) neither in maximum nor in minimum mode
3. Which of the following chip is used in the 8085 microprocessor 3-chip configuration?
 - (A) IC 8255
 - (B) IC 8155
 - (C) IC 8251
 - (D) IC 8257
4. The leakage current in silicon p-n junction at room temperature is of the order of
 - (A) mA
 - (B) μA
 - (C) $\mu\mu\text{A}$
 - (D) Amp
5. The most suitable instrument for the accurate measurement of voltage is
 - (A) DVM
 - (B) Analog voltmeter
 - (C) CRO
 - (D) DMM
6. When the current through SCR is greater than holding current, then the voltage across the SCR is
 - (A) 1.4 V
 - (B) 0 V
 - (C) supply voltage
 - (D) half the load voltage

7. Number of flip-flops needed to construct a shift register capable of storing decimal numbers up to 2 are
- (A) 6
 - (B) 4
 - (C) 5
 - (D) 2
8. In the spectrum of frequency-modulated wave
- (A) the carrier frequency disappears when the modulation index is large
 - (B) the amplitude of any sideband depends on the modulation index
 - (C) the total number of sidebands depends on the modulation index
 - (D) the carrier frequency cannot disappear
9. Which one of the following is not an advantage of FM over AM?
- (A) Better noise immunity is provided
 - (B) Lower bandwidth is required
 - (C) The transmitted power is more useful
 - (D) Less modulating power is required
10. Indicate the noise source which belongs to a category different from that of the other three
- (A) Solar noise
 - (B) Cosmic noise
 - (C) Atmospheric noise
 - (D) Galactic noise
11. The phase shift introduced by feed network or amplifier in Wein bridge oscillator is
- (A) 0°
 - (B) 90°
 - (C) 80°
 - (D) 270°
12. For proper operation of integrators, its RC time constant and period T of the wave should be such that
- (A) $T \gg RC$
 - (B) $T \ll RC$
 - (C) $T = RC$
 - (D) $T = 2 \ln RC$

13. Dispersion shifted wavelength in optical fiber is
- (A) 800 nm
 - (B) 1300 nm
 - (C) 1550 nm
 - (D) 400 nm
14. The problem, with PI controller in its response to transient, is
- (A) very fast
 - (B) having a dead zone
 - (C) non-linear
 - (D) sluggish
15. Which is the most linear temperature transducer?
- (A) Thermocouple
 - (B) RTD
 - (C) IC-sensor
 - (D) Thermistor
16. Which of the following oscillations makes use of both positive and negative feedback?
- (A) Hartley
 - (B) Collpitt
 - (C) Phase shift
 - (D) Wein Bridge
17. UJT relaxation oscillator is a special case of
- (A) Astable multivibrator
 - (B) Monostable multivibrator
 - (C) Bistable multivibrator
 - (D) Astable multivibrator with the duration of the semi-stable state zero
18. In a normal ECG waveform, which wave has the maximum amplitude?
- (A) P-wave
 - (B) R-wave
 - (C) Q-wave
 - (D) T-wave

19. The phase method for the generation of an SSB signal is most suitable for
- (A) Data signals
 - (B) Weak modulating signals
 - (C) Larger bandwidth modulating signals
 - (D) Smaller bandwidth modulating signals
20. The transit time of the current carriers through the channel of an FET decides its characteristics
- (A) on/off
 - (B) load
 - (C) dynamic
 - (D) switching
21. The sinusoidal transfer functions are commonly represented by
- (A) Routh's criteria
 - (B) Nyquist criteria
 - (C) Bode Plot
 - (D) Root Locus
22. Which of the following digital modulation systems support a high bit rate?
- (A) ASK
 - (B) PSK
 - (C) FSK
 - (D) ASK and FSK
23. The basic purpose of biasing a transistor with a network is to
- (A) reduce the power dissipation
 - (B) improve the gain
 - (C) improve the stability
 - (D) improve the frequency response
24. The active filter works well at
- (A) all frequencies
 - (B) high frequencies
 - (C) zero frequency
 - (D) audio frequencies

