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| Seat No. | |
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P.G. Entrance Examination, June - 2022**M.Sc. Electronics****Code. No. 58298****Day and Date : Saturday, 11 - 06 - 2022****Total Marks : 100****Time : 03.30 p.m. to 05.00 p.m.**

- Instructions :**
- 1) All questions are compulsory.
 - 2) Each question carries one mark.
 - 3) Answers should be marked in the given OMR answer sheet by darkening the appropriate option.
 - 4) Follow the instructions given on OMR sheet.
 - 5) Rough work shall be done on the sheet provided at the end of question paper.

- 1) The operation of log and antilog amplifiers is based on the ____ characteristics of a p-n junction.
 - A) Non-linear
 - B) Linear
 - C) Linear and Non-Linear
 - D) None of these
- 2) For large wattage _____ resistors are used.
 - A) Carbon composition
 - B) Wire wound
 - C) Film
 - D) Light dependent
- 3) Reset input of the 8085 Microprocessor is ____
 - A) Active low
 - B) Active high
 - C) Floating input
 - D) None of these

- 4) Electrolytic capacitors are also known as _____ Capacitors.
- A) polar
 - B) non-polar
 - C) multi-polar
 - D) variable
- 5) To minimise the effect of eddy currents at high frequency applications _____ Material is used as a core in inductors.
- A) Iron
 - B) Ferrites
 - C) Aluminum
 - D) None of these
- 6) In step down transformer secondary current is _____ the primary current
- A) Same as
 - B) Less than
 - C) Greater than
 - D) None of these
- 7) In capacitor filter, capacitor is connected in _____ with the load.
- A) Series
 - B) Parallel
 - C) Across the diode
 - D) None of these
- 8) The ripple frequency of full wave rectifier is _____ Hz.
- A) f
 - B) $2f$
 - C) $f/2$
 - D) $3f$
- 9) _____ amplifier is having maximum voltage gain.
- A) Common emitter
 - B) Common base
 - C) Common collector
 - D) All of above

- 10) To use transistor as an amplifier it should be used in _____ region.
- A) Saturation
 - B) Active
 - C) Cut off
 - D) None of these
- 11) 8051 has _____ number of register banks.
- A) 1
 - B) 2
 - C) 4
 - D) 8
- 12) Timer overflow is indicate by _____ flag.
- A) IE
 - B) TF
 - C) CY
 - D) OV
- 13) Zero-level detector is one application of a _____
- A) Differentiator
 - B) Comparator
 - C) Diode
 - D) Integrator
- 14) The clamper circuit is used to _____
- A) Introduce AC component
 - B) Introduce frequency component
 - C) Remove the part of the signal
 - D) Introduce DC component
- 15) Astable multivibrator is a _____
- A) Oscillator
 - B) Amplifier
 - C) Attenuator
 - D) Recorder

- 16)** High pass circuit is also known as
- A) Differentiator
 - B) Integrator
 - C) Rectifier
 - D) Amplifier
- 17)** Laplace transform converts the time domain signal into _____ domain.
- A) s
 - B) integer
 - C) t
 - D) none of these
- 18)** In RS Flip-flop, If $R=0$ & $S=1$ then the Flip-flop is in _____ state.
- A) No change
 - B) Set
 - C) Forbidden
 - D) Reset
- 19)** Op-amp is basically _____
- A) DC amplifier
 - B) RC coupled amplifier
 - C) Differential amplifier
 - D) None of these
- 20)** For an ideal op-Amp has _____ input impedance.
- A) 75 ohm
 - B) 0 ohm
 - C) 2 Mega ohm
 - D) Infinite ohm

