MOCK BOARD EXAMINATION IN
ELECTRONICS ENGINEERING
(April 24, 2009)

1) A four-element solid-state device that combines the characteristics of both diodes and transistors.
   a) Tunnel diode
   b) Silicon controlled rectifier
   c) Varactor
   d) Zener diode
2) What type of radar target bearing is referenced to your ship or aircraft?
   a) True bearing
   b) Magnetic bearing
   c) Direct bearing
   d) Relative bearing
3) Which part of the computer performs mathematical operation?
   a) ALU
   b) CPU
   c) Flip-flop
   d) Assembly language
4) The first mass-produced computer built by Eckert and Maunchy Computer Company in Philadelphia USA in 1950.
   a) IBM – 701
   b) CRAY-1
   c) UNIVAC
   d) ENIAC
5) It is a sequence of operation in a digital computation.
   a) Flow chart
   b) Truth table
   c) Algorithm
   d) FORTRAN
6) What is the central processor of the computer which is sometimes referred to as the heart of a computer system/
   a) CPU
   b) SOFTWARE
   c) HARDWARE
   d) ALU
7) What is the process of designing more than 100 gates on a single chip?
   a) LSI
   b) SSI
   c) MSI
   d) VLSI
8) ___ refers to a function of a decade counter digital IC.
   a) Producing one output pulse for every 10 input pulses
   b) Adding two decimal numbers
   c) Producing 10 output pulses for every 1 input pulse
   d) Decoding a decimal number for display on seven-segment
9) A series of predefined actions or operations performed on a collection of facts.
   a) DATA PROCESSING
   b) HASHING
   c) FLOWCHARTING
   d) ALGORITHM
10) The physical machinery of a computer system.
   a) Hardware
   b) Tupperware
   c) Software
   d) Coldware
11) Which of the following is not used in hexadecimal digital symbols?
   a) A
   b) C
   c) H
   d) F
12) ___ refers to circuit with 10 to 100 integrated circuits.
   a) IC
   b) Monolithic
   c) MSI
   d) SSI
13) The decimal 36 020 is equivalent to hexadecimal ___.
   a) 8CB4
   b) 8SBC
   c) 8BC8
   d) 884C
14) What is the name of an electrode found in a pentode but not in a tetrode?
   a) Control grid
   b) Screen grid
   c) Signal grid
   d) Suppressor grid
15) How do you call an eight element vacuum tube?
   a) Pentode
   b) Hexode
   c) Octode
   d) Septode
16) What is a gain of a vacuum tube having the following parameters: amplification factor is 80, external plate-load resistance of 30 000 ohms and the tubes internal plate resistance is 10 000 ohms?
   a) 60
   b) 20
   c) 30
   d) 40
17) What is the signal that provides color information in a colored TV?
   a) composite
   b) NTSC color bust

c) Chrominance
d) PAL SECAM

18) An instrument used to measure one location in terms of coordinates.
a) Global Positioning System
b) Hydrometer
c) Altimeter
d) Increductometer

19) ___ are individual points in graphic display.
a) Row
b) Pixel
c) Resolution
d) Column

20) What is the reference cycle time in radar, when the signal is transmitted back to receiver?
a) 10.1 microsec
b) 100.0 microsec
c) 12.4 microsec
d) 24.8 microsec

21) What does SI magnetic flux refer?
a) Weber
b) Flux
c) Maxwell
d) Lines

22) ___ is the relative permeability of paramagnetic substances.
a) much lesser than 1
b) a little greater than 1
c) Equal to 1
d) Much greater than 1

23) The time lag of the magnetic flux in a magnetic material behind the magnetizing force producing it caused by the molecular friction of the molecules trying to allow themselves with the magnetic force applied to the material.
a) Hysteresis loop
b) Magnetic loss
c) Hysteresis
d) Hysteresis loss

24) What is the magnetic equivalent of electrical resistance?
a) Reluctance
b) Magnetomotive force
c) Flux
d) Magnetic field

25) An alloy that changes directly from solid to liquid with no plastic or semi-liquid state.
a) Amalgam
b) Nickel-bronze
c) Mercury
d) Eutectic alloy

26) The current of an electronic circuit is analogous to ___ parameter of a magnetic circuit.
a) flux density
b) reluctivity
c) mmf
d) flux

27) Term used in electronic measuring device when a material increases resistance due to heat produced by current flowing through them.
a) Positive resistance coefficient
b) Negative resistance coefficient
c) Positive temperature coefficient
d) Negative temperature coefficient