25. In 8086, how many flags were available?
- (A) 5
 - (B) 7
 - (C) 9
 - (D) 11
26. The highest data rate in fiber optic communication occurs in
- (A) Single-mode fiber
 - (B) Graded-index fiber
 - (C) Multimode fiber
 - (D) Co-axial cable
27. In which of the following base system, 132 is not a valid number?
- (A) Base 16
 - (B) Base 10
 - (C) Base 8
 - (D) Base 2
28. For a JFET, above the pinch-off voltage, as the drain voltage increases, the
- (A) drain current remains constant
 - (B) drain current decreases
 - (C) drain current increases linearly
 - (D) drain current varies parabolically
29. Semiconductor materials are made up of
- (A) Metallic bond
 - (B) Ionic bond
 - (C) Vander Waal's bond
 - (D) Covalent bond
30. A UJT has
- (A) negative resistance characteristics
 - (B) low firing current
 - (C) bipolar device
 - (D) relax indefinitely

31. The current in a Zener diode is controlled by
- (A) Zener Diode Resistance
 - (B) Potential Barrier
 - (C) Impact Ionization
 - (D) External Circuits Resistance
32. The ripple factor of a half-wave rectifier is found to be
- (A) 1.57
 - (B) 1.21
 - (C) 1.12
 - (D) 1.41
33. Hartley oscillator is commonly used in
- (A) Radio receivers
 - (B) Radio transmitters
 - (C) TV receivers
 - (D) Microwave transmitters
34. The multiplexer is also known as
- (A) Counter
 - (B) Decoder
 - (C) Shift register
 - (D) Data selector
35. A triangular pulse is given at the input of an integrator circuit, the output will be of the form
- (A) Square wave
 - (B) Triangular wave
 - (C) Parabolic
 - (D) Impulse
36. In an RC phase shift oscillator, the frequency of oscillation is given by
- (A) $0.65 / RC$
 - (B) $0.065 / RC$
 - (C) $6.5 / RC$
 - (D) $1 / 2\pi RC$

37. IC LM 380 is a
- (A) Voltage regulator
 - (B) Rectifier
 - (C) Power audio amplifier
 - (D) Schmitt trigger
38. One of the reasons why vacuum tubes eventually fail at microwave frequencies is that their
- (A) transit time becomes too short
 - (B) shunt capacitive reactance becomes too large
 - (C) series inductive reactance becomes too small
 - (D) noise figure increases
39. The Multicavity Klystron
- (A) is not a low-level amplifier because of noise
 - (B) has a high repeller voltage to ensure a rapid transit time
 - (C) is not suitable for pulsed operation
 - (D) needs a long transit time through the buncher cavity to ensure current modulation
40. The primary of the helix in a traveling wave tube is to
- (A) prevent the electron beam from spreading in the long tube
 - (B) reduce the axial velocity of the RF field
 - (C) ensure the broadband operation
 - (D) reduce the noise figure
41. One of the following is unlikely to be used as a pulsed device. It is the
- (A) TWT
 - (B) CFA
 - (C) BWO
 - (D) Multicavity Klystron
42. Indicate the false statement. Klystron amplifiers may use intermediate cavities to
- (A) prevent the oscillations that occur in two-cavity Klystrons
 - (B) increase the bandwidth of the device
 - (C) improve the power gain
 - (D) increase the efficiency of the Klystron

