M.E.(Electronics& Communication Engg.)

1. A storage capacitor is used in a

   A. SRAM
   B. DRAM
   C. MOSFET
   D. MESFET

2. In semiconductor electronics, the term light, heavy and split off are associated with

   A. Photons
   B. Holes
   C. Atoms
   D. Ions

3. Which one of the following is not a dielectric?

   A. Silicon oxy nitride
   B. Silicon Nitride
   C. Silicon Oxide
   D. Silicon Germanium

4. D,F,S are the

   A. Discreet Fourier transforms
   B. Classes of amplifiers
   C. Classes of resistors
   D. Types of semiconductors

5. Gold is doped in a semiconductor diode
   A. For fast recombination of majority carriers
   B. To make them slow
   C. To control minority carrier lifetime
   D. Gold is not doped

6. The body effect
   A. Increases the threshold voltage
   B. Decreases the threshold voltage
   C. No effect on the threshold voltage
   D. Increases the substrate doping

7. Which one of the following is not a non volatile memory?

   A. Phase change RAM
   B. Dynamic RAM
   C. Ferroelectric RAM
   D. Flash memory

8. At 0K, Silicon behaves as

A. Semiconductor
B. Metal
C. Insulator
D. Gas

9. GST is a

A. Material for memories
B. A standard for packaging
C. Communication protocol
D. Type of transistor

10. Which one of the following is true for an HBT?

A. It is a class of field effect transistors
B. Used at low frequencies
C. Uses germanium in the base
D. It is a class of resistors

11. A program counter in 8085 microprocessor is a

A. 16 bit register
B. 8 bit register
C. 32 bit register
D. 64 bit register

12. The difference of the contact potential in a silicon diode and a germanium diode is approximately (mV)

A) 700
B) 400
C) 100
D) 1000

13. In a MOSFET, moderate and weak are types of

A. Amplifiers
B. Inversion mode
C. Depletion mode
D. Accumulation mode

14. Low k dielectrics are used in

A. Interconnect technology
B. Gate oxide
C. Field oxide
D. Substrate

15. MNOS and NMOS are

A. Class of dielectrics

B. BJT type
C. Same
D. Memory and a transistor

16. Which of the following are the advantages of a closed loop control system?
A. Reduces the overall gain
B. Complex and costly
C.Oscillatory response
D. Less affected with noise

17. Which of these logic gates act as universal gates?
A. NOR, XNOR
B. OR, NOT
C. NOR, NAND
D. XOR, NOR

18. Which logic family consumes least power?
A. TTL
B. CMOS
C.RTL
D.DTL

19. A digital circuit that can store a bit is a
A. NOR gate
B. Flip-flop
C. NAND gate
D. XOR gate

20. Crystal oscillator

A. Uses piezoelectric effect
B. Used in AM transmitters
C. Produces stable frequency
D. All of the above

21. The oscillator used for LF applications
A. LC
B. RLC
C. RC
D. MFC

22. Transit time effect is present in
A. Gunn diode
B. Tunnel diode
C. Junction diode
D. MOSFET

23. A single PMOS can be used as
A. CMOS inverter
B. NAND gate
C. Transmission gate
D. Pass transistor

24. MOSFET model is

A. Eber Moll
B. Gummel poon
C. BSIM
D. MIS

25. Schottky diodes have

A. Planar technology
B. Au-Si contact
C. 0.3V as contact potential
D. All of the above

26. An Op-Amp comparator uses

A. Positive feedback.
B. Negative feedback
C. Both negative and positive feedback
D. No need of feedback

27. DCTL stands for

A. Direct coupled transistor logic
B. Diode coupled transistor logic
C. Diode circuit type logic
D. Direct coiled transistor logic

28. GaAs is generally used in

A. MESFET
B. Gunn diode
C. LED
D. All

29. Electric field inside a hollow conducting sphere is

A. Zero
B. Non zero but constant
C. Vary with the radius of sphere
D. None

30. IGBT and GTO are

A. Communication protocols
B. Power devices
C. MOSFETs
D. CMOS inverter types

31 The amount of time between the creation and disappearance of a free electrons is called

A. Lifetime
B. Recombination
C. Generation
D. Transit time

32. SRAM is a
A. Parallel combination of MOS transistors
B. Serial combination of MOS transistors
C. Crisscross combination of MOS transistors
D. Parallel and serial combination of MOS transistors

33. SiC is used for
A. High temperature applications
B. Low temperature applications
C. As a dielectric
D. None

34. Class C amplifier
A. Produces distortion
B. Conducts for less than half the cycle
C. Highly efficient
D. All

35. If holding current of a thyristor is 1mA then latching current is of the order of
A. 1m A
B. 2mA
C. 0.5mA
D. 0.1mA
36. Quantization error occurs in

A. AM signals
B. Noise signals
C. PCM signals
D. FM signals
37. Reflex Klystron is a
A. Tubular device
B. Low power microwave generator
C. Two cavity device
D.All

