MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

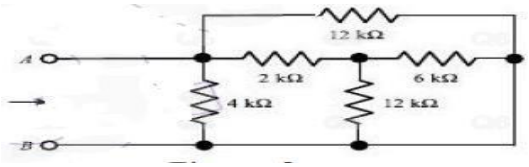
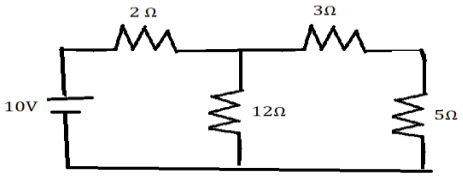
I B.Tech II Semester (MR18- 2019-20 Admitted Students)

I Mid Examination (Question bank)

Subject :BASIC ELECTRICAL & ELECTRONICS ENGINEERING **Branch: CSE,ECE, IT &EEE**

Subject Code: Max.Marks:

MODULE : 1

Q.No.	Question	Bloom's Taxonomy Level	CO
1	Find the equivalent resistance for the following circuit? 	Applying	1
	OR		
2.	By using Thevinin's theorem Determine the current through 5 ohm resistor? 	Applying	1
3.	Explain superposition theorem with example .	Understanding	1
	OR		
4	Explain Thevenin's theorem with a example.	Understanding	1
5	Derive Star to Delta conversion equations.	Evaluating	1
	OR		
6	Derive Delta to Star conversion equations.	Evaluating	1
7.	Explain in detail the volt-ampere relationship of R, L and C elements with neat diagrams.	Understanding	1
	OR		
8	Write down KVL and KCL and Explain with Example.	Understanding	1

MODULE-II

Q.No.	Question	Bloom's Taxnomy Level	CO
1	Find Average value, RMS value, Form factor and Peak factor of sinusoidal current.	Applying	2
	OR		
2.	Find Average value, RMS value, Form factor and Peak factor of sinusoidal voltage.	Applying	2
3.	Explain the terms (i) Maximum value (ii) Form factor (iii) Peak factor (iv)RMS value.(v) Average value	Understanding	
	OR		
4	Draw a sinusoidal waveform and define the following terms (i) Amplitude (ii) Instantaneous value (iii) Time Period (iv) Frequency (v) Alternation	Understanding	2
5	Draw the circuit diagram and explain the steady state analysis of a pure resistance only	Applying	2
	OR		
6	An ac circuit consists of a pure resistance of 10 ohms and is connected across an AC supply of 230 V 50Hz. Calculated (a) RMS value of current (b) power (c) power factor (d) write down the equation for voltage and current.	Applying	2
7.	An alternating voltage of 80+j60 V is applied to a circuit and the current flowing is 4- j2 A . Find the (a) impedance (b) phase angle (c) power factor (d) power consumed.	Applying	2
	OR		
8	Draw the circuit diagram and explain the analysis of single phase RL series circuit.	Applying	2

MODULE-III

Q.No.	Question	Bloom's Taxnomy Level	CO
1	Explain the following terms (i) Lenzs law (ii) Faradays law (iii) Fleming Right hand rule	Understanding	3
	OR		
2	Explain the Constructional details of a DC Machines	Understanding	3
3	Explain the principle and operation of a DC generator.	Understanding	3
	OR		
4	Explain induced EMF and Derive the equation for induced EMF of a DC generator.	Understanding	
5	A 4-pole, DC generator has a useful flux per pole of 0.07 wb runs at 750 rpm. The armature winding is wave wounded with 252 conductors. Calculate the generated emf.	Applying	3
	OR		
6	A 4-pole ,lap wound Dc generator has a useful flux of 0.07wb per pole. Calculate the generated EMF when it is rotated at a speed of 900rpm with the help of prime mover. Armature consists of 440 no. of conductors. Also calculate the generated emf if lap wound armature is replaced by wave wound armature.	Applying	3

MALLA REDDY ENGINEERING COLLEGE

(AUTONOMOUS)

Question Bank for **I**- BTECH **II** SEM - MID-I

BRANCH : CSE , ECE, IT & EEE

SUBJECT : BASICS ELECTRICAL & ELECTRONICS ENGINEERING

Objective Questions

1 Kirchhoff's second law is based on law of conservation of [ ]
(A) charge
(B) energy
(C) momentum
(D) mass.

2 What is the relationship between the resistance and voltage when the current is kept constant? [ ]
(A) equal to
(B) inversely proportional
(C) directly proportional
(D) constant

3 An ideal current source has
[ ]
(A) Infinite source resistance
(B) Zero internal resistance
(C) Zero voltage on no load
(D) Zero ripple

4 An ideal voltage source should have [ ]
(A) Zero source resistance
(B) Infinite source resistance
(C) Terminal voltage is proportional to current
(D) Open-circuit voltage nearly equal to voltage of the load current

5 Identify the passive element among the following [ ]
(A) Voltage source
(B) current source
(C) inductor
(D) transistor

6 How much energy is stored by a 0.05μF capacitor with a voltage of 1000V? [ ]
(A) 0.025J
(B) 0.05J
(C) 5J
(D) 100J

7 The unit of power is [ ]
(A) Watt
(B) Volt
(C) Current
(D) None

8 State Kirchoff's current Law [ ]
(A) sum of all positive currents is equal to sum of all negative currents.
(B) sum of all positive emfs is equal to the sum of all negative emfs taken in order
(C) sum of all powers in a circuit
(D) sum of all emfs in a circuit
9 Define Kirchoff's voltage law [ ]
(A) algebraic sum of emf's - algebraic sum of voltage drops = 0
(B) algebraic sum of emf's + algebraic sum of voltage drops = 0
(C) zero
(D) algebraic sum of currents
10 A terminal where more than two branches met is called: [ ]
(A) Node
(B) Terminus
(C) Loop
(D) None of the above
11 Ohm's Law states that current through a conductor, under ----conditions is proportional to potential difference across the conductor.
[ ]
(A) constant pressure
(B) constant pressure, temperature and volume
(C) constant volume
(D) constant temperature
12 In a parallel circuit, the relation between different currents is [ ]
(A) Zero = $I_1 + I_2 + I_3 + I_4 + - - --$
(B) $I_T = I_1 \text{ X } I_2 \text{X } I_3 - - - - - -$
(C) $I_1 + I_2 + I_3 + - - -- =$ infinity
(D) $I_T = I_1 + I_2 + I_3 + - - --$
13 What are the units of voltage, current and Resistance respectively [ ]
(A) Ohms, Volts, Amperes
(B) Volts, Farads, Amperes
(C) Henries, Volts, Amperes
(D) Volts, Amperes, Ohms
14 What is the rule followed for kirchoff's voltage law? [ ]
(A) mesh rule
(B) current rule
(C) loop rule
(D) wheat stone rule
15 In a parallel circuit, the total resistance of circuit----------as the number of resistors connected in parallel---------- [ ]
(A) increases, increases
(B) increases, decreases
(C) decreases, decreases
(D) decreases, increases
16 In a series circuit, the total resistance of circuit-----as the number of resistors connected in series -------- [ ]
(A) increases, increases
(B) increases, decreases

(C) decreases, decreases
(D) decreases, increases

17 The mass of proton is roughly how many times the mass of an electron? [ ]
(A) 184,000
(B) 184,00
(C) 1840
(D) 184

18 One kilowatt hour of electrical energy is the same as [ ]
(A) 36 x 10^5 watts
(B) 36 x 10^s ergs
(C) 36 x 10^5 joules
(D) 36 x 10^5 B.T.U.

19 Which of the following is not the same as watt? [ ]
(A) joule/sec
(B) amperes/volt
(C) amperes x volts
(D) (amperes)^2 x ohm

20 A circuit contains two un-equal resistances in parallel [ ]
(A) current is same in both
(B) large current flows in larger resistor
(C) potential difference across each is same
(D) smaller resistance has smaller conductance

21 Conductance is expressed in terms of [ ]
(A) ohm / m
(B) m / ohm
(C) mho / m
(D) mho

22 We have three resistances of values 2 Ω, 3 Ω and 6 Ω. Which of following combination will give an effective resistance of 4 Ω [ ]
(A) All the three resistances in parallel
(B) 2 Ω resistance in series with parallel combination of 3 Ω and 6 Ω resistance
(C) 3 Ω resistance in series with parallel combination of 2 Ω and 6 Ω resistance
(D) 6 Ω resistance in series with parallel combination of 2 Ω and 3 Ω resistance

23 The unit of electrical conductivity is [ ]
(A) mho / metre
(B) mho / sq. m
(C) ohm / metre
(D) ohm / sq. m.

24 The resistance of a 100 W, 200 V lamp is [ ]
(A) 100 ohm
(B) 200 ohm
(C) 400 ohm
(D) 1600 ohm

25 Three 3 ohm resistors are connected to form a triangle. What is the resistance between any two of the corners [ ]
(A) 3 / 4 ohms
(B) 3 ohms
(C) 4.5 ohms
(D) 4/3 ohm

26 A resistance of 5 ohms is further drawn so that its length becomes double. Its resistance will now be [ ]
(A) 5 ohms
(B) 7.5 ohms
(C) 10 ohms
(D) 20 ohms
27 Specific resistance of a substance is measured in [ ]
(A) ohms
(B) mhos
(C) ohm-cm
(D) cm/ohm
28 A wire of resistance R has it length and cross-section both doubled. Its resistance will become [ ]
(A) 4 R
(B) 2 R
(C) R
(D) R / 4.
29 The value of supply voltage for 500 W ,5 ohm load is [ ]
(A) 500 V
(B) 100V
(C) 50 V
(D) 10V
30 100 resistors of 100 ohms each arc connected in parallel. Their equivalent resistances will be [ ]
(A) 10,000 ohms
(B) 100 ohms
(C) 1 ohm
(D) 1/ 10000 ohm
31 Kirchhoff's first law is based on law of conservation of [ ]
(A) charge
(B) energy
(C) momentum
(D) mass.
32 The unit of voltage is [ ]
(A) Watt
(B) Volt
(C) Current
(D) None
33 The resistance of a 10 Ohm & 20 Ohm are connected in series then the equivalent resistance is -------- [ ]
(A) 30 ohm
(B) 20 ohm
(C) 10 ohm
(D) 6.66 ohm
34 The resistance of a 10 Ohm & 20 Ohm are connected in parallel then the equivalent resistance is -------- [ ]
(A) 30 ohm
(B) 3.33 ohm
(C) 10 ohm
(D) 6.66 ohm

