

97/2014

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. Trimmer is a sort of :
(A) Fixed capacitor (B) Variable capacitor
(C) Adjustable resistor (D) Fixed resistor
2. The Inductive reactance is :
(A) $X_L = 1/2\pi fL$ (B) $X_L = 2\pi f / L$
(C) $X_L = fL/2\pi$ (D) $X_L = 2\pi fL$
3. A transformer in which secondary voltage is same as that of the primary is known as :
(A) Isolation transformer (B) Auto transformer
(C) Current transformer (D) Potential transformer
4. Power factor (P.F) is given by :
(A) R^2/Z (B) $R.Z$
(C) Z/R (D) R/Z
5. In Delta 3 phase system, line voltage is _____ E_{phase} .
(A) 2 (B) 1.73
(C) 1 (D) 1/1.73
6. The Ripple factor for full wave rectifier is :
(A) 1.1 (B) 0.48
(C) 1.21 (D) 0.96
7. In a RC circuit at _____ Time constant the voltage achieve its final maximum value.
(A) 5T (B) 2T
(C) 4T (D) 1T

8. In a series resonance circuit the net reactance below the resonance frequency will be :
(A) Inductive and capacitive (B) Resistive
(C) Capacitive (D) Inductive
9. The loss that occurs in the core due its reversal of magnetization force is :
(A) Eddy current loss (B) Hysteresis loss
(C) Copper loss (D) Leakage loss
10. If a 100 Ah battery is used for 5 hours continuously the current supplied by the same in :
(A) 500 A (B) 20 A
(C) 5 A (D) 0.4 A
11. A reversed biased PN junction has _____ capacitance.
(A) Transition (B) Diffusion
(C) Storage (D) Forward
12. One metric Hp is :
(A) 735.5 watts (B) 746 watts
(C) 735.5 K watts (D) 746 K watts
13. The No. of gates in Silicon controlled switch :
(A) 1 (B) 4
(C) 3 (D) 2
14. The atomic number of an element is equal to :
(A) The sum no. of electrons and protons
(B) The no. of neutrons
(C) The no. of protons
(D) The sum no. of protons and no. of neutrons
15. The positive temperature coefficient means _____ with increases in temp.
(A) Resistance decreases (B) Current increases
(C) Voltage decreases (D) Resistance increases

16. Each solar cell has an open voltage :
- (A) 0.3 V (B) 0.57 V
(C) 1.5 V (D) 2.2 V
17. _____ is often known as triggering agent for SCR.
- (A) DIAC (B) Transistor
(C) UJT (D) Diode
18. The minimum current at which the relay armature is attracted to open the N/C contact is :
- (A) Energizing current (B) Drop out current
(C) De energizing current (D) Reverse current
19. One unit of electrical power consumption is :
- (A) 1 kW (B) 1000 Whr
(C) 1000 KW (D) 1000 KWhr
20. The PIV across each diode of half wave rectifier in 3 phase system is equal to _____ $V_s(\text{peak})$.
- (A) 4 (B) 1
(C) 1.73 (D) 2
21. A SWG is used to measure :
- (A) Diameter of the wire (B) Length of the wire
(C) Insulation of wire (D) Cross-sectional area of a wire
22. Which of the following circuit can be used as a DC transformer?
- (A) SCR (B) Inverter
(C) Magnetic amplifier (D) Demodulator
23. Given a carrier frequency of 100 Khz and modulation frequency of 2Khz the frequencies present in the AM carrier wave :
- (A) 100 Khz, 2 Khz (B) 100 Khz, 98 Khz, 102 Khz
(C) 98 Khz, 102 Khz (D) 100 Khz, 102 Khz
24. Which of the following is not a terminal of 555?
- (A) Threshold (B) Control voltage
(C) Discharge (D) Reference voltage