38. A BJT works because
A. Base is kept thin
B. Base is kept thick
C. Base is highly doped
D. None

39. No of comparators present in an 8 bit flash type ADC?

A. 256
B. 128
C. 255
D. 127

40. An optocoupler consists of

    A. MOSFET and a Junction diode
    B. LED and a photodiode
    C. BJT and a MOSFET
    D. GTO and MOSFET

41. Language used for programming an FPGA

    A. HDVL
    B. Verilog
    C. LHVD
    D. Antilog

42. DIBL occurs in

    A. Long channel MOSFET
    B. Short channel MOSFET
    C. BJT
    D. None

43. GAA is a type of

    A. Diode
    B. MOSFET
    C. BJT
    D. Capacitor

44. Kirk effect occurs in

    A. Diode
    B. MOSFET
    C. BJT
    D. Capacitor

45. Gain-bandwidth product in a closed loop feedback system is

    A. Constant
    B. Variable with gain
    C. Variable with bandwidth
    D. None

46. Schering bridge and Hay's bridge are used to measure

    A. Frequency and inductance
    B. Capacitance and inductance
    C. Capacitance and resistance
    D. Resistance and mutual inductance

47. The number of software interrupts in a 8085 microprocessor is

    A. Five

B. Eight
C. Seven
D. Six

48. Immediate and Direct are the
A. Addressing modes
B. Registers
C. Memory storage types
D. Interrupts

49. The difference in the number of pins (for interrupt) on a 8085 chip and the number of interrupts is
A. Zero

B. One
C. Two
D. Three

50. No. of pins in 8085 microprocessor is

A. 38
B. 40
C. 42
D. 36

51. In 8085, 16 bit register is
A. Instruction register
B. Stack pointer
C. Accumulator
D. None

52. Flags in a 8085 microprocessor are
A. 4
B. 5
C. 3
D. 6

53. In 8085, the ALE is a
A. Control signal
B. Data signal
C. Address signal
D. None
54. The DMA controller chip number is

A. 8237
B. 8085
C. 8225
D. 8155

55. The intrinsic impedance of free space is approximately

A.177 ohms
B. 277 0hms
C. 377 ohms
D. 477 ohm

56. Intrinsic region in a PIN diode makes it suitable for

A. Photo detecting applications
B. Rectifying applications
C. Maximum absorption of Electrons
D. Minimum absorption of Electrons

57. Super position theorem is not used to calculate

A. Power
B. Voltage
C. Current
D. Resistance

58. KCL works on the principle of conservation of

A. Charge
B. Power
C. Energy
D. Voltage

59. Total internal reflection occurs

A. On a glass surface
B. In a optical fiber cable
C. In a Cu cable
D. In an Al cable

60. Dynamic impedance of an ideal tank circuit is

A. Zero
B. Infinite
C. Depends on L
D. Depends on C

61. A resistor stores energy in the form of

A. Electric field
B. Magnetic field
C. Electromagnetic fields
D. None

62. Automatic control system is also called as

A. Closed loop control system
B. Open loop control system
C. Both A and B
D. None

63. Power density in an antenna is

A. Reflected power per unit area
B. Refracted power per unit area
C. Radiated power per unit area
D. None

64. MASER is used in

A. Atomic clocks
B. Radio telescopes
C. Space applications
D. All

65. Light emitting diode can be fabricated using

A.III-V compounds
B. Organic polymers
C. Nanocrystals
D. All of the above

66. Sterdian is a measurement unit of

A. Solid angle
B. Planar angle
C. Square angle
D. Tri-angle

67. A capacitor in a steady state acts as
A. Open circuit
B. Short circuit
C. Resistor
D. Current source

68. ---------- is greater than critical frequency by a factor of secθ.
A. LUF
B. HUF
C. MUF
D. UHF

69. Antenna power gain is
A. Less than directivity
B. More than directivity
C. Can be both A and B
D. Neither A nor B

70. Matthiessen's rule is generally used for
    A. Carrier mobility
    B. Carrier charge
    C. Mass
    D. None
71. Elliptical, Chebyshev, Bessel, Cauer represent
    A. AM transmitters
    B. Analog filters
    C. Rectifiers
    D. Transistors
72. An RC coupled amplifier has an open loop gain of 100 and a lower cutoff frequency of 60 Hz. If negative feedback with (β=0.2) is used, the lower cut off frequency (Hz) will be about
    A. 60
    B. 50
    C. 2.8
    D. 1.8

73. If a PMOS transistor replaces NMOS transistor in a circuit under same conditions,

    A. ON current will increase
    B. ON current will decrease
    C. No change in analysis
    D. Just sign of the calculated values will change

74. 2 input CMOS AND gate requires

    A. 2 NMOS and 1 PMOS
    B. 3 NMOS and 3 PMOS
    C. 1 NMOS and 2 PMOS
    D. 1 NMOS and 1 PMOS

75. 2 input CMOS OR gate requires
    A. 2 NMOS and 1 PMOS
    B. 3 NMOS and 3 PMOS
    C. 1 NMOS and 2 PMOS
    D. 1 NMOS and 1 PMOS