35 The unit of resistor is [ ]
(A) Watt
(B) Volt
(C) ohm
(D) None
36 The resistance of a 3.33 Ohm & 3.33 Ohm are connected in series then the equivalent resistance is -------- [ ]
(A) 3.33 ohm
(B) 6.66 ohm
(C) 9.99 ohm
(D) 0 ohm
37 The resistance of a 5 Ohm & 5 Ohm are connected in parallel then the equivalent resistance is -------- [ ]
(A) 0.5 ohm
(B) 3.5 ohm
(C) 1.5 ohm
(D) 2.5 ohm
38 The unit of current is [ ]
(A) Watts
(B) Volts
(C) Amp
(D) None
39 In a parallel circuit, the current passing through the element is [ ]
(A) same
(B) infinity
(C) different
(D) none
40 In a parallel circuit, the voltage across the element is------ [ ]
(A) infinity
(B) same
(C) different
(D) none
41 In a series circuit, the current passing through the element is [ ]
(A) same
(B) infinity
(C) different
(D) none
42 In a series circuit, the voltage across the element is------ [ ]
(A) same
(B) infinity
(C) different
(D) none
43 The equivalent resistance in star circuit is --------- to equivalent resistance in delta [ ]
(A) equal
(B) infinity
(C) different
(D) none
44 The equivalent resistance in delta circuit is --------- to equivalent resistance in star [ ]
(A) different
(B) infinity

(C) equal
(D) none
45 Capacitance store the energy in the form of ------- [ ]
(A) Electrostatic field
(B) Electromagnetic field
(C) uniform field
(D) none
46 inductance store the energy in the form of ------- [ ]
(A) Electrostatic field
(B) Electromagnetic field
(C) uniform field
(D) none
47 Which one is the energy storage element [ ]
(A) inductor
(B) resistor
(C) diode
(D) none
48 Which one is the energy storage element [ ]
(A) diode
(B) resistor
(C) Capacitor
(D) none
49 A circuit contain one energy storage element is called [ ]
(A) Active circuit
(B) Passive circuit
(C) Linear circuit
(D) Non linear circuit
50 A circuit contain no energy storage elements is called [ ]
(A) Active circuit
(B) Passive circuit
(C) Linear circuit
(D) Non linear circuit
51 RMS Value of sinusoidal Voltage is [ ]
(A) $Vm/\sqrt{2}$
(B) 0
(C) VI /sinϕ
(D) VI/cosϕ
52 Average Value of sinusoidal Voltage is [ ]
(A) $Vm/\sqrt{2}$
(B) 2Vm/π
(C) VI /sinϕ
(D) VI/cosϕ
53 Form factor of sinusoidal Voltage is [ ]
(A) 1.11
(B) 2
(C) 3
(D) 4
54 Peak factor of sinusoidal Voltage is [ ]
(A) 1.11
(B) 2

(C) $\sqrt{2}$
(D) 4
55 In symmetrical wave RMS Value is calculated for [ ]
(A) one Alternation
(B) Full Cycle
(C) Both
(D) None
56 For Half wave Rectifier Second alternation is [ ]
(A) ZERO
(B) Positive
(C) Negative
(D) None
57 50HZ Means [ ]
(A) 1 cycle/sec
(B) 2 Cycles/sec
(C) 50 Cycles/sec
(D) 50 Cycles/min
58 If $E_1 = A\sin\omega t$ and $E_2 = A\sin(\omega t - \theta)$, then [ ]
(A) E1& E2 are in phase
(B) E2 lags E1by θ
(C) E1 lags E2by θ
(D) E2 lags E1by 90^0
59 The equation for 25 cycles current sine wave having rms value of 30 amps, will be [ ]
(A) $42.4\sin 50\pi t$
(B) $42.4\sin 25\pi t$
(C) $30\sin 25\pi t$
(D) $30\sin 25\pi t$
60 The rms value of sinusoidal voltage wave $V = 200\sin\omega t$, is [ ]
(A) $200/\sqrt{2}$
(B) $100/\sqrt{2}$ V
(C) $200\sqrt{2}$ V
(D) $100\sqrt{2}$ V
61 The value of supply voltage for 400 W, 4 Ω load is [ ]
(A) 40 V
(B) 20 V
(C) 100 V
(D) 1600 V
62 Peak Factor gives [ ]
(A) Peak Value To R.M.S. Value
(B) Average Value To Peak Value
(C) R.M.S. Value To Average Value
(D) R.M.S. Value To Peak Value
63 For a Frequency of 200Hz,The Time Period Will be [ ]
(A) 0.05 S
(B) 0.005 S
(C) 0.0005 S
(D) 0.5 S
64 For a Sine Wave With Peak Value I_{max} the R.M.S. Value Is [ ]
(A) 0.5

(B) 0.707
(C) 0.9
(D) 1.414 Imax

65 energy stored in inductor is in the form of [ ]

(A) electrical field

(B) both

(C) none

(D) magnetic field

66 If the area of hysteresis loop of a material is large, the hysteresis loss in this material will be [ ]

(A) zero

(B) small

(C) medium

(D) large

67 How many cycles does a sine wave go through in 10s when its frequency is 60HZ [ ]
(A) 10 cycles
(B) 60 cycles
(C) 600 cycles
(D) 6 cycles

68 If the peak value of a sine wave voltage is 10V, what is the peak to peak value? [ ]
(A) 20V
(B) 10V
(C) 5V
(D) 7.07V

69 If peak value of sine wave voltage is 5V, then rms value is [ ]
(A) 0.707V
(B) 3.535 V
(C) 5V
(D) 1.17V

70 A phasor represents [ ]
(A) Magnitude of the quantity
(B) width of the quantity
(C) Magnitude & direction of the quantity
(D) Phase angle of quantity

71 The form factor is the ratio of [ ]
(A) peak value to r.m.s. value
(B) r.m.s. value to average value
(C) average value to r.m.s. value
(D) none

72 Relationship between frequency and speed [ ]

(A) F=pn/120
(B) P=fn/120
(C) F=pn*120
(D) P=fn*120

73 The standard form of an alternating voltage is given by [ ]
(A) $e=E_M$ COS θ
(B) $e=E_M$ SIN θ
(C) $e=E_M$TAN θ
(D) $e=E_M$ COTθ

74 The standard form of an alternating current is given by [ ]
(A) $i=I_M$ COS θ
(B) $i=I_M$ COS θ
(C) $i=I_M$ COS θ
(D) $i=I_M$ SIN θ

75 Relationship between ANGULAR VELOCITY and FREQUENCY [ ]
(A) $\omega= 2\pi f$
(B) $\omega= 2\pi$
(C) $\omega= \pi f$
(D) $\omega= 4\pi f$

76 The unit of Impedance is [ ]
(A) Mho
(B) Ohm
(C) Volt
(D) Ampere

77 The unit of Admittance is [ ]
(A) Mho
(B) Ohm
(C) Volt
(D) Ampere

78 Unit of Active Power [ ]
(A) VA
(B) VAR
(C) Watts
(D) None

79 Unit of Reactive Power [ ]
(A) VA
(B) VAR
(C) Watts
(D) None

80 Unit of Apparent Power [ ]
(A) VA
(B) VAR
(C) Watts
(D) None

81 In an RL Series circuit when current takes reference point, then the voltage is [ ]
(A) In phase, Lead
(B) In phase, Lag
(C) Lag, Lead
(D) Lead , Lag

82 In an RL Series circuit the value of phase difference is [ ]

(A) 0°
(B) 90°
(C) 180°
(D) 360°

83 Instantaneous power I inductor is proportional to the------- [ ]
(A) Product of the instantaneous current and rate of change of current
(B) Square of instantaneous current
(C) Square of the rate of change of current
(D) Temperature of the inductor

84 In case of Inductive circuit, Frequency is _____Proportional to the inductance (L) or inductive reactance (X_L) [ ]
(A) Directly
(B) Inversely
(C) Equal
(D) No Effect

85 In case of Inductive circuit, Frequency is _____ Proportional to the Current [ ]
(A) Directly
(B) Inversely
(C) Equal
(D) No Effect

86 In case of capacitive circuit, Frequency is _____Proportional to the Capacitance (C) or capacitive reactance (X_C) [ ]
(A) Directly
(B) Inversely
(C) Equal
(D) No Effect

87 In a Capacitive circuit, when Capacitance (C) increases, (the circuit current also increases), then the circuit power factor _____? [ ]
(A) Increases
(B) Decreases
(C) Remain Same
(D) None of the above

88 If Current and Voltage are 90 Degree Out of Phase, Then The Power (P) will be [ ]
(A) Infinite
(B) Maximum
(C) Minimum
(D) Zero

89 Power Factor (Cos θ) =_____? [ ]
(A) KW/KVA
(B) R/Z
(C) The Cosine of angle between Current and voltage
(D) All of the above