25. The O/P voltage and maximum current of LM723 IC is :
- (A) 5 to 45 V and 100 mA (B) 2 to 37 V and 150 mA
(C) 2 to 37 V and 50 mA (D) 5 to 50 V and 50 mA
26. Half adder is also known as :
- (A) NAND (B) AND
(C) NOT (D) EXOR
27. Class 'AB' amplifier conducts during _____ of the I/P.
- (A) Positive half cycle
(B) Entire cycle
(C) Negative cycle
(D) Less than full cycle and more than half cycle
28. The oscillator most commonly used in transmitter is :
- (A) RC oscillator (B) Wein bridge oscillator
(C) Crystal oscillator (D) Hartley oscillator
29. The typical efficiency of an UPS is of the order of :
- (A) 25% (B) 60%
(C) 90% (D) 100%
30. The hexa decimal equivalent of 1101 0011 1110 is :
- (A) D3E (B) D2E
(C) E3D (D) E2D
31. Operating system is also known as :
- (A) Data base (B) Hardware
(C) System software (D) Printer
32. The advantage serial transport compared to parallel transport for data transmission is that :
- (A) It need only one wire (B) It is faster
(C) BCD compatible (D) All of these

33. The number of flip flops required to construct mod 10-counter is :
- (A) 2 (B) 6
(C) 3 (D) 4
34. Which is not an advantage of Optical fiber?
- (A) Low loss (B) Wide band width
(C) Light weight (D) Low Cost
35. _____ is not an optical sensor.
- (A) LDR (B) Laser diode
(C) LASCR (D) APD
36. RTDs can be used for measuring a temperature of _____ °C.
- (A) 500 (B) -250
(C) 1000 (D) 1500
37. The important advantage of CMOS IC is :
- (A) High speed (B) High power dissipation
(C) Low power consumption (D) Low 'fan out'
38. Some typical PLC are :
- (A) 555 (B) 741
(C) 1084 (D) 7912
39. The active component used in electronic tuning is :
- (A) Varactor diode (B) Schokty diode
(C) PIN diode (D) Tunnel diode
40. Gain of an non inverting OP amp is :
- (A) $-R_f/R_1$ (B) $1 + R_f/R_1$
(C) R_f/R_1 (D) $1 - R_f/R_1$
41. Astable multivibrator is a _____ circuit.
- (A) Free running (B) Triggered
(C) Sine wave (D) Amplifier

42. In a MOSFET substrate is internally shorted to :
- (A) Drain (B) Gate
(C) Base (D) Source
43. The ultra-sonic flaw detector working in the frequency range of :
- (A) 0.8 MHz to 2.5 MHz (B) 20 Hz to 20 KHz
(C) 2 GHz to 10 GHz (D) 30 KHz to 300 KHz
44. The basic memory element in sequential circuit is :
- (A) Amplifier (B) Rectifier
(C) Flip flop (D) Modulator
45. LVDT :
- (A) Converts linear motion into electrical signal
(B) Helps measuring temperature
(C) Translates electrical signals in linear motion
(D) Can be used to sense angular displacement
46. Detector is used in :
- (A) Transmitter only (B) Modulator
(C) Receiver and transmitter (D) Receiver only
47. A full adder can add _____ binary digits at a time.
- (A) 2 (B) 3
(C) 4 (D) 5
48. Multiplexer is logic which has :
- (A) No. of data I/P and no. of O/P (B) Only one data I/P and one O/P
(C) No. of data I/P and only one O/P (D) Only one data I/P and no. of O/P
49. The important advantage of LCD is :
- (A) High power consumption (B) Low power consumption
(C) Brightness (D) Easy to mount

