190/2014

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. Cast iron during machining produces :

   (A) Continuous chips
   (B) Continuous chips with built-up-edge
   (C) Discontinuous chips
   (D) None of these

2. A single point thread cutting tool should ideally have :

   (A) Negative rake angle
   (B) Positive rake angle
   (C) Zero rake angle
   (D) Point angle

3. The cutting tool in a milling machine is mounted on :

   (A) Spindle
   (B) Knee
   (C) Column
   (D) Arbor

4. The lip angle of a single point tool is usually :

   (A) 20° to 40°
   (B) 40° to 60°
   (C) 60° to 80°
   (D) None of these

5. Tool signature consist of ———— elements.

   (A) two
   (B) four
   (C) five
   (D) seven

6. The ductile materials, during machining, produce :

   (A) continuous chips
   (B) discontinuous chips
   (C) continuous chips with built up edge
   (D) either (A) or (C)

7. The process of changing the shape of grinding wheel as it becomes worn due to breaking away of abrasive and bond, is called :

   (A) truing
   (B) dressing
   (C) facing
   (D) clearing

8. In reaming process :

(A) metal removal rate is high

(B) high surface finish is obtained

(C) high form accuracy is obtained

(D) high dimensional accuracy is obtained

9. The cutting fluid mostly used for machining alloy steels is :

(A) water (B) soluble oil

(C) dry (D) sulphurised mineral oil

10. The tool life is affected by :

(A) depth of cut (B) cutting speed

(C) feed (D) all of these

11. One of the given parameter which one is not changed in a transformer :

(A) voltage (B) phase

(C) frequency (D) current

12. Which one of the following is not an instrument :

(A) CRO (B) UPS

(C) DSO (D) SCR

13. Odd one out :

(A) Diode (B) Resistor

(C) Transistor (D) LED

14. Which one of the following gate is used to construct a grey to binary code converter. :

(A) AND (B) NOR

(C) XOR (D) XNOR

15. Efficiency of a full wave rectifier is :

(A) 76.8% (B) 86.1%

(C) 81.6 (D) 80.2%

16. Frequency of direct current :

(A) 50 Hz
(B) Same as AC
(C) Zero Hz
(D) None of the above

17. Which type of feedback is used in oscillators :

(A) Positive
(B) No feedback
(C) Regenerative
(D) Negative

18. Which of the following component have the application of a filter :

(A) Diode
(B) Zener diode
(C) Capacitor
(D) Transistor

19. The current gain of common base amplifier is represented by :

(A) Alpha
(B) Beta
(C) Gamma
(D) Theta

20. What is the function of diode in electronic circuits :

(A) Rectification
(B) Oscillation
(C) Amplification
(D) Inversion

21. The frequency range of AM is given by :

(A) 20–200 MHz
(B) 88–108 MHz
(C) 2–200 GHz
(D) 535–1605 KHz

22. Among the given ICs which is not a microcontroller :

(A) 8051
(B) 8255
(C) 8086
(D) 8253

23. Lissajous pattern can be observed with the help of :

(A) Function Generator
(B) Projector
(C) Multimeter
(D) CRO

24. Which one of the following is a timer IC :

(A) 741
(B) 555
(C) 565
(D) 729

25. The coupling capacitor blocks :

(A) Only DC
(B) Only AC
(C) Both DC as well as AC
(D) Neither AC nor DC

26. DIAC is a silicon device with :

(A) 3 layers and one gate
(B) 4 layers and no gate
(C) 4 layers and one gate
(D) 3 layers and no gate

27. Encoder :

(A) Assigns quantized values
(B) Changes quantized values to binary values
(C) Changes quantized values to numerical values
(D) Changes numerical values to binary values

28. The maximum concentration of the element which can be dissolved in solid silicon at a given temperature is called :

(A) Solid solubility
(B) Dissolution Coefficient
(C) Solidification Index
(D) Concentration index

29. Which of the following component is used in the microprocessors :

(A) JFET
(B) BJT
(C) MOSFET
(D) CMOS

30. What is the typical value of ratio of current in a PN junction diode in the forward bias and that in the reverse bias?

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

31. The MOSFET switch in its own state may be considered equivalent to :

(A) Resistor
(B) Inductor
(C) Capacitor
(D) Battery

32. The output of a logic gate is '1' when all its inputs are at logic '0'. The gate is either :

(A) NAND or EXOR gate
(B) NOR or EXNOR gate
(C) OR or EXNOR gate
(D) AND or EXOR gate

33. The Carry look ahead adder is frequently used for addition because it :

(A) is faster
(B) is more accurate
(C) uses fewer gates
(D) cost less

34. The address bus width of a memory of size 1024 × 8 bits is :

(A) 10 bits
(B) 13 bits
(C) 8 bits
(D) 18 bits

35. Digital multiplexer is basically a combinational logic circuit to perform the operation :

(A) AND–AND
(B) OR–OR
(C) AND–OR
(D) OR–AND

36. Among the following the slowest ADC is (Analog to Digital Converter) :

(A) Flash type
(B) Successive Approximation type
(C) Integrating type
(D) Counting type