90 The relationship between Impedance (Z) and Admittance(Y) is _____? [ ]
(A) Z=1/Y
(B) Z=1+Y
(C) Z=1-Y
(D) $Z=Y^2$

91 From the impedance triangle, the power factor is [ ]

(A) RZ
(B) Z/R
(C) R/Z
(D) R+Z

92 Susceptance is the reciprocal of [ ]
(A) Resistance
(B) Reactance
(C) Impedance
(D) Conductance

93 Unit of Susceptance is [ ]
(A) Ohm
(B) Ampere
(C) Mho
(D) Volt-Ampere

94 In a R-L-C circuit [ ]
(A) Exchange of power takes place between inductor and supply line
(B) Exchange of power takes place between capacitor and supply line
(C) Exchange of power does not take place between resistance and the supply line
(D) All above are correct

95 The apparent power drawn by an A.C. circuit is 10 kVA and active power is 8 kW. The reactive power in the circuit is [ ]
(A) 4 kVAR
(B) 6 kVAR
(C) 8 kVAR
(D) 16 kVAR

96 A phasor is [ ]
(A) a line which represents the magnitude and phase of an alternating quantity
(B) a line representing the magnitude and direction of an alternating quantity
(C) a coloured tag for distinction between different phases of a 3-phase supply
(D) an instrument used for measuring phases of an unbalanced 3-phase load

97 When AC flows through a pure capacitance then the current [ ]
(A) leads the emf by 90°
(B) leads the emf by - 90°
(C) lags the emf by 90°
(D) is in phase with emf

98 The power dissipated in a pure capacitor is [ ]
(A) zero
(B) proportional to applied voltage
(C) proportional to the value of capacitance
(D) both (B) and (C) above

99 The voltage triangle in an RLC circuit, the power factor is [ ]
(A) V/V_R
(B) V_R/V
(C) V_L-V_C/V
(D) V_C-V_L/V

100 The power dissipated in a pure inductor is [ ]
(A) proportional to applied voltage
(B) zero
(C) proportional to the value of capacitance
(D) both (B) and (C) above.

101 e.m.f can be generated [ ]
(A) by moving a coil in magnetic field
(B) when two different metals are joined
(C) when light falls on materials
(D) All of above
102 When current flows through a conductor ---field is set up along length of conductor [ ]
(A) Electric
(B) magnetic
(C) both a & b
(D) None
103 Flux linkage with a coil is given by [ ]
(A) NØ
(B) Ø
(C) Ø
(D) NONE
104 Induced emf in a coil is given by [ ]
(A) -N(dt/dØ)
(B) -NØ
(C) -NdØ
(D) -N(dØ/dt)
105 When magnet is in motion relative to a coil, induced emf does not depend upon [ ]
(A) Pole strength
(B) motion of magnet
(C) resistance of coil
(D) Number of turns
106 Lenz's law is a consequence of the law of conservation of [ ]
(A) Energy
(B) charge
(C) induced emf
(D) induced current
107 For a coil self inductance is given by [ ]
(A) IØ
(B) NØ/I
(C) NI/Ø
(D) NØI
108 Which opposes the flux is known as [ ]
(A) Resistance
(B) Reluctance
(C) Conductance
(D) permanence
109 The process by which voltage is induced in a conductor whenever there is relative motion between conductor and magnetic field is [ ]
(A) Electromagnetic induction
(B) magnetization
(C) demagnetization
(D) All of the above
110 Which law states that the polarity of induced emf opposes cause that produce it [ ]

(A) Faraday’s law
(B) gauss law
(C) ohm’s law
(D) Lenz Law

111 The armature of D.C. generator is laminated to [ ]
(A) reduce the bulk
(B) Insulate the core
(C) To reduce eddy current loss
(D) None of the above

112 According to Fleming's right-hand rule for finding the direction of induced e.m.f., when middle finger points in the direction of induced e.m.f., forefinger will point in the direction of [ ]

(A) lines of force

(B) motion of the conductors

(C) either of the above

(D) None of the above

113 Fleming's right-hand rule regarding direction of induced e.m.f., correlates [ ]

(A) magnetic flux, direction of current flow and resultant force

(B) magnetic flux, direction of motion and the direction of e.m.f. induced

(C) magnetic field strength, induced voltage and current

(D) magnetic flux, direction of force and direction of motion of conductor

114 While applying Fleming's right-hand rule the thumb points towards [ ]
(A) direction of induced e.m.f.
(B) direction of flux
(C) direction of motion of the conductor if forefinger points in the direction of generated e.m.f.
(D) direction of motion of conductor, if forefinger points along the lines of flux

115 Functions of commutator in d.c. machines are [ ]
(A) To facilitate the collection of current from armature conductors
(B) To convert internally developed induced emf to unidirectional emf
(C) To produce unidirectional torque in case of motors
(D) All of these

116 For the construction of the armature of a d.c. machine, the best suited material is [ ]
(A) Cast iron
(B) Silicon steel
(C) Carbon
(D) All of these

117 Which of the following part is used in construction of DC machine but not in AC [ ]
(A) Armature Winding
(B) Field winding
(C) Commutator

(D) Shaft

118 If a DC motor is connected to AC supply what will happen then? [ ]

(A) Not run

(B) Burn

(C) Run at normal speed

(D) Run at extremely low speed

119 The armature of DC motor is laminated to _____ [ ]

(A) To reduce mass

(B) To reduce hysteresis loss

(C) To reduce eddy current loss

(D) To reduce inductance

120 Which of the following is the best braking method? [ ]

(A) Friction

(B) Electromechanical action

(C) Eddy-currents

(D) Electric braking

121 Electrical braking of any variety becomes less effective as [ ]

(A) Speed increases

(B) Speed decreases

(C) Independent of speed

(D) Depends on supply voltage

122 In dynamic braking, when braking is applied system acts as [ ]

(A) Freely running machine

(B) Motor with slow speed

(C) Generator

(D) Motor with same speed in opposite direction

123 The speed in d.c. machine can be measured by using [ ]

(A) Tachometer

(B) Ammeter

(C) Voltmeter

(D) Anemometer

124 While carrying out brake tests if the belt snaps, then the motor will [ ]

(A) Rotate at reduced speed but in forward direction

(B) Rotate at increased speed but in forward direction

(C) Rotate at reduced speed but in backward direction

(D) Rotate at increased speed but in backward direction

125 The rotational or stray losses includes [ ]

(A) Iron losses only

(B) Iron losses, friction and windage losses

(C) Iron losses, copper losses, friction and windage losses

(D) None of these

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

I B.Tech– II SEM (MR18-2019-20 Admitted Students)

I mid Examination Subjective Question Bank

Subject: Engineering Chemistry **Branch /Specialization: ECE/CSE/EEE/IT**

Subject code: 80B03

Instructions:

1. All the questions carry equal marks

2. Answer all the questions

Q.No.	Question	Bloom's Taxonomy Level	CO
1.	With help of neat diagram describe the softening of water by Ion-exchange method and give its advantages and disadvantages.	Understanding	1
	OR		
2.	Distinguish carbonate hardness from non carbonate hardness? How do you express hardness of water? Write units of hardness and their interconversion.	Analysing	1
3.	Suggest & explain suitable methods to avoid boiler troubles inside the boiler.	Applying	1
	OR		
4.	Calculate the carbonate & Non carbonate hardness of water sample contains the following dissolved salts per litre. $Mg(HCO_3)_2$=14.6 mgs, $Ca(HCO_3)_2$=16.2 mgs, $CaSO_4$ = 13.6 mgs, $MgSO_4$=**12** mgs, $MgCl_2$=**9.5** mgs.	Applying	1
5.	Explain the softening of water by cold lime-soda process with neat labelled diagram.	Understanding	1
	OR		
6.	Suggest & Explain suitable method for desalination of brackish water with the help of neat diagram and give its advantages.	Applying	1
7.	List the suitable methods & discuss disinfectation of potable water.	Analysing	1
	OR		
8.	Write a brief account on i) scale & sludge formation ii) caustic Embrittlement	Understanding	1

Module II			
1.	Draw a neat labelled molecular orbital energy level diagram of O_2. Find out its bond order, bond nature & magnetic property.	Understanding	2
	OR		
2.	Make use of CFT explain splitting of d-orbitals of tetrahedral complex by taking $[Ni(Cl)_4]^{2-}$ as example.	Applying	2
3.	Give brief account on linear combination of atomic orbitals (LCAO) and give its significance.	Understanding	2
	OR		
4.	Distinguish P-doping & n- doping of conductance of solids with suitable examples.	Analysing	2
5.	Make use of MOT show the filling of electrons in N_2 molecule with neat diagram. Write its bond order, bond nature & magnetic properties.	Applying	2
	OR		
6.	Write salient features of crystal field theory.	Understanding	2
7.	Analyse the crystal field splitting of d-orbitals of octahedral complex in strong and weak field ligands with suitable examples.	Analysing	2
	OR		
8.	Write the conditions for the formation of molecular orbitals.	Understanding	2
Module III			
1.	What are fuel cells? Explain the construction and working of $H_2 - O_2$ fuel cell and give its applications.	Understanding	3
	OR		
2.	Distinguish the composition, charging & discharging reactions of lead-acid and Ni-Cd battery & give their applications.	Analysing	3
3.	Explain construction and working of calomel electrode	Understanding	3
	OR		
4.	By making use of Glass electrode how do you determine the pH of a solution?	Applying	3
5.	Give brief account of electrochemical series and give its applications.	Understanding	3
	OR		

6.	Write Nernst equation? Explain its terms. Give applications.	Understanding	3

Signature of the Faculty **Signature of the HOD**

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

I B.Tech– II SEM (MR18-2019-20 Admitted Students)

I mid Examination Objective Question Bank

Subject: Engineering Chemistry **Branch /Specialization: ECE/CSE/EEE/IT**

Subject code: 80B03

1. The purification of brackish water by reverse osmosis is also called as
   [ ]
   A. Caustic embrittlement B. Super filtration C. Lime-soda process D. Ion exchange

2. One part of $CaCO_3$ equivalent hardness per 10^5 parts of water is also called as.
   [ ]
   A. Degree Clarke B. ppm C. Degree French D. Mg/L