50. For the display of digit '3' in a 7 segment display unit, the lit segment are :
- (A) f, g, b, c, a (B) f, a, b, c, d
(C) f, e, b, c, g (D) a, b, c, d, g
51. ELCB work on the principle of :
- (A) Over load current (B) Short circuit current
(C) Residual current (D) Neutral current
52. In a induction motor AC is applied to :
- (A) Stator (B) Stator and rotor
(C) Rotor (D) None of the above
53. A snubber circuit usually consists _____ with the device.
- (A) RC series circuit connected in series
(B) RC parallel connected in parallel
(C) RC parallel circuit connected in series
(D) RC series circuit connected in parallel
54. In the oil circuit breaker insulating oil is used for :
- (A) Lubrication (B) Avoiding rust
(C) Easy path flow of current (D) Arc extinction
55. The electric of petrol gauge works on the principle of _____ effect.
- (A) Electro chemical (B) Electro magnetic
(C) Electro-mechanical (D) Piezo-electric
56. An essential part of a pneumatic system is :
- (A) Water receiver (B) Magnet
(C) Air receiver (D) Solar energy
57. Interrupt control in 8085 microprocessor have _____ input.
- (A) 2 (B) 5
(C) 7 (D) 3

58. In electronic sewing ————— heating is used.
- (A) Induction (B) Dielectric
(C) Conductive (D) Emission
59. ————— is used in induction heating.
- (A) AC current (B) DC current
(C) Saw tooth current (D) Eddy current
60. In the SMPS regulator is accompanied by :
- (A) Duty cycle control (B) Regulator IC
(C) Zener (D) Stabilisor
61. To start an automobile engine ————— motor is commonly used.
- (A) Induction motor (B) AC motor
(C) Single phase AC series motor (D) DC series motor
62. The normal value of O/P voltage of servo controlled stabilizer is :
- (A) 180-210 (B) 210-240
(C) 190-220 (D) 180-230
63. Thermo couple is formed by joining :
- (A) Two similar metal (B) Two dissimilar metal
(C) Semi-conductors (D) Insulators
64. In a CRO the input signal is applied to :
- (A) Vertical amplifier (B) Horizontal amplifier
(C) Saw tooth Oscillator (D) All the above
65. TRIACs can be considered as a combination of :
- (A) Two Transistor (B) Two Diode
(C) Two SCR (D) One Diode and One SCR
66. Chopper can be used in future electric auto mobile for :
- (A) Speed control only (B) Breaking only
(C) Speed control and Breaking (D) None of these

67. Sampler is used in process of :
- (A) Converting digital signals to analog signals
 - (B) Amplify digital signal
 - (C) Controlling digital signal
 - (D) Converting analog signal to digital signal
68. The main advantage of PCM over analog modulation is :
- (A) Simplex operation
 - (B) Noise immunity
 - (C) Reduced bandwidth
 - (D) None of these
69. Schokley diode has _____ layer and _____ terminal.
- (A) 3, 2
 - (B) 4, 3
 - (C) 4, 2
 - (D) 2, 2
70. Most common way of PLC programming :
- (A) Ladder Diagram
 - (B) C++
 - (C) Java
 - (D) Pascal
71. In a PID controller has _____ function.
- (A) Proportional, Integral, Derivative
 - (B) Proportional, Inverter and detector
 - (C) Proportional, Inverter, differentiator
 - (D) Propagation, Integration, detection
72. The length of dipole antenna is :
- (A) $152/f$
 - (B) $137/f$
 - (C) $143/f$
 - (D) $130/f$
73. In microprocessor "MVI" Instruction is given in _____ addressing.
- (A) Direct
 - (B) Register
 - (C) Immediate
 - (D) Implicit
74. Intrinsic stand of ratio of UJT is :
- (A) $R_{b1} * R_{b2} / R_{b1} + R_{b2}$
 - (B) $R_{b1} / R_{b1} + R_{b2}$
 - (C) $R_{b2} / R_{b1} + R_{b2}$
 - (D) $R_{b1} + R_{b2} / R_{b1} * R_{b2}$