43. The number system for the machine code of the microprocessor 8085 is
- (A) BCD
 - (B) Octal
 - (C) Binary
 - (D) Hexadecimal
44. Which of the options in a multipurpose instruction used to implement the interrupt of 8085 and serial data input?
- (A) SOD
 - (B) SIM
 - (C) EI
 - (D) RST 7.5
45. The threshold voltage of an n-channel MOSFET can be increased by
- (A) increasing the channel doping concentration
 - (B) reducing the channel doping concentration
 - (C) reducing the gate oxide thickness
 - (D) reducing the channel length
46. Which semiconductor device acts like a diode and two resistors?
- (A) Triac
 - (B) SCR
 - (C) Diac
 - (D) UJT
47. After firing an SCR, if the gate pulse is removed, the SCR current
- (A) remains the same
 - (B) reduces to zero
 - (C) enter into conduction mode
 - (D) rises a little and then falls to zero
48. The core of an optical fiber has
- (A) a lower index of refraction than the cladding
 - (B) a lower index of refraction than air
 - (C) a higher index of refraction than the cladding
 - (D) refractive index equal to the air

49. The core diameter of single-mode fiber is in the order of
- (A) 100 μm
 - (B) 10 μm
 - (C) 1 $\text{\AA}$
 - (D) 1 nm
50. Frequency in UHF range propagated by means of
- (A) Ground wave
 - (B) Space wave
 - (C) Skywave
 - (D) Surface wave
51. According to Hartley's law
- (A) the maximum rate of information depends on the channel bandwidth
 - (B) the maximum rate of information depends on the depth of modulation
 - (C) redundancy is essential
 - (D) only binary codes can be used
52. The error detector element in a control system gives
- (A) the sum of the reference signal and the feedback signal
 - (B) the sum of the reference signal and the error signal
 - (C) the difference of the reference signal and the feedback signal
 - (D) the difference of the reference signal and the output signal
53. To separate channels in an FDM receiver, it is necessary to use
- (A) integration
 - (B) band pass filter
 - (C) differentiation
 - (D) AND gates
54. Time-Division Multiplex
- (A) can be used with PAM only
 - (B) combines five groups into a supergroup
 - (C) stacks 24 channels in adjacent frequency slots
 - (D) interleaves pulses in time domain belonging to different transmissions

55. In Half-Duplex (HDX), data transmission is possible in
- (A) one direction
 - (B) both direction without any conditions
 - (C) both directions, but not at the same time
 - (D) both directions simultaneously
56. Which of the following system is digital?
- (A) Pulse – Position Modulation
 - (B) Pulse – Code Modulation
 - (C) Pulse – Width Modulation
 - (D) Pulse – Amplitude Modulation
57. The value of Numerical Aperture in optical fiber is
- (A) greater than 1
 - (B) less than 1
 - (C) equal to 1
 - (D) equal to ∞
58. Avalanche photodiodes are preferred over PIN diodes in optical communication systems because of
- (A) speed of operation
 - (B) higher sensitivity
 - (C) larger bandwidth
 - (D) larger power handling capacity
59. SCR turns off from conducting state to blocking state on
- (A) reducing gate current
 - (B) reversing gate current
 - (C) reducing anode current below holding current value
 - (D) applying ac to the gate
60. The balanced modulator essentially is
- (A) an oscillator
 - (B) a mixer
 - (C) a product modulator
 - (D) an amplifier

61. Which type of analog-to-digital converter is often used in digital voltmeters?

- (A) Single slope A/D converter
- (B) Dual slope A/D converter
- (C) Successive approximation method
- (D) Flash converter

62. Which of the following logic family is fastest of all?

- (A) TTL
- (B) RTL
- (C) DCTL
- (D) ECL

63. Photoconductive devices are made of

- (A) radioactive materials
- (B) highly conductive materials
- (C) semiconductor materials
- (D) highly insulating materials

64. In a hybrid TEE (Magic T), following statements are given

1. S_{11} , S_{22} , S_{33} and S_{44} are nonzero
2. All junctions are reciprocal i.e. $S_{jk} = S_{kj}$
3. S_{11} , S_{22} , S_{33} and S_{44} are zero
4. $S_{13} = -S_{23}$, $S_{14} = S_{24}$, $S_{43} = 0$ and $S_{34} = 0$

Which one of the following is true?