28) Find which type of network provides the greatest harmonic suppression.
a) Pi-network
b) Pi-L network
c) Inverse Pi-network
d) L-network

29) The maximum voltage that can be applied to a capacitor without the capacitor breaking down or shorting.
a) Capacitor voltage
b) Working voltage
c) Effective voltage
d) Maximum voltage

30) Which of the following allows more current if applied to the same voltage?
a) 0.002 Siemen
b) 2.5 ohms
c) 25 ohms
d) 0.004 Siemen

31) Where does practically all of the RF current flow in a conductor?
a) Along the surface
b) In the center of the conductor
c) In the electromagnetic field in the conductor center
d) In the magnetic field around the conductor

32) How are networks able to transform one impedance to anther?
a) Resistance in the networks substitute for resistances in the load.
b) The matching network can cancel the reactive part of an impedance and change the value of the resistive part of an impedance.
c) The matching network introduces negative resistance to cancel the resistive part of impedance.
d) The matching network introduces transconductance to cancel the reactive part of an impedance.

33) Who discovered the most important electrical effects, which is the magnetic effect?
a) Hans Christian Oersted
b) Sir Charles Wheatstone
c) Georg Ohm
d) James Clerk Maxwell

34) Which of the following magnetic materials which can be easily magnetized in both direction?

a) Soft magnetic materials
b) Hard magnetic materials
c) High hysteresis loss materials
d) Low hysteresis loss materials

35) Materials that have very high permeabilities (hundred and even thousand times that of free space).
a) Paramagnetic
b) Non-magnetic
c) Ferromagnetic
d) Diamagnetic

36) The quantity of magnetism retained by a magnetic material after withdrawal of the magnetizing force is called.
a) leftover magnetism
b) hysteresis
c) residual magnetism
d) coercivity

37) The K shell or the first has how many permissible numbers of orbiting electrons?
a) 1
b) 2
c) 3
d) 4

38) Flux density is measured in
a) tesla
b) weber
c) ampere=turn
d) Maxwell

39) One oersted (Oe) is equivalent to ___ Gb/cm.
a) 1
b) 10
c) 100
d) 1000

40) A magnetic flux of 2.5×10^{-4} Wb through an area of 5×10^{-4} square meters results in
a) 5 Wb of flux
b) 0.5 Tesla of flux density
c) 5×10^{-5} Wb of flux
d) 5000 Tesla of flux density

41) If a 20 V potential is applied across a relay coil with 50 turns having 1 Ω of resistance, the total magnetomotive producing magnetic flux in the circuit is
a) 10 Wb
b) 50 T
c) 1000 A.t/m
d) 1000 A.t

42) What is the reluctance of a magnetic path having a length of 2×10^{-3} m and cross-sectional area of 2.5×10^{-3} m^2. The relative permeability is 100.
a) 6366 A.t/Wb
b) 6000 A.t/Wb
c) 8×10^{-3} A.t/Wb
d) 0.8 A.t/ Wb

43) How many turns are needed to produce a magnetomotive across a solenoid of 100 turns having a resistance of 2 Ω. Calculate the number of ampere-turns?
a) 100
b) 50
c) 300
d) 600

44) Series resonance occurs when
a) $X_L = X_C$
b) $X_L = R$
c) $Z = R$
d) Both a and c

45) At what frequency will an inductor of 5 mH have the same reactance as a capacitor of 0.1 μF?
a) 7.12 kHz
b) 4.12 Hz
c) 7.12 MHz
d) 7.12 GHz

46) In a series RLC circuit
a) the current lags V_L by 90°
b) the current leads V_L by 90°
c) X_L leads X_C by 90°
d) $Z = jX_L$ at resonance

47) Which of the following conditions is not true for a series RLC circuit at resonance?
a) $Z = jX_L$
b) $X_L = X_C$
c) The power factor is one
d) The magnitude Z is $\sqrt{R^2 + (X_L - X_C)^2}$

48) If three 9 mH inductors are connected in parallel without mutual inductance, then the total inductance is
a) 3 mH
b) 9 mH
c) 27 mH
d) 18 mH

49) If resonant frequency is 10 kHz and quality factor is 50, then
a) bandwidth is 200 Hz
b) X_L = is 50, 000 ohms
c) R is 50 ohms
d) X_C = is 50, 000 ohms