75. Range extension of ammeter requires _____ with milliammeter.
(A) A shunt resistor (B) A series resistor
(C) Series multiplier (D) None of these
76. Communication circuit that transmit data in both direction at the same time are operating in :
(A) Simplex mode (B) Asynchronous mode
(C) A half-duplex mode (D) Full duplex mode
77. Which of the following memories must be refreshed periodically?
(A) DRAM (B) EPROM
(C) ROM (D) EEPROM
78. Which is not an internet browser?
(A) Netscape (B) Safari
(C) Bing (D) Opera
79. An XOR gate produces an output only when its two inputs are :
(A) High (B) Low
(C) Same (D) Different
80. 8051 is _____ microcontroller.
(A) Low power TTL 16 Bit (B) High power CMOS 16 Bit
(C) Low power ECL 8 Bit (D) Low power CMOS 8 Bit
81. The architect of Modern Cochin harbour :
(A) Maccaulay (B) Robert Bristo
(C) Sakthanthmpuran (D) Divan Karunakara Menon
82. Which Indian mountain range has a triangular shape?
(A) Himalayas (B) Western ghats
(C) Eastsern ghats (D) Satpura
83. The president of America during First World war :
(A) George Washington (B) Trueman
(C) Roosewelt (D) Woodrow Wilson

84. Malabar goes to the hands of the British after the treaty of :
 (A) Sreerangapatanam treaty (B) Treaty of salbai
 (C) Treaty of Madras (D) Treaty of Mangalore
85. Correct chronological order of dynasties :
 (A) Slave, Khilji, Tuglaqs, Lodi (B) Khilji, Tuglaqs, Lodi, Slave
 (C) Lodi, Tuglaqs, Slave, Khilji (D) Slave, Lodi, Khilji, Tuglaqs
86. The Malayalam University in Kerala situated in :
 (A) Kopttayam (B) Kannur
 (C) Palakkad (D) Malapuram
87. The irrigation project in kerala which supplies drinking water to Coimbatore city?
 (A) Kanjirapuzha project (B) Siruvani project
 (C) Chittur Puzha project (D) Aliyar project
88. The year related with temple entry proclamation :
 (A) 1835 (B) 1866
 (C) 1836 (D) 1936
89. The Education plan in which "Operation Black Board" is the part :
 (A) Secondary Education Commission (B) Indian Education Commission
 (C) New Education Policy (D) Sarv Siksha Abhiyan
90. The state where the city of Kanishkapuram situated :
 (A) Kashmir (B) Punjab
 (C) Bihar (D) Orissa
91. The person who was known as the "Father of Indian Nationalism" :
 (A) Balagangadhara Tilak (B) Dadabai Naoroji
 (C) Sardar Patel (D) Mahatma Gandhi
92. The first sculpture city in Kerala :
 (A) Thrissur (B) Ernakulam
 (C) Thiruvananthpuram (D) Kozhikode

93. The Chairman of state re-organisation committee :
- (A) Fazal Ali (B) Sardarvallabai Patel
(C) V.P. Menon (D) Jawaharlal Nehru
94. The person who measures first the circumference of the earth :
- (A) Kepplar (B) Galileo
(C) Aryabhata (D) Erathosthenes
95. Name the planetary wind :
- (A) Monsoon winds (B) Land and Sea breeze
(C) Westerlies (D) Local winds
96. Name the coast line between Goa and Gujarat :
- (A) Kokan coast (B) Coromandal coast
(C) Malabar coast (D) Carnatic coast
97. The district where the National Institute of Technology is situated :
- (A) Thiruvananthapuram (B) Ernakulam
(C) Kannur (D) Kozhikode
98. The Redha cult temple is the speciality of the architecture of :
- (A) Pandyas (B) Pallavas
(C) Chalukyas (D) Cholas
99. A Danish settlement in India :
- (A) Piplis (B) Chinsura
(C) Serampur (D) Cambay
100. A freedom fighter from Kerala who has accompanied with Gandhiji in his Dandi March :
- (A) Sankarji (B) K. Kelappan
(C) P. Krishnapillai (D) Moidhu Moulavi