3. Boiler corrosion caused by using highly alkaline water in boiler is called
   [ ]
   A. Corrosion B. Boiler corrosion C. Caustic embrittlement D. Erosion

4. Caustic embrittlement can be avoided by using.
   [ ]
   A. Sodium phosphate B. hydrogen C. ammonium hydroxide D. Sodium sulphate

5. Caustic embrittlement is a type of.
   [ ]
   A. boiler corrosion B. conditioning C. Scale formation D. Sludge formation

6. The soft loose and slimy precipitate formed within the boiler is called.
   [ ]
   A. scale B. sludge C. embrittlement D. coagulation

7. Sodium meta aluminate used in internal treatment of boiler water produces flocculent precipitates of
   [ ]
   A. $Mg(OH)_2$ & $Al(OH)_3$ B. NaOH & $Al(OH)_3$ C. $Ca(OH)_2$ & $Al(OH)_3$ D. $Ca(OH)_2$ & $Mg(OH)_2$

8. In low pressure boilers carbonate conditioning of boiler feed water carries out to remove[ ]
   A. calcium bicarbonate B. calcium sulphate C. calcium chloride D. calcium nitrate

9. The Alkalinity of water is due to.
   [ ]
   A. OH^- & CO_3^{-2} ions B. Cl^- & SO_4^{-2} ions C. NO_3^- & Br^- ions D. None

10. The Alkalinity of water sample is a measure of its capacity to neutralize------
    [ ]
    A. acid B. base C. buffer D. none

11. Temporary hardness in water is removed by.
    [ ]
    A. filtration B. sedimentation C. Boiling D. coagulation

12. Blow-down operation causes the removal of
    [ ]
    A. scales B. sludge C. acidity D. sodium chloride

13. The exhausted anion exchange resin can be regenerated by using.
    [ ]
    A. Dil. HCl B. Dil. NaOH C. Concentration H_2SO_4 D. NaCl

14. Permanent hardness of water cannot be removed by
    [ ]
    A. Lime soda B. By zeolite process C. Boiling D. By ion-exchange process.

15. Hard water is unfit for use in boilers for generating steam because
    [ ]
    A. Its boiling point is higher B. Steam is generated at high temperature C. Water decomposes into O_2 and H_2 D. It produces scales inside the boiler

16. Estimation of hardness of water by EDTA method is used to determine
    [ ]
    A. Total hardness B. Temporary hardness only C. Permanent hardness only D. All the above

17. Hard water can be softened by passing it through.
[ ]
A. Lime stone B. Sodium hexa Meta phosphate C. Ion-exchange resin D. Sodium silicate

18. Calgon is a trade name given to.
[ ]
A. Sodium silicate B. Sodium hexa Meta phosphate C. Sodium Meta phosphate D. Calcium phosphate.

19. Brackish water mostly contains dissolved
[ ]
A. Calcium salts B. Magnesium salts C. Turbidity D. Sodium chloride

20. Calgon formula is
[ ]
A. $Na_2[Na_4(PO_3)_6]$ B. $Na[Na_4(PO_3)_6]$ C. $Mgso_4.7H_2O$ D. $Na_4[Na_3(PO_3)_6]$

21. Buffer used in the estimation of hardness by EDTA Method is
[ ]
A. NaCl , NaOH B. $CaCl_2$,$Ca(OH)_2$ C. NH_4Cl , NH_4OH D. $Mgcl_2$, $Mg(OH)_2$

22. The external treatment of boiler feed water done by
[ ]
A. Lime-soda process B. Sodium sulphate treatment C. Calgon process D. Sodium aluminate treatment.

23. The process of wet-steam formation is called.
[ ]
A. Foaming B. Priming C. Corrosion D. Caustic embrittlement

24. Mechanical steam purifiers avoid.
[ ]
A. Corrosion B. Priming C. Scale formation D. Sludge formation

25. Castor oil is a
[ ]
A. Anti-skinning agent B. Anti-foaming agent C. Anti-ageing agent D. Anti-corrosive agent

26. Liquid chlorine is most effective.
[ ]

A. Disinfectant B. Coagulant C. Flocculent D. Sterilizing agent

27. Disinfection by ozone is due to liberation of.
[ ]
A. Oxygen B. Nascent oxygen C. Molecular oxygen D.None

28. The formula of chloramine is
[ ]
A. $ClNH_2$ B. $NHCl_2$ C. NCl_3 D. NH_2Cl_2

29. Phosphate conditioning of boiler feed is carried out by.
[ ]
A. Na_3PO_4 B. $Ca(PO_4)_2$ C. $Mg(PO_3)_2$ D. H_3PO_4

30. Hardness of water is caused by
[ ]
A. $CaCl_2$ B. NaCl C. Na_2CO_3 D. K_2S

31. Hard water contains.
[ ]
A. $Na^{\oplus}$ B. Mg^{2+} C. Ca^{2+} D.Both (b) and (c)

32. Permanent hardness of water is due to.
[ ]
A. HCO_3^- B. CO_3^- C. Cl^- D. $Na^{\oplus}$

33. Tannins and agar-agar are used for
[ ]
A. phosphate conditioning B. carbonate conditioning C. colloidal conditioning D. calgon conditioning

34. The demineralization of water is called
[ ]
A. Zeolite process B. Ion-exchange process C. Lime–soda process D. None

35. Which is not the unit of hardness of water?
[ ]
A. ppm B. epm C. Degree Clark D. mg/L

36. The relation between mg/L and ppm is
[ ]
A. 1 mg/L = 1 ppm B. 10 mg/L = 1 ppm C. 1 mg/L = 10 ppm D. 1 mg

37. In EDTA titration, the colour of the end point is
[ ]
A. Red B. Blue C. Yellow D. No change

38. Caustic embrittlement is a type of
[ ]
A. Boiler corrosion B. conditioning C. scale formation D. sludge formation

39. The Hardness of water is 10 ppm. It can be expressed in degree Clark as
[ ]
A. 0.0007^{o} Cl B. 0.07^{o} Cl C. 0.7^{o} Cl D. 7.0^{o} Cl

40. Purest form of natural water is
[ ]
A. Sea water B. River water C. Rain water D. Lake water

41. Which of the following salt cause least hardness to water when converted into $CaCO_3$ equivalents?
[ ]
A. 10 mg of $CaCO_3$ B. 19 mg of $CaSO_4$ C. 10 mg of Mgl_2 D. 10 mg of $CaCl_2$

42. The full name of EDTA.
[ ]
A. di amine tetra acetic acid B. Ethylene di tetra amine acetic acid
C. Ethylene amine tetra acetic acid D. Ethylene tetra acetic acid

43. A water sample found to posses 16.2 mg/l of $Ca(HCO_3)_2$. Its hardness in terms of $CaCO_3$ equivalents.
[ ]
A. 100 ppm B. 10 ppm C. 16.2 ppm D.1000 ppm

44. Water can be sterilized by using
[ ]
A. Cl_2 B. CCl_4 C. $CaCO_3$
D. NaOH

45. Brackish water can be purified by using
[ ]
A. Lime–soda process B. Permutit process C. Filtration D. Reverse osmosis method

46. Best method of removing hardness of water is
[ ]
A. Ion exchange B. Permutit C. Lime–soda D.Boiling

47. Hardness of water is expressed in terms of equivalents of
[ ]
A. $MgCO_3$ B. $CaCO_3$ C. Na_2CO_3 D. K_2CO_3

48. Caustic embrittlement is caused due to the presence of
[ ]
A. NaCl B. NaOH C. $MgCO_3$ D. KNO_3

49. Priming and foaming in boilers produce
[ ]
A. Wet steam B. Dry steam C. Soft steam D. Hard steam

50. The exhausted cation exchange resin can be regenerated by treating with
[ ]
A. Dil. NaOH B. Dil. HCl C. Distilled water D. Dil. NaCl

51. The filling of molecular orbital takes place according to
[ ]
A. Aufbau Principle B. Pauli Exculsion Principle C. Hund's rule D. The above

52. Molecular orbital theory was developed mainly by.
[ ]
A. Pauling B.Pauling and Slater C. Mulliken D. Thomson

53. The interaction between pair of orbitals of the same type is.
[ ]
A. Attractive B. Repulsive C. There is no interaction D. None of the above

54. According to Molecular Orbital Theory, the shape and size of a molecular orbital depends upon[ ]

A. Shape and size of the combining atomic orbitals B. Numbers of the combining atomic orbitals C. Orientation of the combining atomic orbitals D. All the above

55. Antibonding molecular orbitals are produced by [ ]

A. Constructive interaction of atomic orbitals. B. Destructive interaction of atomic orbitals C. the overlap of the atomic orbitals of two negative ions D. all of these

56. The bond order of a molecule is given by [ ]

A. The difference between the number of electrons in bonding and antibonding orbitals B. Total number of electrons in bonding and antibonding orbitals C. Twice the difference between the number of electrons in bonding and antibonding electrons D. Half the difference between the number of electrons in bonding and antibonding electrons

57. <u>The difference in energy between the bonding molecular orbital formed and the combining atomic orbitals is called</u> [ ]

A. Bond energy B. Activation energy C. Stabilization energy D. Destabilization energy

58. If Nx is the number of bonding orbitals of an atom and Ny is the number of antibonding orbitals, then the molecule/atom will be stable if [ ]

A. Nx>NY B. Nx=NY C. Nx<NY D. Nx≤Ny

59. Bond Order of O_2, F_2, N_2 respectively are [ ]

A. +1,+2,+3 B. +2,+3,+1 C. +2,+1,+3 D. +3, +2, +1

60. Which of the following molecule does not exist due to its zero bond order? [ ]

A. H_2^+ B. He_2^+ C. He_2 D. H_2^-

61. What is the bond order in $O_2^{+\cdot}$ [ ]

A. 3.5 B. 2.0 C. 1.5 D. 2.5

62. The bond order in N_2 molecule is [ ]

A. 1 B. 2 C. 3 D.4

63. The bond order of He_2^+ molecule ion is

[ ]