50) At what frequency will the current in a series RLC circuit reach its maximum value for an applied voltage of 15 with R = 500 Ω, L = 100 μH and C = 0.001μF?
a) 503 kHz
b) 403 kHz
c) 603 kHz
d) 303 kHz

51) A series RLC circuit consists of a 10Ω resistor in series with L = 10μH, and C = 100 μF. Determine a new value of L for which the resonant frequency is one-half the original value.

a) 40μH
b) 10 mH
c) 40 pH
d) 40 nH

52) A 0.09 microfarad capacitor is charged to 220 Volts. How long in milliseconds will it discharged to a level of 110 V if the discharged resistor has a resistance of 20, 000 ohms?
a) 1.5
b) 2.5
c) 1.25
d) 0.5

53) A trigger circuit consisting of a capacitor of 0.01 μF is connected in series with a resistor. If the circuit requires 100 Vdc to operate, determine the value of the resistor when the constant is 0.009s.
a) 900 Ω
b) 900 kΩ
c) 900 MΩ
d) 900 GΩ

54) What is the peak factor for alternating current or voltage varying sinusoidally?
a) 1.4142
b) 0.707
c) 0.636
d) 1.11

55) What is the complex impedance of a circuit with an absolute resistance of 300 Ω?
a) 0 + j 300 Ω
b) 300 + j 90 Ω
c) 0 – j 300 Ω
d) 300 + j 0 Ω

56) Type of MOSFET that can be independently controlled by two separate signals.
a) JFET
b) Dual-gate MOSFET
c) Induced channel MOSFET
d) IGFET

57) It exhibits a negative temperature coefficient.
a) conductor
b) semi-conductor
c) super conductor
d) ceramic

58) In order to have the best efficiency and stability, where on the loadline should a solid-state power amplifier be operated?
a) Just below the saturation point
b) At 1.414 times the saturation point
c) Just above the saturation point
d) At the saturation point

59) Find from the following statements, description of a defective diode.
a) Diode resistance is either very low or very high on either direction.
b) Very low current
c) High voltage
d) High current

60) Solve the collector current if base current is 200 mA and the current gain is 20.
a) 10 A
b) 4 A
c) 1 A
d) 40 A

61) Solve for the base current if collector current is 600 mA and the current gain is 20.
a) 30 mA
b) 3 mA
c) 12 mA
d) 1.2 mA

62) A good material conductor should have ___ valence electrons.
a) 21
b) 1
c) 3.5
d) 10

63) A ___ is a junction field-effect transistor with Schottky barrier instead of a normal semiconductor junction.
a) biFET
b) MOSFET
c) MESFET
d) JUGFET

64) In the operation of a dry cells we normally refer to the supply of current to load resistance where its current neutralize the separated charges at the electrons.
a) Aligning the cells
b) Charging the cells
c) Discharging the cells
d) Polarizing the cells

65) Find the output of a four (4) lead acid cells.
a) 3.2 V
b) 8.4 V
c) 5.8 V
d) 1.6 V

66) Find unloaded output of a power supply having a transformer regulation of 11.10% and 900 V load output.
a) 99.99 V
b) 90 V
c) 999.9 V
d) 900 V

67) Determine how long a battery will last whose rating is 100Ah; 24 volts and will run a 300 watts electronic equipment and a 50 watts light.
a) 6.85 hours
b) 50.05 hours
c) 12.00 hours
d) 26.65 hours

68) Which of the following statements is not true?
a) Edison cell is storage type.
b) The Nicd cell is primary type

c) Output of solar cell is normally 0.5 V.
d) Primary cells can be charged.

69) Type of cell used mostly for emergency equipment. It is light, small, and has a large capacity of power for its size.
a) Ni-cd cell
b) Silver-cadmium cell
c) Silver-zinc cell
d) Mercury cell

70) Find the frequency in kilocycle per second in the armature of a 10 pole, 1, 200 rpm generator.
a) 100.0
b) 1000.0
c) 10.00
d) 0.100

71) How many silver zinc cells in series are needed for a 9V battery?
a) 9
b) 6
c) 3
d) 7

72) How much is the secondary voltage of a power transformer whose parameters are as follows, primary voltage is 240 V, 140 turns in the primary and 7 turns in the secondary.
a) 12 V
b) 24 V
c) 6 V
d) 36 V

73) How many nickel-cadmium cells are needed in series for a 10 V battery?
a) 8
b) 12
c) 5
d) 10