- 21) Offset null pins provided to IC 741 are _____
A) 2 and 3
B) 1 and 5
C) 4 and 7
D) 4 and 8
- 22) The only drawback of Op-amp is _____
A) Low output impedance
B) High input impedance
C) Fall of gain at low frequencies
D) Fall of gain at high frequencies
- 23) In an Integrator, the feedback element is a _____
A) Resistor
B) Capacitor
C) Diode
D) Zener diode
- 24) The Q-factor of a narrow band pass filter is _____
A) Zero
B) Greater than one
C) Less than one
D) Its bandwidth
- 25) The differential amplifier can be biased by using _____
A) Emitter bias
B) Current mirror bias
C) Constant current bias
D) All of these
- 26) A Notch filter is a _____
A) Wide-band pass filter
B) Narrow- band pass filter
C) Narrow- band reject filter
D) Wide- band reject filter

- 27)** An integrated circuit offers _____
- A) Low power consumption
 - B) Improved performance
 - C) High speed
 - D) All of these
- 28)** For LM 308 input resistance is of the order of ____ Mega ohms.
- A) 2
 - B) 20
 - C) 40
 - D) 50
- 29)** As temperature increases the Slew rate of an Op-Amp. _____
- A) Gradually decreases
 - B) Gradually increases
 - C) Remains constant
 - D) None of these
- 30)** The gain of second order butterworth filter is _____
- A) 1.732
 - B) 1.586
 - C) 1.414
 - D) 2.108
- 31)** Which of the following is not an input or output of the 555 timer
- A) Reset
 - B) Threshold
 - C) Control voltage
 - D) Clock
- 32)** V to I Converter is also called as _____
- A) Transconductance amplifier
 - B) Adder
 - C) Transresistance amplifier
 - D) Buffer

- 33)** If the control voltage to a VCO increases, the output frequency _____
- A) Decreases
 - B) Does not changes
 - C) Increases
 - D) None of these
- 34)** Butterworth active filter has _____
- A) Ripple pass and Stop band
 - B) Flat pass and Stop band
 - C) Ripple pass and Flat Stop band
 - D) Flat pass and Ripple Stop band
- 35)** High value of slew rate means _____
- A) Slow speed of working of op-amp
 - B) High voltage gain
 - C) High speed of working of op-amp
 - D) High stability
- 36)** _____ owns internet?
- A) Google
 - B) Yahoo
 - C) Rediff
 - D) No body
- 37)** The most commonly used light sensor in a modern FAX machine is a _____
- A) Phototube
 - B) Phototransistor
 - C) Charge coupled device
 - D) Liquid-crystal display

- 38) _____ is the deviation of true value from the expected value.
- A) Error
 - B) Accuracy
 - C) Resolution
 - D) Precision
- 39) To display the one variable with respect to time is _____ recorder.
- A) X-T
 - B) Magnetic tape
 - C) X-Y
 - D) None of these
- 40) asd
- A) a
 - B) b
 - C) c
 - D) d
- 41) _____ is the ratio of change in output of the instrument to a change of input
- A) Resolution
 - B) Sensitivity
 - C) Accuracy
 - D) Precision
- 42) Modulation is done at _____
- A) Transmitter
 - B) Receiver
 - C) Both receiver & transmitter
 - D) None of these
- 43) Common cathod type display requires an active _____ configuration for code converter circuit.
- A) High
 - B) Low
 - C) Both high and low
 - D) None of these

- 44) _____ is also called as pizo resistive transducer.
- A) Thermister
 - B) Quartz crystal
 - C) Thermocouple
 - D) Strain gauge
- 45) _____ Transducer operates under energy conversion principle.
- A) Active
 - B) Passive
 - C) Both active and passive
 - D) None of these
- 46) The lowest gain that can be obtained from a Non-inverting amplifier is _____
- A) 0.5
 - B) 1
 - C) Zero
 - D) 10
- 47) An ideal instrumentation amplifier has _____ common mode gain,
- A) Zero
 - B) Infinite
 - C) 1000
 - D) None of these
- 48) _____ display are characterized by low power dissipation, low cost, large area and low operating speed.
- A) LED
 - B) CRT
 - C) LCD
 - D) All of the above
- 49) To measure the rotation per minute of rotating shaft _____ meter is used.
- A) Multi meter
 - B) Frequency meter
 - C) Lux meter
 - D) Tacho meter