A. 1 B. 2 C. ½ D. ¼

64. The combination of H ($1s^1$) and F ($2p_x^1$) gives

[ ]

A. Bonding orbital B. Antibonding orbital C. Both bonding and antibonding orbital D. None of the mentioned

65. Which of the following order of energies of molecular orbitals of N_2 is correct?

[ ]

A. (π2py) < (σ2pz) < (π *2px) ≈ (π *2py) B. (π2py) > (σ2pz) > (π *2px) ≈ (π *2py) C. (π2py) < (σ2pz) > (π *2px) ≈ (π *2py)
D. (π2py) > (σ2pz) < (π *2px) ≈ (π *2py)

66. Which of the following statement is not correct from the view point of molecular orbital theory?

[ ]

A. Be_2 is not a stable molecule. B. He_2 is not stable but He_2^+ is expected to exist. C. Bond strength of N_2 is maximum amongst the homonuclear diatomic molecules belonging to the second period.
D. The order of energies of molecular orbitals in N_2 molecule is $\sigma 2s < \sigma^* 2s < \sigma 2p_z < (\pi 2p_x = \pi 2p_y) < (\pi^* 2p_x = \pi^* 2p_y) < \sigma^* 2p_z$

67. Which one of the following is paramagnetic?

[ ]

A. N_2 B. NO C. CO
D. F_2

68. Which of the following molecule is paramagnetic

_____[ ]

A. Chlorine B. Nitrogen C. Oxygen D. Hydrogen

69. The paramagnetic nature of oxygen molecule is best explained on the basis of

A. Valence bond theory B. Resonance C. Molecular orbital theory D. Hybridization

70. According to molecular orbital theory, the paramagnetism of O_2 molecule is due to presence of

[ ]

A. Unpaired electrons in the bonding σ molecular orbital
B. Unpaired electrons in the antibonding σ molecular orbital
C. Unpaired electron in the bonding π molecular orbital

D. Unpaired electrons in the antibonding π molecular orbital

71. Which of the following molecule is not paramagnetic
[ ]
A. O_2 B. O_2^+ C. O_2^{-2}
D. O_2^-

72. In which of the following pairs the two molecules have identical bond order
[ ]
A. N_2, $O2^{+2}$ B. N_2, O_2^- C. N_2^-, O_2
D. O_2^+, N_2

73. The bond order is not '3' for
[ ]
A. N_2^+ B. O_2^{+2} C. N_2
D. NO^+

74. From elementary molecular orbital theory we can give the electronic configuration of the singly positive nitrogen molecular ion N_2^+ as
[ ]
A. $\sigma(1s)^2\sigma*(1s)^2\sigma(2s)^2\sigma*(2s)^2\pi(2p)^4\sigma(2p)^1$ B. $\sigma(1s)^2\sigma*(1s)^2\sigma(2s)^2\sigma*(2s)^2\sigma(2p)^1\pi(2p)^3$ C. $\sigma(1s)^2\sigma*(1s)^2\sigma(2s)^2\sigma*(2p)^2\pi(2p)^4$
D. $\sigma(1s)^2\sigma*(1s)^2\sigma(2s)^2\sigma*(2s)^2\sigma(2p)^2\pi(2p)^2$

75. The paramagnetic property of the oxygen molecule due to the presence of unpaired electrons present in
[ ]
$(\sigma2px)^1$ and $(\sigma*2px)^1$ B. $(\sigma2px)^1$ and $(\pi2py)^1$ C. $(\pi*2py)^1$ and $(\pi*2pz)^1$ D. $(\pi*2py)^1$and $(\pi2py)^1$

76. The total number of ligands directly attached to central metal atom is called
[ ]
A. Effective atomic number B. Coordination number C. Primary valency D. Oxidation number

77. Which response gives the correct coordination number and oxidation number of the transition metal atom in $[Co(NH_3)_2(H_2O)_2Cl_2]^+$?
[ ]
A. C.N. = 2; O.N. = +3 B. C.N. = 3; O.N. = +1 C. C.N. = 4; O.N. = +2 D. C.N. = 6; O.N. = +3

78. Which one of the following is a mono dentate ligand?
[ ]
A. CN^- B. EDTA C. $C_2O_4^{-2}$ D. $H_2NCH_2CH_2NH_2$

79. Consider the coordination compound, $Na_2[Pt(CN)_4]$. The Lewis acid is
[ ]

A. $[Pt(CN)_4]^{2-}$ B. Pt C. Pt^{2+} D. CN^-

80. In which one of the following species does the transition metal ion have d^3 electronic configuration?

[ ]

A. $[Cr(NH_3)_6]^{3+}$ B. $[Co(OH_2)_6]^{2+}$ C. $[CoF_6]^{3-}$ D. $[Fe(CN)_6]^{3-}$

81. Among the following ions which one has the highest paramagnetism

[ ]

A. $[Cr(H_2O)_6]^{3+}$ B. $[Fe(H_2O)_6]^{2+}$ C. $[Cu(H_2O)_6]^{2+}$ D. $[Zn(H_2O)_6]^{2+}$

82. The complex $[Co(NH_3)_5Br]SO_4$ will give white ppt with :

[ ]

A.$PbCl_2$ B. $AgNO_3$ C. KI D.None

83. $[Co(NH_3)_6]^{3+}$ ion is :

[ ]

A. Paramagnetic B. Diamagnetic C. Ferro magnetic D.None

84. Which of the following is most likely structure of $CrCl_3$, $6H_2O$ if 1 chlorine of the compound is precipitated by adding $AgNO_3$ to its aqueous solution :

[ ]

A. $CrCl_3.6H_2O$ B. $[Cr(H_2O)_3Cl_3](H_2O)_3$ C.$[CrCl_2(H_2O)_4]Cl.2H_2O$ D. $[CrCl_2(H_2O)_5]Cl_2.H_2O$

85. The co-ordination number and oxidation number of X in $[X(SO_4)(NH_3)_4]Cl$ is :

[ ]

A. 10 and 3 B. 2 and 6 C. 6 and 3 D. 6 and 4

86. Which of the following complex species involves d^2sp^3 hybridization :

[ ]

A. $[CoF_6]^{3-}$ B. $[Co(H_2O)_6]^{3+}$ C. $[Fe(CN)_6]^{3-}$ D. $[Fe(H_2O)_6]^{3+}$

87. A complex compound in which the oxidation number of a metal is zero , is

A. $K_4[Fe(CN)_6]$ B. $K_3[Fe(CN)_6]$ C. $[Ni(CO)_4]$ D. $[Pt(NH_3)_4]Cl_2$

88. A ligand can also be regarded as

[ ]

A. Lewis acid B. Bronsted base C. Lewis base D. Bronsted acid

89. Geometrical shapes of the complexes formed by the reaction of Ni^{2+} with Cl^- ,CN^- and H_2O respectively are

[ ]

A. Octahedral, tetrahedral and square planer B. Tetrahedral, square planer and octahedral

C. Square planer, tetrahedral and Octahedral D. Octahedral, square planer and tetrahedral

90. Which of the following facts about the complex $[Cr(NH_3)_6]Cl_3$ is wrong ?

[ ]

A. The complex involves d^2sp^3 hybridization and is octahedral in shape

B. The complex is paramagnetic

C. The complex is an outer orbital complex

D. The complex gives white precipitate with silver nitrate solution

91. The magnetic moment (spin only) of $[NiCl_4]^{2-}$ is

[ ]

A. 1.82 BM B. 5.46 BM C. 2.82 BM D. 1.41 BM

92. Among the ligands NH_3, en, CN^- and CO the correct order of their increasing field strength is [ ]

A. CO< NH_3 <en < CN^- B. NH_3< en< CN^-< CO C. CN^-< NH_3< CO< en D. en<CN^-<NH_3<CO

93. Crystal field splitting the number of unpaired electrons calculated in $[Co(NH_3)_6]^{3+}$ and $[Co(F_6)]^{3-}$ are

[ ]

A. 4 and 4 B. 0 and 2 C. 2 and 4 D. 0 and 4

94. The coordination number of cobalt in the complex $[Co(en)_2Br_2]Cl_2$

[ ]

A. 2 B. 4 C. 5 D. 6

95. Which is the example of hexadentate ligand?

[ ]

A.2,2-dipyridyl B. Dimethylglyoxime C. Aminodiacetate ion D. Ethylene diammine tetra acetate ion

96. The filling of electrons into t_{2g} & eg set of orbitals in $[Co(F_6)]^{3-}$

[ ]

A. $t2g^4$ & eg^2 B. $t2g^3$ & eg^3 C. $t2g^2$ & eg^4 D. $t2g^6$ & eg^0

97. Pick out from the following complex compounds, a poor electrolytic conductor in solution [ ]

A. $K_2[PtCl_6]$ B. $[Co(NH_3)_3 (NO_2)_3]$ C. $K_4[Fe(CN)_6]$ D. $[Cu(NH_3)_4] SO_4$

98. The type of hybridization involved in the metal ion of $[Ni (H_2O)_6]^{2+}$ complex is?

[ ]

A. d^3sp^2 B. sp^3d^2 C. sp^3 D. dsp^2

99. Consider the coordination compound, K_2 [Cu (CN) $_4$]. A coordinate covalent bond exists between

[ ]

A. K^+ and CN^- B. Cu^{2+} and CN^- (Crystal Field Theory) Strong field ligands

C. K^+ and $[Cu(CN)_4]^{2-}$ D. C and N in CN^-

100. CN^- ligand?

[ ]

A. Usually produce high spin complexes and small crystal field splitting
B. Usually produce low spin complexes and small crystal field splitting
C. Usually produce low spin complexes and high crystal field splitting
D. usually produces high spin complexes and high