74) How long can a battery last with capacity of 50 ampere-hour running an equipment of 5 amperes?
a) 250 hrs
b) 25 hrs
c) 100 hrs
d) 10 hrs

75) ___ is a type of linear voltage used in applications where the load on the unregulated voltage source must be kept constant.
a) A series regulator
b) A shunt regulator
c) A constant current source
d) A shunt current source

76) What does the term single-phase indicates?
a) one input
b) one current (one input)
c) one time
d) one voltage (one input)

77) How many lithium cells in series are needed for a 12 V battery?
a) 12 cells
b) 4 cells
c) 8 cells
d) 10 cells

78) Which class of amplifier is distinguished by the flow of current in the output essentially in 180 degrees pulses?
a) Class C
b) Class B
c) Class A
d) Class D

79) Find the ripple factor (Kr) of a sinusoidal signal with peak ripple of 4 volts on an average of 30.
a) 0.094
b) 0.013
c) 0.130
d) 0.94

80) Silicon diodes are used in a two-diode full-wave rectifier circuits to supply a load of 12 volts Dc. Assuming ideal diodes and the load resistance is 12 ohms, compute the efficiency of the rectifier in percentage.
a) 5.8
b) 75
c) 95.7
d) 81.2

81) ____ is the characteristic of an oscillator that enables it to sustain oscillation after removal of the control stimulus.
a) Momentum
b) Fly-wheel effect
c) Damping
d) Forced oscillations

82) The gain of a different amplifier is 10, and all inputs are sine waves with a peak-to-peak amplitude of 10 millivolts. If the single input, differential output, differential amplifier has an output signal taken between the two output terminals. What will be the peak to peak amplitude of the combined output?
a) 20 millivolts
b) 220 millivolts
c) 200 millivolts
d) 2000 millivolts

83) It consists of elements inseparably associated and formed on or within a single substrate.
a) Integrated circuit (IC)
b) Microsoft
c) Module
d) Micro circuit

84) IC production method to prevent unwanted interaction between elements within a chip.
a) Evaporation
b) Cathode splittering
c) Isolation
d) Diffusion

85) All input signals are waves with a peak amplitude of 10 millivolts. The gain of the differential amplifier is 10. If it is configured as a single input and a single output. What will be the peak-to-peak amplitude of the output signal?
   a) 110 millivolts
   b) 100 millivolts
   c) 10 millivolts
   d) 1000 millivolts
86) How do you turn on a diac?
   a) Gate current
   b) Breakover voltage
   c) Gate voltage
   d) Anode voltage
87) Find the two stable operating conditions of an SCR?
   a) conducting and non-conducting
   b) oscillating and quiescent
   c) NPN conduction and PNP conduction
   d) Forward conducting and reverse conducting
88) The term used to describe the process whereby two transistors with positive feedback are used to stimulate the action of the thyristor.
   a) Arcing
   b) Latching
   c) Damping
   d) Switching
89) In the concept of induction heating in industrial electronics, the eddy current penetrates to greater depths at
   a) high frequencies
   b) increasing induction
   c) decreasing induction
   d) low frequencies
90) When testing an SCR with an ohmmeter, the SCR will conduct if what two elements are shorted together/
   a) Gate and anode
   b) Ground and Cathode
   c) Gate and Ground
   d) Gate and Cathode
91) Analysis of the spectrum of light or other form of electromagnetic radiation emitted or absorbed by a substance in order to investigate its structure.
   a) Flouroscopy
   b) Calligraphy
   c) Spectroscopy
   d) Spectography
92) A triac is a/an ___ equivalent of two SCRs.
   a) series
   b) inverse-parallel
   c) parallel-series
   d) parallel
93) The purpose of installing thyristors across the incoming power lines to speed the control system is to ___.
   a) cause the motor to caution
   b) protect drive circuits from high voltage transient surges
   c) increase counter-emf
   d) all the field winding current to continue flowing
94) What is the systematic movement of a radar beam while searching or tracking a target?
   a) Scanning
   b) Locked on
   c) Acquisition
   d) Electrolysis
95) A new concept in commercial aircraft where computers monitor aircraft systems reporting on their status only if requested by the pilot or if something is wrong and displayed on the screen when necessary.
   a) Virtual cockpit
   b) Real cockpit
   c) Glass cockpit
   d) The cockpit
96) Pentagon planners computer based advanced speech recognition system.
   a) TOMCAT
   b) EAGLE
   c) ORION
   d) SPHINX
97) A TRIAC behaves like two
   a) diodes in series
   b) resistors and one diode
   c) four-layer diodes in parallel
   d) inverse parallel connected SCRs with common gate.
98) Originally called a double-base diode. It is three-terminal, solid-state device that has several advantages over conventional transistor and has only one PN junction.
   a) UDT
   b) UJT
   c) FET
   d) MOSFET
99) An automatic switch, which is operated by current in a coil, is called _____.
   a) SCS
   b) Relay
   c) SCR
   d) Laser
100) If the gain of an amplifier without feedback is 10 and with negative feedback is 8, then the feedback fraction is
   a) 0.025
   b) 0.9
   c) 0.8
   d) 0.225