- 50)** The pH of pure water at 25 degree C is _____.
A) Less than 7
B) Greater than 7
C) Equal to 7
D) Zero
- 51)** _____ is a nonlinear process used in the signal conditioning equipment.
A) Modulation
B) Amplification
C) Attenuation
D) Integration
- 52)** LVDT is _____ transducer.
A) Velocity
B) Flow
C) Displacement
D) Photo
- 53)** XT recorder records electrical signal with respect to _____.
A) Other variable
B) Temperature
C) Time
D) None of these
- 54)** In radio wave propagation, the ground waves are also called as _____.
A) Space waves
B) Ionospheric waves
C) Sky waves
D) Surface waves
- 55)** Communication through walky-talky is a _____ system.
A) Simplex
B) Half duplex
C) Full Duplex
D) None of these

- 56)** Lowest existing layer in an ionosphere is _____
- A) E-layer
 - B) F1-layer
 - C) D-layer
 - D) F2-layer
- 57)** ASCII stands for _____
- A) American Standard Code for Information Interchange
 - B) American Standard Code for Interchanging Information
 - C) American Scientific Code for Interchanging Information
 - D) American Scientific Code for Information Interchange
- 58)** The wave travelling through the troposphere are called as _____
- A) Sky waves
 - B) Ground waves
 - C) Space waves
 - D) Magnetic waves
- 59)** In TV, vertical blanking pulse frequency is _____
- A) 15625KHz
 - B) 50 Hz
 - C) 625 Hz
 - D) 525 Hz
- 60)** The maximum frequency which is reflected by ionosphere is _____
- A) 30 KHz
 - B) 30 Hz
 - C) 30 MHz
 - D) 30 GHz
- 61)** Thermal agitation noise in communication is _____
- A) Internal noise
 - B) External noise
 - C) Industrial noise
 - D) None of these

- 62)** The hybrid in telephone handset is _____
- A) A transistor
 - B) Relay
 - C) MOSFET
 - D) A special transformer
- 63)** Printed documents to be transmitted by FAX are converted in to a baseband signal by a process of _____
- A) Reflection
 - B) Scanning
 - C) Modulation
 - D) Demodulation
- 64)** What kind of device is a diode
- A) Bilateral
 - B) Linear
 - C) Nonlinear
 - D) Unipolar
- 65)** In an npn transistor the majority carriers in the emitter are _____.
- A) Electrons
 - B) Holes
 - C) Both A and B
 - D) None of the above
- 66)** External excitation is needed only for _____ transducer.
- A) Passive
 - B) Active
 - C) Both active and passive
 - D) None of these

- 67) The photo conductive material of photo conductive cell is _____.
A) Quartz
B) Iron
C) Metal oxides
D) Cadmium sulphide
- 68) How many flip-flops are required to make a MOD-16 binary counter?
A) 2
B) 3
C) 4
D) 5
- 69) PLL can be used as a _____ filter.
A) Low-Pass
B) High-Pass
C) Notch
D) None of these
- 70) A known accurate measure of physical quantity is termed as a _____.
A) Standard
B) Accuracy
C) Error
D) Precision
- 71) _____ works as mediator between computer and network.
A) Hub
B) Modem
C) Network
D) None of these

- 72)** A conference call is possible for a maximum of _____ Subscribers.
- A) Two
 - B) Three
 - C) Four
 - D) Five
- 73)** Multimode step index fiber has a large core diameter of range is _____
- A) 100 to 300 μm
 - B) 100 to 300 nm
 - C) 200 to 500 μm
 - D) 200 to 500 nm
- 74)** An emitter follower has a voltage gain that is _____.
- A) Much less than one
 - B) Approximately equal to one
 - C) Greater than one
 - D) Zero
- 75)** The input impedance of JFET _____.
- A) Approaches zero
 - B) Approaches one
 - C) Approaches infinity
 - D) Is impossible to predict
- 76)** A thyristor can be used as _____.
- A) A resistor
 - B) A switch
 - C) An amplifier
 - D) A power source