- (A) 1, 2 and 4 are correct
- (B) 1 and 2 are correct
- (C) 2, 3 and 4 are correct
- (D) 1, 2 and 3 are correct

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

- (A) circular polarization
- (B) elliptical polarization
- (C) broad bandwidth
- (D) good front-to-back ratio

66. The disccone antenna is
- (A) useful as a direction-finding antenna
 - (B) used as a radar receiving antenna
 - (C) circularly polarized like other circular antennas
 - (D) useful as a UHF receiving antenna
67. Which of the following antennas is best excited from a waveguide?
- (A) Biconical antenna
 - (B) Folded dipole antenna
 - (C) Horn antenna
 - (D) Disccone antenna
68. Which is a non-resonant antenna?
- (A) Marconi antenna
 - (B) Rhombic antenna
 - (C) Yagi-Uda antenna
 - (D) Disccone antenna
69. An antenna is polarized in the plane of the field parallel to
- (A) Electric field
 - (B) Magnetic field
 - (C) Both Electric and Magnetic field
 - (D) Neither Electric nor Magnetic field
70. A linear two-terminal circuit can be replaced by an equivalent circuit consisting of a voltage source V_t in series with a resistor R_t where R_t is the ratio of
1. Open circuit voltage to the short circuit current at the terminal pair
 2. Short circuit current to the short circuit voltage at the terminal
 3. Open circuit voltage to the open circuit current at the terminal pair
 4. The independent sources are turned off

Which of the following are correct?

- (A) 1 and 4
- (B) 2 and 4
- (C) 3 and 4
- (D) 2 and 3

71. Semiconductors have
- (A) Positive temperature coefficient of resistance
 - (B) Zero temperature coefficient of resistance
 - (C) Negative temperature coefficient of resistance
 - (D) Resistance does not change with temperature
72. In a transmitter amplifier the reverse saturation current I_{co}
- (A) double for every 1°C rise in temperature
 - (B) double for every 10°C rise in temperature
 - (C) double for every 2°C rise in temperature
 - (D) increase linearly with temperature
73. An SCR is a
- (A) 3 layer 3 terminal device and two directional switch
 - (B) 3 layer 4 terminal device and three directional switch
 - (C) 4 layer 3 terminal device and unidirectional switch
 - (D) 4 layer 4 terminal device and three directional switch
74. Gain of a voltage follower is
- (A) Infinite
 - (B) High
 - (C) Small
 - (D) Unity
75. The inverter is used to
- (A) Convert DC to AC
 - (B) Convert AC to DC
 - (C) Convert DC to DC
 - (D) Convert AC to AC
76. In which regions are both the collector base and base-emitter junctions forward biased
- (A) Active
 - (B) Saturation
 - (C) Cut off
 - (D) All of the above

77. Which one of the following configurations has the lowest input impedance?

- (A) Fixed bias
- (B) Common base
- (C) Emitter follower
- (D) Voltage divider

78. The potential barrier acts as a barrier against the flow of

- (A) Electron only
- (B) Hole only
- (C) Electrons and holes
- (D) None of the above

79. When a positive gate voltage is applied to MOSFET it is said to operate in

- (A) Enhancement mode
- (B) Depletion mode
- (C) Conduction mode
- (D) None of the above

80. When a sine wave is fed into a Schmitt trigger, the output is

- (A) A rectangular wave
- (B) A square wave
- (C) A triangular wave
- (D) None of the above

81. Following are the EM waves

1. Red color light
2. Blue color light
3. Microwaves
4. X-rays

The correct sequence of decreasing order of a wavelength is

- (A) 2, 4, 3, 1
- (B) 1, 3, 2, 4
- (C) 3, 1, 4, 2
- (D) 3, 1, 2, 4

82. In a p-n junction diode

1. In reverse bias mode the bulk resistance is dominant
2. The junction impedance is variable

- (A) 1 and 2 are correct
(B) 1 and 2 are wrong
(C) 1 is wrong while 2 is correct
(D) 1 is correct while 2 is wrong