101. Which of the following does not conduct electricity?

[ ]

A. Molten NaCl B. Solution of NaCl in H_2O C. NaCl crystals D.None

102. The unit of specific conductance is

[ ]

A. Ohm Cm^{-1} B. Ohm^{-1} cm C. Ohm Cm D. Ohm^{-1} Cm^{-1}

103. The relationship between specific conductivity and equivalent equivalent conductance is [ ]

A. λ_{eq} = C x 100/ K B. λ_{eq} = K.C / 1000 C. λ_{eq} = C x 1000 /K D. λ_{eq} = K x 1000 / C

104. Which of the following is a weak electrolyte?

[ ]

A. NH_4OH B. NaOH C. HCl
D. NaCl

105. The unit of equivalent conductivity is
[ ]
A. $Ohm^{-} cm^{2} eq^{-1}$ B. $Ohm^{-} cm^{-2} eq^{-1}$ C. $Ohm^{-2} cm^{2} eq^{-1}$
D. $Ohm^{-2} cm^{-2} eq^{-1}$

106. In the standard notation for a voltaic cell, the double vertical line "||" represents:
[ ]
A. a phase boundary B. Gas electrode C. a wire (metal) connection
D.A salt bridge

107. Which of the following is an oxidation?
[ ]
A. $Fe^{+3} + e^{-} = Fe^{+2}$ B. $Fe = Fe^{+2} + 2e^{-}$ C. $Fe^{+3} + 3e^{-} = Fe$ D. $Fe^{+2} + 2e^{-} = Fe$

108. In an electrochemical cell, electrons travel in which direction?
[ ]
A. From the anode to the cathode through the external circuit
B. From the anode to the cathode through the porous cup
C. From the cathode to the anode through the external circuit
D. From the cathode to the anode through the porous cup

109. The reciprocal of the resistance is called
[ ]
A. Equivalent conductance B. Specific conductance C. Conductance
D. None

110. Primary <u>battery</u> is such a <u>battery</u>
[ ]
A. Which can be recharged B. This cannot be recharged
C. In which cell reaction reversible D.Which cannot be reconditioned by replacing chemical

111. The secondary <u>battery</u> is such a <u>battery</u>
[ ]
A. Which cannot be recharged B. This can be recharged
C. In which cell reaction irreversible D. This is charged by primary cells

112. An example of secondary battery cell is
[ ]
A. Nickle-Cadmium cell B. Daniel cell C. Lechlanche cell
D. Bunsen cell

113. A storage cell is a device that can operate
[ ]
A. Both as voltage cell & electrical cell B. As voltaic cell C. As electrical cell
D. None

114. Calomel electrode potential is dependent of
[ ]
A. KCl concentration B. Hg_2-Cl_2 C. Temperature
D. None

115. Galvanic cell converts.
[ ]
A. Electrical energy into chemical energy B. Chemical energy into Electrical Energy
C. Electrical energy into heat energy D. Chemical energy into heat energy

116. Daniel cell is a combination of standard electrodes of
[ ]
A. Cu & Ag B. Zn & Cd C. Zn & Cu
D. Cu & Cd

117. When storage cell is operating as voltaic cell it is said to be
[ ]
A. Charging B. Discharging C. Neutral
D. None

118. A fuel cell converts
[ ]
A. Chemical energy of fuels directly to electricity B. Chemical energy of fuels directly to heat
C. Chemical energy of fuels directly to pressure D. None

119. A Device in which the chemical energy is converted into electrical energy called.
[ ]
A. Electro chemical cell B. Electrolytic cell C. Solar cell
D. None

120. Several electrochemical cells connected in series, that can be used as a source or direct electric current at a constant voltage is called.
[ ]
A. Battery B. Voltaic cell C. Electrolytic cell D. Metal conductor

121. In lead-acid storage cell during discharging operation the concentration of H_2SO_4
[ ]
A. Increases B. Decreases C. Increase-decrease D. None

122. Calomel electrode is constructed using a solution of
[ ]
A. Saturated KCl B. Saturated $CaCl_2$ C. Saturated NH_4Cl D. Saturated NaCl

123. The electrode potential is the tendency of a metal
A. to gain electrons B. to lose electrons C. either to gain electrons or lose electrons D.None

124. The electrolyte used in construction of lead-acid battery is
[ ]
A. dil. HNO_3 B. dil. H_2SO_4 C. dil. HCl D. dil KOH

125. In the cell $Zn/Zn^{++}//Cu^{++}/Cu$
[ ]
A. Copper gets reduced B. Zinc gets oxidized
C. Zinc gets oxidized and copper gets reduced D. Copper gets oxidized

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

I B.Tech II Semester (MR18- 2019-20 Admitted Students)

I Mid Examination QUESTION BANK, February,2020

Subject: DATA STRUCTURES

Branch: EEE, ECE, CSE, &IT

Q.No.	Questions (MODULE-I)	**Blooms Taxonomy Level**	**CO**
1	Illustrate the characteristics and control structures used in algorithm.	Understanding	1
	OR		
2	Explain the properties of recursive definition of an algorithm.	Understanding	1
3	Outline the areas where data structures can be applied and list the types of data structures.	Understanding	1
	OR		
4	Compare and Contrast linear and binary recursion with example	Understanding	1
5	Develop a C program to implement Towers of Hanoi using recursion.	Applying	1
	OR		
6	Develop a C program to implement Fibonacci series using recursion.	Applying	1
7	Explain the advantages of linked list over array	Understanding	1
	OR		
8	Classify various asymptotic notations used for best case, average case and worst case analysis of algorithms	Understanding	1

Q.No.	Questions (MODULE-II)	**Blooms Taxonomy Level**	**CO**
1	Compare and Contrast node structure of Doubly linked list and Singly linked list	Understanding	2
	OR		
2	Explain search operation in singly linked list	Understanding	2
3	Develop a C program to create and traverse a singly linked list.	Applying	2

OR			
4	Develop an algorithm for implementing the following operations in a circular linked list: (a) Inserting an element at the end of the list. (b) Deleting an element from the beginning of a list.	Applying	2
5	Illustrate the linked list representation of Sparse matrix	Understanding	2
OR			
6	Explain any two insertion operations in singly linked list with an algorithm	Understanding	2
7	Develop a C program to concatenate two singly linked lists.	Applying	2
OR			
8	Develop a c program to implement Array representation of Sparse matrix.	Applying	2

Q.No.	Questions (MODULE-III)	**Blooms Taxonomy Level**	**CO**
1	Explain the concept of stack and write any of four applications of stack.	Understanding	3
OR			
2	Illustrate steps involved in postfix evaluation with example	Understanding	3
3	Develop a C program to implement stack operations using linked list	Applying	3
OR			
4	Construct the algorithm to implement following stack operations a. push b.pop	Applying	3
5	Develop a c program to convert infix notation to postfix notation.	Applying	3
OR			
6	Construct the infix expression a/b-c+d*e-a*c into postfix expression and trace that postfix expression for given data a=6,b=3,c=1,d=2,e=4.	Applying	3

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

I B.Tech II Semester (MR18- 2019-20 Admitted Students)
I Mid Examination QUESTION BANK, February 2020

Subject: DATA STRUCTURES
Branch: EEE, ECE, CSE, &IT

1 Data Structure is_____
( )

A.Organized data B. Unorganized data C. Heap D. Integers

2 An algorithm is a_____procedure to solve a task in finite amount of steps. ( )

A.Step by step procedure B. No step C. Alternate step D. All the above

3 An example of linear data structure is_____ ( )

A.Arrays B. Stacks C. Queues 4. All the above

4 An example of linear data structure is_____ ( )

A.Graphs B. Trees C. Linked list D.Both A& B

5 A function that calls itself is called_____
( )

A.Recursion B. Array C. Stack D. List

6 In recursive function calling and called function are _____
( )

A.Different B. Same C.None D.Both A& B

7 _____ decides the case of the algorithm
( )

A.Functions B. Trees C. Asymptotic notations D. None of the above

8 _____notation represents worst case
( )

A.Big O B. Omega C. Theta D. None of the above

9 _____notation represents average case
( )

A.Big O B. Omega C. Theta D. None of the above

10 _____notation represents best case
( )

A.Big O B. Omega C. Theta D. None of the above

11 Mathematical representation of Big O is _____ ( )

A. A B.O C.+ D.&

12 Mathematical representation of Omega is _____ ( )

A.O B. Ω C.+ D.M

13 Mathematical representation of Theta is _____ ( )

B. £ C. Θ D. O

14 The performance of analysis is based on _____and_____
( )

A.Time and space B. Input and program C. Program and computer D. None of the above

15 It is difficult to solve _____complexity
( )

A.Space B. Time C. Stack D. Algorithm

16 _____Complexity can be manageable ( )

A.Time B. Space C. Algorithm D. Stack

17 In time complexity T(n)= _____ ( )

A.t*c(n) B. t C. c(n) D.n

18 In towers of Hanoi, the no: of moves is _____
( )

A.2^n-1 B. n-1 C. 2^n+1 D.n

19 In which data structure elements are in sequence ( )

Linear B. Non linear C. primitive D. None of the above

20 Stack follows _____ order ( )

A.FIFO B. LIFO C.Non linear D. None of the above

21 In stack insertion and deletion are done at_____end ( )

A.Same B. Different C. Any end D. None of the above

22 Queue follows_____ order ( )

A.LIFO B. FIFO .None linear D. None of the above

23 In queue insertion and deletion are done at _____ end ( )

A.Same B. Different C. Any end D. None of the above

24 An algorithm can have _____inputs ( )

A.0 B. More than 2 C. More than 2 D. More than3

25 Data structure can be defined _____ ( )

A.Mathematical& logical way B. Mathematical way C. Only logical way D. None of the above

