1) Name the filter that has two stop bands?
   a) Band-pass filter
   b) Low pass filter
   c) High pass filter
   d) Band-reject filter

2) **In a certain low-pass filter, fc = 5 kHz. Its pass band is**
   (A) 0 Hz
   (B) 0 Hz to 5 kHz
   (C) 9 kHz
   (D) 4.5 kHz

3) Which filter performs exactly the opposite to the band-pass filter?
   a) Band-reject filter
   b) Band-stop filter
   c) Band-elimination filter
   d) All of the mentioned

4) What is a filter?
   a) Frequency selective circuit
   b) Amplitude selective circuit
   c) Frequency damping circuit
   d) Amplitude damping circuit

5) What are filters created by using resistors and capacitors or inductors and capacitors called?
   a) Active filters
   b) Passive filters
   c) Continuous filters
   d) Differential filters

6) Find the cut off frequency for an RC low pass filter of R=8.2 kΩ and C=0.0022µF?
   a) 6KHz
   b) 8.82 KHz
   c) 7.72 KHz
   d) 7.91KHz

7) What is the value of resistor for a high pass RC filter to produce a cutoff frequency of 3.4KHz if C = 0.037µF?
   a) 1295
   b) 1265
   c) 1285
   d) 1245

8) An RC low-pass filter consists of a 100 resistor and a 0.001 F capacitor. The output is taken across the capacitor. The circuit's critical frequency is

A. 1.59 Hz

B. 1.69 Hz
C. 1.79 Hz
D. 1.89 Hz

9) A certain noninverting amplifier has Ri of 1 kΩ and Rf of 101 kΩ. The closed-loop voltage gain is ……
A) 10000
B) 100
C) 102
D) 1000

10) Current cannot flow to ground through …….
A) a mechanical ground
B) an a.c. ground
C) a virtual ground
D) an ordinary ground

11) How will be the output voltage obtained for an ideal op-amp?
a) Amplifies the difference between the two input voltages
b) Amplifies individual voltages input voltages
c) Amplifies products of two input voltage
d) None of the mentioned

12) Find the input voltage of an ideal op-amp. It's one of the inputs and output voltages are 2v and 12v. (Gain=3)
a) 8v
b) 4v
c) -4v
d) -2v

13) Op-amps used as high- and low-pass filter circuits employ which configuration?
A. noninverting
B. comparator
C. open-loop
D. inverting

14) Which concept states that if one input terminal of an op-amp is at zero potential, then the other one also will be at zero potential?
a. Virtual short
b. Virtual ground
c. Zero input current
d. None of the above

15) The output voltage of an open-loop differential amplifier is equal to
a) Double the difference between the two input voltages
b) Product of voltage gain and individual input voltages
c) Product of voltage gain and the difference between the two input voltages
d) Double the voltage gain and the difference between two input voltages

16) For an Op-amp with negative feedback, the output is …….
A) equal to the input
B) increased
C) fed back to the inverting input
D) fed back to the noninverting input

17) The two input terminals of an opamp are labeled as
A) High and low
B) Positive and negative
C) Inverting and non inverting
D) Differential and non differential

18) Which statement is true in view of micro controller
A) microcontroller consists of the processor, the memory, Serial ports, peripherals
B) A microcontroller is a small and low-cost microcomputer
C) It is designed to perform the specific tasks of embedded systems
D) All of the above

19) A microcontroller consist of:
a) RAM, ROM, I/O ports and timers
b) CPU, RAM, I/O ports and timers
c) CPU, RAM, ROM, I/O ports and timers
d) CPU, ROM, I/O ports and timers

20) A microprocessor is a ……. Chip integrating all the functions of a CPU of a computer
A) Single
B) Multiple
C) Double
D) Triple

21) Micro processor is the …… of the computer and it perform all the computational tasks
A) Main
B) Brain
C) Heart
D) Important

22) ASIC stands for
A) Application Specific Integrated Circuits
B) Application sorted integrated circuits
C) Application solution integrated circuit
D) Application specific input circuit

23) Applications of digital signal processor
A) Speech processing
B) Image processing
C) Medical processing
D) All of the above