83. Read the following statements:

Statement 1 : y-parameters can be obtained from Z parameters

Statement 2 : It is not necessary to define y-parameters separately

- (A) Statement 1 is correct, Statement 2 is wrong
(B) Statement 1 is wrong, Statement 2 is correct
(C) Statement 1 and Statement 2 are wrong
(D) Statement 1 and Statement 2 are correct

84. Negative feedback in amplifier results in

1. Reduced voltage gain
2. Reduced bandwidth
3. Increased S/N ratio
4. Reduced distortion of these

Which of the above statements are correct?

- (A) 1 and 2 are correct
(B) 1, 3 and 4 are correct
(C) 2, 3 and 4 are correct
(D) 1 and 4 are correct

85. In Thevenin equivalent circuit, which of the following is **incorrect**?

- (A) Independent voltage sources are open-circuited
(B) Independent voltage sources are short-circuited
(C) Dependent voltage sources are removed
(D) Current sources are opened

86. Which of the following statements is **wrong**?
- (A) The principle of superposition is useful for linearity test of a system
 - (B) The principle of superposition is useful for substituting sources by their shunt impedances
 - (C) Superposition applies to the V-I relationship also
 - (D) In the superposition theorem, the response of each source is considered separately
87. The principle of superposition is the property of
- (A) additivity only
 - (B) homogeneity only
 - (C) combined property of additivity and homogeneity of linear n/w s
 - (D) additivity and associativity
88. Which equivalent circuits are dual?
- (A) Norton-Telling
 - (B) Thevenin-Superposition
 - (C) Norton-Thevenin
 - (D) Thevenin-Millman
89. LED emits light of particular color because
- (A) It is fabricated from a fluorescent material
 - (B) Transition between energy levels of the carriers takes place while crossing the PN junction
 - (C) Heat generated in the diode is converted into light
 - (D) The bandgap of the semiconductor material used in the fabrication of the diode is equal to the energy $h\nu$ of the light photon
90. Which of the following inductor will have the least eddy current losses?
- (A) Air cored
 - (B) Iron cored
 - (C) Wooden cored
 - (D) Laminated iron cored
91. Which one of the following is used as an active device in the electronic circuits?
- (A) Transformer
 - (B) Electric Heater
 - (C) SCR
 - (D) Loudspeaker

92. The reverse current of the silicon diode is
- (A) highly bias voltage sensitive
 - (B) high temperature sensitive
 - (C) both bias voltage and temperature-sensitive
 - (D) independent of bias voltage and temperature
93. PN junction diodes dynamic conductance is directly proportional to
- (A) the applied voltage
 - (B) the temperature
 - (C) its current
 - (D) the thermal voltage
94. In a tunnel diode, the width of the depletion layer is of the order of
- (A) 0.1 micron
 - (B) 1.0 micron
 - (C) 0.1 Armstrong
 - (D) 100 Armstrong
95. I_{CBO} in a transistor can be reduced by reducing
- (A) I_B
 - (B) V_{CC}
 - (C) I_E
 - (D) temperature
96. The output impedance of the BJT under CC configuration is
- (A) low
 - (B) high
 - (C) medium
 - (D) very high
97. In a JFET I_D is maximum, when V_{GS} is
- (A) zero
 - (B) negative
 - (C) positive
 - (D) equal to V_P