- 77)** The universal gate is _____.
A) AND
B) OR
C) NAND
D) NOT
- 78)** The 2's complement of 1001 is _____.
A) 0110
B) 0111
C) 0011
D) 0101
- 79)** In 8 to 1 multiplexer, how many select lines are required?
A) 2
B) 3
C) 4
D) 5
- 80)** Possible I/O lines for IC 8255 _____.
A) 3
B) 4
C) 8
D) 24
- 81)** To interface EPROM IC 27128 with 8085, the minimum _____ address lines are required.
A) 11
B) 12
C) 13
D) 14

- 82)** _____ is called as 'auto reload' mode in 8051 Timer operation.
- A) Mode 0
 - B) Mode 1
 - C) Mode 2
 - D) Mode 3
- 83)** To interface EPROM IC 2764 with 8085, the minimum _____ address lines are required.
- A) 11
 - B) 12
 - C) 13
 - D) 14
- 84)** Mode 1 is _____ bit Timer mode.
- A) 8
 - B) 16
 - C) 32
 - D) 11
- 85)** Mode 2 operation of IC 8253 is _____
- A) Square wave Generator
 - B) Software triggered strobe
 - C) Hardware retriggered one shot
 - D) Rate generator
- 86)** In ADC 0804, if VRef/2 pin is left open then analog input voltage span is _____ volt.
- A) 0 - 1
 - B) 0 - 2
 - C) 0 - 4
 - D) 0 - 5

- 87)** Interrupt priority can be changed using _____ register.
- A) IE
 - B) IP
 - C) TCON
 - D) TMOD
- 88)** In Sequence timer, IC 555 are used in _____ operation.
- A) Astable
 - B) Monostable
 - C) Bistable
 - D) None of these
- 89)** Input offset voltage in op-amp results due to _____
- A) Identical I / P transistor
 - B) Non-identical I / P transistor
 - C) Power supply
 - D) None of these
- 90)** Opposition presented by the resistor for ac and dc current is _____
- A) Same for both
 - B) Large for dc
 - C) Large for ac
 - D) None of these
- 91)** Which of the following IC package can be used as frequency multiplier _____
- A) IC 555
 - B) IC 8038
 - C) IC 565
 - D) IC 741

- 92)** The prorogation of light through fiber optic cable is based on the principle of

- A) Reflection
 - B) Dispersion
 - C) Absorption
 - D) Refraction
- 93)** A basic S-R flip-flop can be constructed by cross-coupling of which logic gates?
- A) AND or OR gates
 - B) XOR or XNOR gates
 - C) NOR or NAND gates
 - D) All of the above
- 94)** How many clock pulses will be required to completely load serially a 5-bit shift register?
- A) 3
 - B) 4
 - C) 5
 - D) 10
- 95)** Ripple counters are also called as
- A) SSI counters
 - B) Asynchronous counters
 - C) Synchronous counters
 - D) VLSI counters

96) 8 to 1 Multiplexer requires _____ select lines.

- A) 8
- B) 2
- C) 3
- D) 4

97) Flip-flops are ____.

- A) Stable devices
- B) Astable devices
- C) Bistable devices
- D) None of the above

98) Memory IC 27128 is of _____ byte

- A) 8K
- B) 16 K
- C) 32 K
- D) 128 K

99) 8051 has in-built internal RAM of _____ bytes.

- A) 8
- B) 16
- C) 64
- D) 128

100)BSR mode is valid for _____

- A) Port A
- B) Port B
- C) Port C
- D) All of these



Rough Work