37. PROMs are used to store :

(A) Bulk information
(B) Sequential information
(C) Information to be accessed rarely
(D) Relatively permanent information

38. Decimal equivalent of the hexadecimal number E5 is :

(A) 279
(B) 3000
(C) 427
(D) 229

39. The Boolean function Y = AB + CD is to be realized using only 2 input NAND gates. The minimum number of gates required is :

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

40. A Zener diode voltage regulator on heavy load will :

(A) Have high efficiency
(B) Have very high efficiency
(C) Give zero output voltage
(D) Have low efficiency

41. Output voltage of a 7824 IC voltage regulator is :

(A) 15V
(B) 18V
(C) 24V
(D) 12V

42. A silicon Controlled Rectifier has :

(A) 4 layers (B) 3 Terminals

(C) 2 layers (D) all of the above

43. A UJT can be used as :

(A) Oscillator (B) Triggering Circuit

(C) Waveform Generating Circuit (D) All of the above

44. An SCR can be constructed by sandwiching two transistors such that :

(A) One PNP and the other NPN type (B) Both PNP type

(C) Both NPN type (D) All of the above

45. L.V.D.T is based on the principle of variations of :

(A) Resistance (B) Inductance

(C) Capacitance (D) Temperature

46. The temperature coefficient of resistance for a thermistor is :

(A) Positive (B) Negative

(C) Zero (D) One

47. In a clamping circuit the time constant RC must be :

(A) Large

(B) Small

(C) Large in comparison to the period of the signal

(D) None of the above

48. OP AMP can be used to generate the following types of waveforms :

(A) Square (B) Pulse

(C) Triangular (D) All the above

49. Type of the modulation used in TV transmission is :

(A) Single sideband (B) Suppressed Carrier Double sideband

(C) Vestigial Sideband (D) None of these

50. Which of the following is true?

(A) Carrier contains more power than sidebands

(B) Carrier contains less power than sidebands

(C) Carrier contains equal power as in sidebands

(D) None of the above

51. The effect of negative feedback are following except :

(A) Reduction in gain (B) Increase in Bandwidth

(C) Increase in Distortion (D) Reduction in output impedence

52. The frequency characteristics of an amplifier can be divided into :

(A) Three regions (B) Four regions

(C) Two regions (D) None of the above

53. The multistage amplifier is an amplifier having only :

(A) one stage (B) two stage

(C) two or more stages (D) none of the above

54. A transistor connected in CB configuration has :

(A) A low input resistance and high output resistance

(B) A high input resistance and low output resistance

(C) A low input resistance and low output resistance

(D) A high input resistance and high output resistance.

55. An ideal current source is one whose internal resistance is :

(A) High (B) Low

(C) Zero (D) Infinite

56. A cell is a :

(A) DC voltage source (B) AC voltage source

(C) Constant current source (D) Ideal current source

57. In a practical voltage source, the source resistance is :

(A) Very low compared to load resistance

(B) Very high compared to load resistance

(C) Equal to the load resistance

(D) Zero

58. An ideal voltage source of 15 Volt provides a current of 150 mA to a load. If the load impedance is doubled the new load current becomes :