98. MOSFET can be used as a
- (A) current controlled capacitor
 - (B) voltage controlled capacitor
 - (C) current controlled inductor
 - (D) voltage controlled inductor
99. The BJT amplifier which offers the highest input impedance and least voltage gain is
- (A) CE
 - (B) CB
 - (C) CC
 - (D) Cascode amplifier
100. The 3db cut-off frequency of a DC amplifier is 5MHz. What is the rise time?
- (A) 350 ns
 - (B) 200 ns
 - (C) 70 ns
 - (D) 35 ns
101. Which of the following flip-flop is used as a latch?
- (A) JK flip-flop
 - (B) RS flip-flop
 - (C) T flip-flop
 - (D) D flip-flop
102. One of the following states is not allowed for an RS flip-flop
- (A) $S = 0, R = 0$
 - (B) $S = 1, R = 0$
 - (C) $S = 1, R = 1$
 - (D) $S = 0, R = 1$
103. The race around condition occurs when
- (A) $J = 0, K = 0$
 - (B) $J = 0, K = 1$
 - (C) $J = 1, K = 0$
 - (D) $J = 1, K = 1$

104. The both 1 state is forbidden for
- (A) JK flip-flop
 - (B) RS flip-flop
 - (C) T flip-flop
 - (D) D flip-flop
105. What is the other name of a Johnson counter?
- (A) Ring counter
 - (B) Ripple counter
 - (C) Up-down counter
 - (D) Twisted ring counter
106. Which one of the following is not sequential circuits?
- (A) Flip Flop
 - (B) Counters
 - (C) Shift Register
 - (D) Multiplexer
107. An instrument needs an amplifier to amplify pulses of one-microsecond duration. This amplifier must have a bandwidth of at least
- (A) 10 KHz
 - (B) 10 MHz
 - (C) 1 KHz
 - (D) 1 MHz
108. A voltage in the range of 0 – 10 mv with an output resistance of 1 M Ω can be measured by a meter of types
- (A) Thermal
 - (B) Moving iron
 - (C) PMMC
 - (D) Electronic
109. The power can be controlled in a circuit by
- (A) controlling the voltage applied to the load
 - (B) using pulse modulation of power
 - (C) controlling the current level in the circuit
 - (D) All of the above

110. The ratio of change in the output signal to a change in the input quantity is defined as
- (A) Sensitivity
 - (B) Efficiency
 - (C) Resolution
 - (D) Responsiveness
111. Galvanometer type recorders use
- (A) Vibration galvanometer
 - (B) Ballistic galvanometer
 - (C) D' Arsonval galvanometer
 - (D) Tangent galvanometer
112. Bourdon tubes are made of
- (A) Copper
 - (B) Aluminum
 - (C) Metal alloys
 - (D) Phosphorus
113. Which one of the following is a passive transducer?
- (A) Piezoelectric
 - (B) Thermocouple
 - (C) Photovoltaic cell
 - (D) LVDT
114. The resolution of a potentiometric transducer depends on
- (A) Diameter of wire
 - (B) Length of wire
 - (C) Material of wire
 - (D) Excitation voltage
115. The sensitivity factor of the strain gauge is normally of the order of
- (A) 1 to 1.5
 - (B) 1.5 to 2.0
 - (C) 0.5 to 1
 - (D) 5 to 10

116. Semiconductors of strain gauges are
- (A) Silicon
 - (B) Gold
 - (C) Silver
 - (D) Nickel
117. Continuous recording of a signal is not possible in a
- (A) Magnetic tape recorder
 - (B) Strip chart recorder
 - (C) X-Y recorder
 - (D) Galvanometric recorder
118. Which of the following transducer is an active transducer?
- (A) Metallic strain gauge
 - (B) Semiconductor strain gauge
 - (C) Piezoelectric pressure transducer
 - (D) Platinum resistance transducer
119. In FET, as V_{GS} is changed from zero to increasing reverse bias, the value of g_m
- (A) increases
 - (B) remains constant
 - (C) suddenly falls to zero
 - (D) decreases
120. Which one of the following acts as an inverse transducer?
- (A) Electrical resistance potentiometer
 - (B) LVDT
 - (C) Piezoelectric Crystal
 - (D) Capacitive Transducer
121. Which one of the statements for the potentiometric transducer is correct?
- (A) It is a zero-order displacement transducer
 - (B) It is a first-order displacement transducer
 - (C) It is a second-order displacement transducer
 - (D) It is a zero-order temperature transducer