26 An algorithm should be _____ ( )

A.Finiteness B. Infiniteness C. Indefinite D. None

27 An algorithm should be_____ ( )

A.Efficient B. Infiniteness C. Indefinite D. None

28 Graphical representation of an algorithm is _____ ( )

Program B. Flowchart C. Both D. None

29 Minimum amount of the time taken for execution of an algorithm is_____ ( )

A.Best case B. Average case C. Average case D. None of the above

30 Maximum amount of the time taken for execution of an algorithm is _____ ( )

A.Best case B. Average case C. Worst case D. None of the above

31 Average amount of the time taken for execution of an algorithm is _____ ( )

A.Best case B. Average case C. Worst case D. None of the above

32 To find GCD dividend= _____ ( )

A.Divisor B. Divisor*quotient+remainder C. RemainderDivisor*remainder

33 _____6^{th} element in Fibonacci series(first element=0,second element=1) ( )

A.8 B.5 C.3 D.2

34 A tower of Hanoi is very popular _____. ( )

A.Mathematical game B.Puzzle C.Both D. None

35 If a function calls itself only once is _____ ( )

A.Linear recursion B. Non- Linear recursion C. Binary recursion D. None of the above

36 If a function calls twice is_____ ( )

A.Linear recursion B. Non- Linear recursion C. Binary recursionD.None of the above

37 Trees come under _____data structures ( )

A.Linear data structures B. Non Linear data structures C. Primitive data structures D. Both A&B

38 Data structures used in hierarchical model is _____ ( )

A.Non linear data structures B. Linear data structures C. Primitive data structures D.None of the above

39 The total amount of time needed for the execution of program/algorithm is _____ ( )

A.Space complexity B. Time complexity C. Best case D. None of the above

40 The total amount of space needed for the execution of program/algorithm is _____ ( )

A.Space complexity B. Time complexity C. Best case None of the above

41 Theta notation provides _____bound
( )

A.Upper B. Average C. Lower D. None

42 Omega notation provides _____bound
( )

A.Upper B. Average C. Lower D. None

43 Big O notation provides _____ bound
( )

A.Upper B. Average C. Lower D. None

44 Step count method is used forfinding _____
( )

A.Time complexity B. Space complexity C. number of words D. None

45 In stack_____represents as pointer ( )

A.Pointer B. Top C. Push D. Pop

46 If stack is empty value of Top is _____ ( )

A.1 B. 0 C. 1 D. 2

47 Primitive data structures are _____ data types ( )

A.User defined data types B. Fundamental data types C. Derived data types D. None of the above

48 Non primitive data structures are created by using_____ data structures ( )

A.Primitive B. Non primitive C. Derived D. None of the above

49 _____time complexity generates the average performance in worst case ( )

A.Amortized B. Static C. Dynamic D. None of the above

50 Base case is also known as _____ ( )

A.Halting case B. General case C. Both a& b D. None

51 Linked list is_____data structure ( )

A.Primitive B.Linear C. Non linear D. None

52 _____ function is used to deallocate memory ( )

A.Malloc B. Calloc C. Free D. Realloc

53 A linked list is_____ ( )

A.Random access structure B. Linear access structure C. Both D. None

54 Linked list is used to implement data structures like_____
( )

A.Stack B. Queue C. Both D. None

55 Number of NULL pointers present in a singly linked list is_____ ( )

A.0 B.1 C.2 D.-1

56 Which type of linked list does not store NULL in next field ( )

Singly linked list B. Circular linked list C. Doubly linked list D. None

57 Which type of linked list contain pointer to next as well as previous in the sequence ( )

A.Singly linked list B. Circular linked list C. Doubly linked list D. None

58 Number of NULL pointers present in a circular linked list is_____
( )

A.0 B. 1 C. 2 D. -1

59 An array is_____
( )

A. Random access structure B. Linear access structure C. Linear access structure D.Both

60 In linked list memory is allocated _____
( )

Statically B. Dynamically c. Both D. None

61 In a _____ traversal in both directions(forward and backward) are possible (
)

Singly linked list B. Circular linked list C. Doubly linked list D. None

62 NULL represents _____ ( )

A.0 B. 1 C. 2 D.-1

63 In a _____list last node connected back to the first node. (
)

Singly linked list B. Circular linked list C. Doubly linked list D. None

64 Number of NULL pointers present in a doubly linked list is_____ (
)

0 B. 1 C. 2 D.-1

65 The list of available free space is known as_____ ( )

Pool B.Freee C.Free Pool D.Memory Pool

66 Linked lists are best suited_____ ( )

For relatively permanent collections of data. B.For the size of the structure and the data in the structure are constantly changing. C.Data structure D. For none of above situation

67 The operation by which list is not altered _____ ( )

Sorting B. Merging C. Inserting D. Traversal

68 The situation when in a linked list START=NULL is _____ ( )

List empty B.Overflow C.Both D. None

69 Each node in singly linked list has _____Fields. (
)

2 B. 3 C. 1 D. 4

70 Which is the pointer associated with the free pool?
( )

First B. AVAIL C. Top D. Rear

71 In linked lists there are no NULL links in (
)

A.Single linked list B. Linear doubly linked list C. Linear doubly linked list D. Linked list

72 Each node in a linked list must contain at least _____ (
)

Three fields B. Two fields C. Four fields D. Five fields

73 In a linked list the _____ field contains the address of next element in the list.
( )

Element field B.Next field C. Start field D. Info field

74 _____refers to a linear collection of data items.
( )

List B. Tree C. Graph D. Edge

75 Indexing the_____element in the list is not possible in linked lists.
( )

Middle B. FirstC.Last D. All

76 A linear list in which the pointer points only to the successive node is_____
( )

Singly linked list B. Circular linked list C. Doubly linked list D. None

77 Two dimensional array is also known as _____
( )

Matrix B. 1-D array C.Both A& B D. None

78 A Linked List can _____during runtime
( )

grow and shrink B. grow only C. Shrink only D. None

79 A Node in a singly linked list can point to only _____ node at a time
( )

1 B. 2 C. 0 D. 3

80 A Node in a singly linked list can reference the _____node
( )

Next B. Previous C. Start D. None

81 A matrix in which most of elements are zero are called_____
( )

Dense matrix B. Sparse matrix C. Both D.None

82 Linked List is a _____access structure
( )

Random B. Sequential C. Both D. None

83 Which of the following operation is difficult to implement in doubly linked list
( )

Insertion B. Deletion C. SearchD.None

84 Every node in a linked list contains _____and _____.
( )

Data , pointer B. Pointer, address C. Data, valueD.None

85 START stores the address of the _____node in the list.
( )

First B. Second C. Last D. Middle

86 Which of the following condition will not occur in linked list.
( )

Overflow B. Underflow C. Both D. None

87 _____ is used to store the address of the first free memory location.
( )

Top B. Front C. Start D.Avail

88 Inserting a node at the beginning of the doubly linked list needs to modify___ pointers.
( )

2 B. 1 C. 3 D. 0

89 Inserting a node in the middle of the singly linked list needs to
modify_____pointers. ( )

1 B. 2 C. 3 D. 0

90 Inserting a node at the end of the circular linked list needs to modify _____pointers. ( )

1 B. 2 C. 0 D. 4

91 Deleting a node from the beginning of the singly linked list needs to modify_____pointers.
( )

1 B. 2 C. 3 D. 0

92 Deleting a node from the middle of the doubly linked list needs to modify _____pointers. ( )

1 B. 2 C.-1 D. 0

93 Each element in a linked list is known as a _____ ( )

Data B. Node C. Info D. Element

94 First node in the linked list is called the_____ ( )

StartB. StackC. Avail D. Next

95 Data items in a linked list are known as _____ ( )

Data B. Node C. Info D. Element

96 In a circular linked list, the last node contains a pointer to the _____ node of thelist. ( )

Previous B. First C. Middle D. None

97 A singly linked list is also called as _____ ( )

Linked list B. One way chain C. Two way chain D. Left link

98 The disadvantage in using a circular linked list is _____ ( )

It is possible to get into infinite loop

Last node points to fist node.

Time consuming

Requires more memory space.

99 In a two-way list each node is divided into _____parts. ( )

1 B. 2 C. 3 D. 4

100 In a linked list, insertion can be done as _____ ( )

Beginning B. End C. Middle D. All of the above

101 _____ form of access is used to add and remove nodes from a stack ( )

Lifo, last in first out B. Fifo, first in first out C. Both A& B D.None of these

102 In linked representation of stack the null pointer of the last node in the list signals _____ ( )

A.Beginning of the stack B. Bottom of the stack C. Middle of the stack D. In between some value

103 What happens when you push a new node onto a stack? ( )

The new node is placed at the front of the linked list

The new node is placed at the back of the linked list

The new node is placed at the middle of the linked list

No Changes happens

104 Which of the following name does not relate to stacks? ( )

FIFO lists B. LIFO lists C. Sequential list D. Push down lists

105 The retrieval of items in a stack is_____operation.
( )

Push B. Pop C. Retrieval D. Access

106 The term push and pop is related to
( )

Array B. Lists C. Stacks D. Trees

107 Which is the pointer associated with the stack? ( )

First B. Front C. Top D. Rear

108 The elements are removal from a stack in _____ order.
( )

Reverse B. Hierarchical C. Alternative D. Sequential

109 The insertion operation in the stack is called_____
( )

Insert B. Push C. Pop D. Top

110 Stack follows the strategy of _____
( )

LIFO B. FIFO C. LRU D. RANDOM

111 _____ is the term used to delete an element from the stack.
( )

A.Push B. Pull C. Pop D. Pump

112 A pointer variable which contains the location at the top element of the stack is called _____( )

Top B. Last C. Final D. End

113 Which of the following is an application of stack?
( )

Finding factorial B. Recursion C. Infix to postfix D.All of the above

114 _____ is the term used to insert an element into stack.
( )