(A) 60 mA (B) 75 mA

(C) 150 mA (D) 300 mA

59. The barrier potential for Silicon is :

(A) 0.3 volt (B) 0.7 volt

(C) 0.5 volt (D) 0.2 volt

60. The reverse diode current for silicon is a few :

(A) Milli Ampere (B) Micro Ampere

(C) Nano ampere (D) None of above

61. Which diode is used as voltage regulator?

(A) Zener diode (B) Ordinary PN junction diode

(C) Schottky diode (D) Photo diode

62. Avalanche breakdown in semiconductor diode occurs when :

(A) Forward current exceeds certain value

(B) Reverse bias exceeds a certain value

(C) Forward bias exceeds a certain value

(D) The potential barrier is reduced to zero

63. In a PNP transistor with normal bias :

(A) Only holes cross the collector junction

(B) Only majority carriers cross the collector junction

(C) The collector junction has low resistance

(D) The E-B junction is forward biased and C-B junction is reverse biased

64. For transistor action :

(A) Collector must be heavily doped than emitter

(B) The collector base junction must be forward biased

(C) Base region must be narrow

(D) Base region must be of N type

65. In an amplifier the coupling capacitor are used :

(A) to Control the output

(B) to limit the Bandwidth

(C) to reduce output voltage

(D) to prevent DC mixing with input output

66. The Light Emitting Diode (LED) :

(A) is usually made of silicon

(B) uses a reverse Bias junction

(C) gives a light output which increases with an increase in temperature

(D) depends on the recombination of holes and electrons

67. Which of the diode is used as photo detector?

(A) Opto coupler (B) Light Emitting Diode

(C) Photo Diode (D) Photo conduction Cell

68. The value of capacitance in varactor is maximum when :

(A) Space charge region is narrow

(B) Space charge region is wide

(C) An inductor is connected parallel to the varactor

(D) None of the above

69. In Which diode conduction is only due to electrons and not holes :

(A) Varactor (B) Photo Diode

(C) Zener (D) Schottky

70. RC filters are not used so much because :

(A) It has high DC voltage drop (B) DC output voltage is high

(C) Output has very less ripple factor (D) Output has high ripple factor

71. Which element has ability to acts as open circuits for DC and short circuit for ac when connected in shunt :

(A) Resistor (B) Inductor

(C) Capacitor (D) None of the above

72. The capacitor filter is suitable for :

(A) Large Load currents (B) Small Load Currents

(C) Medium Load currents (D) All of the above

73. The energy in an inductor is :

(A) Electric field energy (B) Heat Energy

(C) Magnetic field energy (D) Light energy

74. For a decade counter at the 8th pulse the output is :

(A) 0001 (B) 1001

(C) 1000 (D) 1010

75. For a seven segment display if the input is 1001. The digit that will be displayed is :

(A) 8 (B) 9

(C) 3 (D) 4

76. Counters can be used for :

(A) Measurement of frequency (B) Measurement of distance

(C) Measurement of speed (D) All of the above

77. The colour of bright spot on screen of CRO depends upon :

(A) Nature of signal (B) Speed of electron

(C) Coating materials inside the tube (D) Intensity of electron beam

78. The time base of an oscilloscope is developed by :

(A) Sine wave form (B) Saw tooth wave form

(C) Square waveform (D) Spike wave form

79. Audio frequency generators generates signals within frequency range :

(A) Between 20Hz to 20KHz (B) Above 20KHz

(C) Above 20MHz (D) Between 20KHz to 20MHz

80. The purpose of sync control on CRO is to :

(A) Focus the spot (B) Lock the display of signal

(C) Adjust the amplitude of display (D) Measure the vertical deflection

81. The National Institute of Rural Development (NIRD) was established in 1965 at :

(A) Delhi (B) Pune

(C) Chennai (D) Hyderabad

82. Panna Diamond mine is located in the state of :

(A) Madhya Pradesh (B) Orissa

(C) Bihar (D) Rajasthan

83. The social reformer who was the leader of 'Perinad Samaram' :

(A) Mannath Padmanabhan (B) Ayyankali

(C) T.K. Madhavan (D) C. Kesavan

84. The largest Ramsar wetland in India is :

(A) Kolleru Wetland (B) Chilika Wetland

(C) Vembanad Wetland (D) Bhitarnika Wetland

85. The leader of Self Respect Movement was :

(A) E.V. Rama Swami Naiker (B) Veeresalingam

(C) Swami Dayananda Saraswathy (D) Jyothi Bhafule

86. The First Indian to circum navigate the globe is :

(A) Raghav Joveja (B) Abilash Tomy

(C) Arunima Sinha (D) Nameirak Pam

87. Nobel Prize for literature 2013 was won by :

(A) Adam Johnson (B) Eleanor Carton

(C) Alice Munro (D) Lydia Davis

88. EDUSAT was launched by ISRO in the year :

(A) 2004 (B) 2005

(C) 2003 (D) 2006

89. Madhavi Mudgal is famous for which dance form :

(A) Mohiniyattom (B) Kathak

(C) Bharathanatyam (D) Odissi

90. The novel 'Theekadal Kadanju Thirumadhuram' was written by :

(A) M.K. Sanu (B) C. Radha Krishnan

(C) M.Mukundan (D) M.T. Vasudevan Nair

91. Who among the following won the coveted FIFA Ballond'or award for 2013?

(A) Lionel Messi (B) Aryan Roban

(C) Christiano Ronaldo (D) Neyman

92. In the following which is a Rabi crop?

(A) Barley (B) Jute

(C) Cotton (D) Ragi

93. Who became the Chairman of the All India Khilafat conference in 1919?

(A) Maulana Abdul Kalam Azad (B) Maulana Shonkath Ali

(C) Mahatma Gandhi (D) Hakim Ajmal Khan

94. The place where 1857 revolt started :

(A) Delhi (B) Gwalior

(C) Kanpur (D) Meerut

95. Siva Samudram waterfalls is in the river :

(A) Krishna (B) Godavari

(C) Narmada (D) Kaveri

96. Who started Tatwa Prakasika Ashram at Kozhikkode?

(A) Swami Agamananda (B) Vagbhatananda

(C) Subhananda Gurudeva (D) Brahmananda Sivayogi

97. The magazine started by Kumaranasan in 1904 as the voice of SNDP yogam :

(A) Chitrayogam (B) Atmavidya Kahalam

(C) Vivekodayam (D) Mitavadi

98. The birth place of Sahodaran Ayyappan is :

(A) Panmana (B) Venganoor

(C) Aluwa (D) Cherai

99. The 17th Asian Games, 2014 will be held at :

(A) Incheon (B) Doha

(C) Busan (D) Guangzhon

100. 'Ayyavazhi' is associated with :

(A) Thycand Ayya (B) Ayya Vaikundar

(C) Ayyankali (D) Chattampi Swamikal