122. Thermal noise is passed through an ideal low-pass filter having a cut-off at $f_c = \omega$ Hz. The auto-correlation value of the noise at the output of the filter is given as
- (A) A delta function at $t = 0$
 - (B) Gaussian over the range $-\infty \leq t \leq \infty$
 - (C) Sinc function over the range $-\infty \leq t \leq \infty$
 - (D) Triangular function over the range $-\frac{1}{2}\omega \leq t \leq \frac{1}{2}\omega$
123. Which of the following statement is correct?
- (A) MF radiofrequency waves are called long waves and HF are called short waves
 - (B) VLF and LF radiofrequency waves are called long waves while HF waves are called short waves
 - (C) ELF radio waves are called long waves and HF are called short waves
 - (D) LF radio waves are called long waves and VHF are called short waves
124. A Limiter circuit is not needed in the following detector
- (A) Foster – Seeley discriminator
 - (B) Balanced slope
 - (C) Ratio detector
 - (D) None of the above
125. Which of the following statements are true in the case of Pulse Code Modulation (PCM)?
- (1) If the number of bits per sample is increased from n to $n + 1$; the S/N_q ratio would be 6 Db
 - (2) The quantization noise depends on the sampling rate
 - (3) The main advantage of PCM is that it possesses better performance in presence of noise
 - (4) If the number of quantization levels increases from 4 to 64, the bandwidth increase by a factor of 4
- (A) (1) and (2) are correct
 - (B) (1) and (3) are correct
 - (C) (1) and (4) are correct
 - (D) (2) and (3) are correct

126. A Travelling Wave Tube Amplifier (TWTA) has the following properties

- (1) It provides an octave Bandwidth
- (2) It provides an approximate gain of 40dB and more
- (3) It has a low noise figure
- (4) It has a very high noise figure

Out of the above statements, which of the following is correct?

- (A) (1), (2) and (4) only
- (B) (1) and (4) only
- (C) (1) and (2) only
- (D) (1), (2) and (3) only

127. A single pulse has

- (A) A single frequency component
- (B) Continuous spectrum frequency
- (C) A spectrum of even harmonics
- (D) A spectrum of odd harmonics

128. Inverse Fourier transform of sampling function is

- (A) A gate function
- (B) A Triangular function
- (C) An impulse function
- (D) Infinite

129. The Fourier transform of a double rectangular pulse is

- (A) Square pulse
- (B) An impulse
- (C) Triangular pulse
- (D) Ramp pulse

130. Convolution of a function with a unit impulse function is

- (A) Zero
- (B) Impulse function
- (C) Function itself
- (D) Infinite

131. Modulation is used to
- (A) reduce bandwidth
 - (B) separate different transmission
 - (C) reduce power
 - (D) reduce voltage
132. The modulator stage in a radio transmitter is normally
- (A) Class A
 - (B) Class B
 - (C) Class AB
 - (D) Class C
133. The actual input applied to the system in the case of the closed-loop system is
- (A) error signal
 - (B) controlling signal
 - (C) actuating signal
 - (D) None of the above
134. The transfer function is defined as
- (A) linear time-varying systems
 - (B) linear time-invariant system
 - (C) non-linear systems
 - (D) damped systems
135. With feedback, transient response
- (A) decays quickly
 - (B) decays slowly
 - (C) rises fast
 - (D) no decays
136. An LED made using GaAs emits radiation in
- (A) Visible region
 - (B) Ultraviolet region
 - (C) Infrared region
 - (D) Microwave frequency region