MOCK BOARD EXAM ANSWERS (Electronics)

1. B Silicon Controlled Diode
2. D Relative bearing
3. A ALU
4. C UNIVAC
5. C Algorithm
6. A CPU
7. A LSI
8. A Producing one output pulse for every 10 input pulses
9. A DATA PROCESSING
10. A Hardware
11. C H
12. C MSI
13. A 8CB4
14. D Suppressor grid
15. C Octode
16. A 60
    Sol'n: $A_v = \mu R_L / (R_P + R_L)$
    $= 80\ (30\ 000) / (10\ 000 + 30\ 000) = 60$
17. C Chrominance
18. A Global Positioning System
19. B Pixel
20. C 12.4 microsec
21. A Weber
22. B A little greater than 1
23. C Hysteresis
24. A Reluctance
25. D Eutectic alloy
26. D flux
27. C Positive temperature coefficient
28. B Pi-L network
29. B working voltage
30. B 2.5 ohms
31. A Along the surface
32. B The matching network can cancel the reactive pat of an impedance and change the value of the resistive part of an impedance.
33. A Hans Christian Oersted
34. A Soft magnetic materials
35. C Ferromagnetic
36. C residual magnetism
37. B 2
38. A tesla
39. A 1
40. B 0.5 Tesla of flux density
    Sol'n: $B = \phi / A$
    $= (2.5\times10^{-4}\ Wb) / (5\times10^{-4}\ m^2)$
    $B = 0.5\ Wb/m^2$ or Tesla (T)
41. D 1000 A.t
    Sol'n: mmf = NI
    I = V/R = 20/1 = 20 A
    mmf = (20) (50) = 1000 A.t
42. A 6366 A.t/Wb
    Sol'n: $R = l / \mu A$
    $\mu = \mu_r\mu_o = (100)\ (4\pi\times10^{-7})$
    $R = (2\times10^{-3}) / (100)\ (4\pi\times10^{-7})(2.5\times10^{-3})$
    R = 6366 A.t /Wb
43. C 167 turns
    Sol'n: mmf = NI
    N = mmf / I = 1000A.t / 6A
    N = 167 turns
44. D Both $X_L = X_C$ and Z = R
45. A 7.12 kHz
    Sol'n: @ fr, $X_L = X_C$
    $fr = 1 / (2\pi \sqrt{LC})$
    $= 1 / (2\pi \sqrt{(5\times10^{-3})(0.1\times10^{-6})})$
    fr = 7.12 kHz
46. A the current lags V_L by 90°
47. A $Z = jX_L$
48. A 3 mH
    Sol'n:
    For identical inductor in parallel, $L_T = L / n$
    $= 9\ mH / 3 = 3mH$
49. A bandwidth is 200 Hz
    Sol'n; BW = fr / Q = 10 kHz / 50
    BW = 200 Hz
50. A 503 kHz
    Sol'n: @ fr, I is maximum
    $fr = 1 / 2\pi\sqrt{LC}$
    $fr = 1 / 2\pi\sqrt{(100\times10^{-6})\ (0.001\times10^{-6})}$
    fr = 503 kHz
51. A 40 μH
    Sol'n: $fr = 1/ 2\pi \sqrt{LC}$
    $fr = 2\pi \sqrt{(10\times10^{-6})\ (100\times10^{-6})}$
    $= 5.03$ kHz
    if fr = 5.03 kHz / 2, L = ?
    $fr = 1 / 2\pi \sqrt{LC}$
    $L = 1 / [(2\pi)^2\ fr^2\ C]$
    $L = 1/(2\pi)^2\ (5.03\times10^3/2)\ (100\times10^{-6})$
    L = 40 μH
52. C 1.25
    Sol'n: $vc = Ee^{-(t/RC)}$
    $110\ V = 220V\ e^{-[t / (20\ 000)\ (0.09x10\text{^}-6)]}$
    $110 / 220 = e^{-555.56t}$
    t = [ln (110/220)] / -555.56
    t = 1.25 ms
53. B 900 kΩ
    sol'n: $\tau = RC$; $R = \tau / C$
    $R = 0.009\ s / 0.01\times10^{-6}\ F$
    R = 900 kΩ
54. A 1.4142
55. D 300 + j 0 Ω
56. B dual gate MOSFET
57. B Semi-conductor
58. A Just below the saturation point
59. A Diode resistance is either very low or very high on either direction.
60. B 4 A
    Sol'n: $\beta = I_C / I_B$
    $I_C = \beta I_B = (20)\ (200mA) = 4\ A$
61. A 30 mA
    Sol'n: $\beta = I_C / I_B$; $I_B = I_C / \beta$
    $= 600\ mA / 20 = 30\ mA$
62. B 1
63. C MESFET
64. C Discharging the cells
65. B 8.4 V
    Sol'n: Output = 4 (2.1V0 = 8.4 V
66. C 999.9 V
    Sol'n:

Vol Regl'n = $[(V_{NL} - V_{FL}) / V_{FL}] \times 100\%$
$11.10\% = [(V_{NL} - 900V) / 900V] \times 100\%$
$V_{NL} = 999.9$ V

67. A 6.85 hrs
Sol'n: Battery Life = $\frac{\text{Ah rating}}{\text{A drawn}}$
= 100 Ah / 1 = 100 Ah / 14.85
= 6.85 hrs
Where I = P / V
= (300W + 50W) / 24 V
= 14.58 A
68. B The Nicd cell is primary type
69. C Silver-zinc cell
70. D 0.100
Sol'n: f = PN / 120
f = [(10) (1200)] / 120
f = 100 cycles per second
= 0.100 kilocycles per sec
71. B 6
Sol'n:
No. of silver-zinc cell = $\frac{9}{\text{voltage/silver-zinc}}$
= 9V / 1.5V = 6
72. A 12 V
Sol'n: $V_P / V_S = N_P / N_S$
$V_S = V_P (N_S / N_P)$
= (240 V) (7 / 140) = 12 V
73. A 8
Sol'n:
No. of nickel cadmium cell = $\frac{\text{Total V}}{\text{V/cell}}$
= 10 V / 1.25 V = 8 cells
74. D 10 hours
Sol'n: Battery life = $\frac{\text{Amp-hour rating}}{\text{Amp drawn}}$
= 50Ah / 5A = 10 hours
75. B A shunt regulator
76. A one input
77. B 4
Sol'n:
No. of lithium cells = 12 V / V/cell
= 12V / 2.8 V /cell = 4.2
78. B Class B
79. A 0.094
Sol'n:
Ripple factor (k_r) = $V_{rms(ripple)} / V_{ave}$
= $(4 / \sqrt{2}) / 30 = 0.094$
80. D 81.2
Sol'n: $\%\eta = (P_{out} / P_{in}) \times 100\%$
$\approx (V_{out}/V_{in})^2 \times 100\%$
$\approx (12/13.33)^2 \times 100\% \approx 81\%$
Where $V_{in} = V_{rms} = 0.707\ V_m$
$= 0.707\ (\pi V_{av} / 2)$
$= 0.707\ [\pi(12)/ 2] = 13.33$V
81. B Fly-wheel effect
82. C 200 millivolts
Sol'n: Output V = diff'l input V (gain)
= [10mV – (-10mV)] x 10
= (20 mV) (10) = 200 mV
83. A integrated circuit (IC)
84. C Isolation
85. B 100 mV
Sol'n: Output V = input V x gain
= (10 mV) (10) = 100 mV
86. B Breakover voltage
87. A Conducting non-conducting
88. B Latching
89. A high frequencies
90. A Gate and Anode
91. C Spectroscopy
92. B inverse-parallel
93. B protect drive circuits from high voltage transient surges
94. A Scanning
95. C Glass cockpit
96. D SPHINX
97. D inverse parallel connected SCRs with common ate
98. B UJT
99. B relay
100. A 0.025
Sol'n: $A_f = A / (1 + \beta A)$
$\beta = (1 / A_f) – (1/A)$
= 0.025