24) In which OS large memory is required
A) RTOS
B) GPOS
C) Both
D) None of the above

25) Which platforms are the example of GPOS
A) Linux
B) Windows
C) Mac OS
D) All of the above

26) FPGA contains
A) Adders
B) multipliers
C) Both
D) Neither adders nor multipliers

27) 80186 is a
A) 8 bit processor
B) 16 bit processor
C) 32 bit processor
D) 64 bit processor

28) Components of embedded system
A) Only hardware
B) application software
C) OS
D) All of the above

29) These devices provide a means of communication between a computer and outer world
a) I/O
b) Storage
c) Compact
d) Drivers

30) Among the options which of the following computer input device enable video conference?

A) Microphone

B) Digital Camera

C) Voice recognition

D) Webcam

The power rating of a BJT is determined by which of the following

A.Collector base area
B.Base width
C.Heat sink
D.Emitter base junction area

In CB configuration, a transistor transfers

- Voltage from high impedance circuit to low impedance
- Voltage from low impedance circuit to high impedance
- Current from high impedance circuit to low impedance circuit
- Current from low impedance circuit to high impedance circuit

When a transistor is in active region in CB configuration , the resistance is high between

- Emitter to collector
- Base to collector
- Emitter to base
- All of the above

A transistor is said to be operating in the cut-off region if

- Emitter junction is forward biased and collector junction is forward biased
- Emitter junction is reverse biased and collector junction is forward biased
- Emitter junction is forward biased and collector junction is reverse biased
- Emitter junction is reverse biased and collector junction is reverse biased

MOSFET has greatest application in digital circuit due to

- Low power consumption
- Less noise
- Small amount of space it takes on a chip
- All of the above

The depletion region of the Zener diode is _____

- very thick
- very thin
- thick

- Normal

In the breakdown region, a zener didoe behaves like a ……. source.

- Constant current
- constant voltage
- constant resistance
- none of the abov

In N-channel Enhancement MOSFET, for inversion the gate to source voltage (VGS) is

- less than 0
- greater than 0
- is equal to drain voltage
- None of the above

A N-Channel depletion MOSFET ,when gate source voltage (VGS) is extreme negative ,then the status of channel is

- depletion of electrons
- Accumulation of electrons
- depletion of holes
- none of the above

FPGA device are _____ type.

- PLD
- EPROM
- SPROM
- None of above

Which of the following are correct characteristics of RISC?

- It supports register to use in any context.
- It consists of simple instructions.
- It supports various data-type formats.
- All of the above

Which of the following are incorrect Characteristics of CISC?

- Variety of addressing modes.
- Variable length of instruction format
- Instruction-decoding logic is complex.
- Small number of instructions.

Which among following statement/s is NOT correct related to IoT in healthcare.

A. efficient autonomous systems will cost less to manage and 'employ' in the long run.

B. Doctors can view all the necessary data on command and check real-time patient conditions without leaving their office

C. Privacy cannot be potentially undermined

D. Wearables contains less health tracking features and continue down in the market.

- B & D
- C & D
- A & D
- A & B

What is the role of Cloud in smart grid architecture of IoT?

- Store data
- Manage data
- Collect data
- Security

Which among statements are true for microcontroller

A. The MCU is application-specific i.e. it is designed for performing a single specific task.

B. Its processing speed is 8Mhz to 50Mhz. thus it cannot be used for complex tasks.

C. It has an internal fixed amount of memory that cannot be upgraded.

D. It needs external components thus the devices made it are bulkier

E. It is the central processing unit of the computer

- A & B & D
- A & B & C
- A & C & E
- B & D & E

What is the Propagation delay?

- the time taken for the output of a gate to change after the intermediates have changed
- the time taken for the input of a gate to change after the intermediates have changed
- the time taken for the input of a gate to change after the outputs have changed
- the time taken for the output of a gate to change after the inputs have changed

What is the maximum noise voltage that may appear at the input of a logic gate without changing the logical state of its output is termed as _____

- Noise Immunity
- Noise Margin
- White Noise
- None of the these