137. Maximum flux density in cold rolled grain oriented steel is
- (A) 0.5
 - (B) 1.1
 - (C) 1.5
 - (D) 2.1
138. An example of a first-order instruments system is
- (A) Potentiometer
 - (B) Transformer (ideal)
 - (C) Thermocouple dipped in a liquid
 - (D) Mass spring dashpot system
139. The degree of refinement with which the measured value is stated as
- (A) Precision
 - (B) Correction
 - (C) Repeatability
 - (D) Stability
140. The magnetic tape blanks are provided at the
- (A) Start of the tape
 - (B) Middle of the tape
 - (C) End of the tape
 - (D) Start and end of the tape
141. Rotameter is used for measuring
- (A) Flow
 - (B) Viscosity
 - (C) Specific gravity
 - (D) None of the above
142. Which one of the following is not a transducer in the true sense?
- (A) Thermocouple
 - (B) Piezoelectric pick-up
 - (C) Photovoltaic cell
 - (D) LCD

143. Which one of the following is **NOT** true of the direct-coupled amplifier?
- (A) low cost
 - (B) can be amplified high-frequency signals
 - (C) can be amplified low-frequency signals
 - (D) can amplify direct current and low-frequency signals
144. Which one of the following power amplifiers has the maximum efficiency?
- (A) Class A
 - (B) Class B
 - (C) Class AB
 - (D) Class C
145. RS latch is a
- (A) combinational circuit
 - (B) synchronous circuit
 - (C) one bit memory element
 - (D) one clock delay element
146. In the toggle mode, a JK flip-flop has
- (A) $J = 0, K = 0$
 - (B) $J = 0, K = 1$
 - (C) $J = 1, K = 0$
 - (D) $J = 1, K = 1$
147. In a microprocessor, the register which holds address of the next instruction to be fetched is
- (A) Accumulator
 - (B) Stack pointer
 - (C) Instruction Register
 - (D) Program counter
148. The commercial radio broadcast uses
- (A) Normal AM
 - (B) Double sideband suppressed carrier modulation
 - (C) Normal FM
 - (D) Single sideband modulation

149. An automatic washing machine is

- (A) sampled-data control system
- (B) closed-loop system
- (C) open-loop system
- (D) digital control system

150. Fourier transform of the unit impulse function is

- (A) 1
- (B) 2
- (C) Unit Impulse
- (D) Sine Function

FOR REFERENCE ONLY

ANSWER KEY

Subject Name:		ELECTRONICS							
SI No.	Key	SI No.	Key	SI No.	Key	SI No.	Key	SI No.	Key
1	A	31	D	61	B	91	C	121	A
2	A	32	B	62	D	92	B	122	C
3	B	33	A	63	C	93	C	123	B
4	C	34	D	64	C	94	D	124	C
5	C	35	C	65	D	95	D	125	B
6	A	36	B	66	D	96	A	126	D
7	A	37	C	67	C	97	A	127	B
8	D	38	D	68	B	98	B	128	A
9	A	39	A	69	A	99	C	129	C
10	C	40	B	70	A	100	C	130	C
11	A	41	C	71	C	101	D	131	B
12	B	42	A	72	B	102	C	132	D
13	C	43	D	73	C	103	D	133	C
14	D	44	B	74	D	104	B	134	B
15	C	45	B	75	A	105	D	135	A
16	D	46	D	76	B	106	D	136	C
17	D	47	C	77	B	107	D	137	C
18	B	48	C	78	C	108	D	138	C
19	D	49	B	79	A	109	D	139	A
20	D	50	B	80	B	110	A	140	D
21	C	51	A	81	D	111	C	141	A
22	B	52	C	82	C	112	C	142	D
23	C	53	D	83	A	113	D	143	B
24	D	54	D	84	B	114	A	144	D
25	C	55	C	85	A	115	B	145	C
26	A	56	B	86	B	116	A	146	D
27	D	57	B	87	C	117	A	147	D
28	A	58	B	88	C	118	C	148	D
29	D	59	C	89	B	119	D	149	C
30	A	60	C	90	A	120	C	150	A