Push B. Pull C. Pop D. Pump

115 The corresponding postfix expression for the following infix expressionis
(A+B)∗(C∗D-E)∗F/G

A B + C D E ∗ − F G / ∗∗ ( )

A B + C D ∗ E − F G ∗ / ∗

A. A B + C D ∗ E – F G / ∗∗

None of these

116 Which condition makes stack overflow?
( )

max=-1 B. top=max-1 C. top=-1 D. top=top+1

117 Stack underflow condition occurs when _____
( )

Stack is full B. Stack empty C. Both D. None

118 Which function places an element on the stack?
( )

Push B. Pull C. Pop D. Pump

119 Variable TOP is associated with _____
( )

Tree B. File C. Stack D. Queue

120 Stack is a _____ data structure
( )

Non-linear B. Linear C. Random D. None

121 _____ can be implemented using linked list
( )

TreeB.QueueC.Stack D. All the above

122 _____can be implemented using array
( )

Tree B. Queue C. Stack D. All the above

123 The size of the stack is _____in array implementation
( )

A.Not restricted B. Restricted C. Both D. None

124 Which data structure is used for postfix evaluation
( )

A.Stack B. Queue C. Tree D. Graph

125 Stack data structure can be implemented using _____
( )

A.Array B. Linked list C.Both A& B D. None

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

I B.Tech – II Sem (MR 18-2019-20 Admitted Students)
I Mid Examination Subjective Question Bank

Subject: Engineering Graphics **Branch: Common for CSE**
Subject Code:80301
Name of the faculty: A. Aruna Jyothi

Instructions:

1. All the questions carry equal marks

2. Solve all the questions

Q.No.	Question	Bloom's Taxonomy Level	CO
1.	Construct a hyperbola, when the distance of its focus from the directrix is 60mm and eccentricity is 4/3. Also draw tangent and normal to the curve at a point 45mm from the directrix.	Applying	1
	OR		
2.	A circle of 40mm diameter rolls along a straight line without slipping. Draw the curve traced out by a point P on the circumference of the circle. Choose the name of the curve and also draw the normal and tangent to the curve at a point of 35mm from the base line.	Applying	1
3.	A point P is 15mm above HP and 20mm in front of VP another point Q is 25mm behind VP and 40mm below hp draw p and q projections so that distance between end the projector is 90mm.Assume the position of points in suitable quadrants and draw the straight line joining a) the top views b) the front views.	Analyzing	1
	OR		

4.	Assuming the position of points in suitable quadrants draw the Projections of the Following points on the same line keeping the Projectors 25mm apart. • A - in the H.P. and 20mm behind the V.P. • B - 40mm above the H.P. and 25mm in front of the V.P. • C - in the V.P. and 40mm above the H.P. • D - 25mm below the H.P. and 25mm behind the V.P. • E - 15mm above the H.P. and 50mm behind the V.P. • F - 40mm below the H.P. and 25mm in front of the V.P. G – in both H.P. and V.P.	Analyzing	1
5.	Construct an ellipse, when the distance of focus from its directrix is 50mm & eccentricity =2/3 also draw a normal and tangent to the curve at a point 40mm from the directrix.	Applying	1
	OR		
6.	Construct a parabola, when the distance of the focus from the directrix is 50mm. Also draw tangent and normal to the curve at a point 35mm from the directrix.	Applying	1
7.	Construct an Involute of a circle of 40mm diameter; also Draw a Tangent and a normal at point of 100mm from the center of the circle.	Applying	1
	OR		
8.	Construct an Involute of an equilateral triangle and square of side 40mm.	Applying	1
9	Construct a cycloid for one complete revolution of a circle having a 60 mm diameter. Draw a tangent and a normal to the curve at a point that is 45 mm above the base line.	Applying	1
	OR		
10	Assuming the position of points in suitable quadrants draw the Projections of the Following points on the same line keeping the Projectors 35mm apart.	Analyzing	1

	• A – 25mm above H.P. and 45mm in front of the V.P. • B - 40mm above the H.P. and on the V.P. • C – on the V.P. and 35mm above the H.P. • D - 25mm below the H.P. and 25mm in front of the V.P. • E - 15mm above the H.P. and 50mm behind the V.P. • F - 40mm below the H.P. and 25mm and on the V.P.		
Module II			
1.	Draw the projections of a 75mm long straight line, in the following positions: (i) Parallel to both HP and VP and 25mm from each. (ii) Perpendicular to H.P., 20mm in front of the V.P. and its one end 15mm above the H.P.	Understanding	2
	OR		
2.	A line PQ, 90mm long, is in H.P and makes an angle of 30^0 with V.P. Its end P is 25mm in front of the V.P. Draw its projections.	Understanding	2
3.	The end projectors of a line AB are 50mm apart. The end A is 20mm above the H.P and 30mm in front of the V.P. The end B is 80mm above the H.P and 70mm In front of the V.P. Determine the true length and inclinations with two planes.	Applying	2
	OR		
4.	A line AB, 90mm long is inclined at 45^0 to the H.P. and 30^0 with the V.P. The end A is 10mm above H.P. and 20mm in front of the V.P. Draw its projections and determine its true inclination with the V.P	Applying	2
5.	Draw the projections of a regular hexagon of 40 mm side, having its surface inclined at 30° to H.P.	Understanding	2
	OR		
6.	A circular plate of 50mm diameter is resting on V.P. on a point on the circumference with its surface inclined at 45^0 to V.P and perpendicular to H.P. Draw its projections.	Understanding	2
7.	A regular pentagon of side 25mm has one side on the ground. Its plane is inclined at 45^0 to the H.P. and perpendicular to the V.P. Draw its projections.	Understanding	2
	OR		

8.	Draw the projections of a square of 50mm side, having its plane vertical and inclined at 30^0 to the V.P. Draw its projections.	Understanding	2
9	A Rectangular plane of sides 70mm and 35mm has a shorter side on the H.P. The surface of the plane is inclined at 60^0 to the H.P and perpendicular to the V.P. Draw its projections.	Understanding	2
	OR		
10	A line AB of 70mm long, has its end A at 10mm above H.P and 15mm in front of V.P. Its front view and top view measures 50mm and 60mm respectively. Draw the projections of the line and determine its inclinations with H.P and V.P.	Applying	2
Module III			
1.	Draw the projections of a Hexagonal pyramid of base 40 mm side and axis 50 mm long, resting on the H.P on their respective bases.	Understanding	3
	OR		
2.	Draw the projections of a cylinder, base 40 mm diameter and axis 50 mm long, resting on the H.P on their respective bases.	Understanding	3
3.	Draw the projections of cone, base 50 mm diameter and axis 55 mm long ,resting on the H.P on their respective bases.	Understanding	3
	OR		
4.	Draw the projections of a pentagonal prism of base 40 mm side and axis 50 mm long, resting on the H.P on their respective bases.	Understanding	3

5.	Draw the projections of a pentagonal prism, base 25mm side and axis 50mm long, resting on one of its rectangular faces on the H.P. with the axis inclined at $45^0$to V.P.	Understanding	3
OR			
6.	A cone having a base 50mmdiameter and 70mm long axis, has a point of its base circle in the V.P. such that the axis is inclined at 45^0 to the V.P. and parallel to H.P. Draw its projections.	Understanding	3

Signature of the Faculty **Signature of the HoD**

Course Code: 80H01
MR18

MALLA REDDY ENGINEERING COLLEGE (Autonomous)
I B.TECH II Sem (MR18) MID I EXAMINATION

Subject Name: ENGLISH **Branch: CE, ME & MINING**

Time duration 90 mintues **By : Mrs.A.Madhavi Latha**

INSTRUCTIONS :

1 . All the questions carry equal marks

2. Solve all the questions

Questions

Q.No	Question	Bloom's Taxonomy Level	CO
1	What is Minimalism? Is it practically possible to lead a Minimalistic life in the present age? Explain your answer.	**Understanding**	1
	OR		
2	According to Minimalism, what is Happiness? Describe a/any situation (s) where in you derived happiness from Minimalism point of view	**Understanding**	1
3	What is the central theme of the poem ***The Road not Taken***? Illustrate .	**Analysing**	1
	OR		
4	**Two roads diverged in a wood, and I took the one less travelled by, And that has made all the difference.**	**Understanding**	1
	Explain the above lines in your own words. Do you agree with the above lines? Support your answer with suitable examples from your observation.		
5 A.	Fill in the blanks with appropriate ***Articles.***	**Applying**	1
	a) Nihal is _____ Kohli of our college. b) Pranay is _____ trustworthy person. c) Sandeep's father visited _____school yesterday.		
B	Fill in the blanks with appropriate ***Prepositions.***		

	a) You are requested to meet the principal _____ 5pm. (at/on) b) The moon does not shine ____ its own light. (with/by)		
	OR		
6	Identify Prefixes from the given below words and write the meanings of the same	**Applying**	1
	a) Monologue b) Polyglot c) Autograph d) Post-war e) Binocular		
7	Explain Skimming with examples.	**Understanding**	1
	Explain Scanning with examples.		
	OR		
8	What are the characteristic features of effective writing? Explain.	**Understanding**	1
	MODULE – II		
1	"Knowledge has many forms and it is available at many places". Do you agree with the statement given by Abdul Kalam? Construct your answer.	Applying	2
	OR		
2	What components constitute and drive a Knowledge Society? How do they help India in becoming a super power .Discuss ?	**Understanding**	2
3	Children ye have not lived...is a phrase repeatedly used in the poem Life. Why do you think Sarojini Naidu used the phrase continually?	**Analysing**	2
	OR		
4	Through the poem Life, what is that the poet Sarojini Naidu trying to draw our attention on to?	**Analysing**	2

5	Write another word which corresponds the sound (Homophones) for the given below.	**Applying**	2
	a) Flew: _____ b) Mail: _____ c) Break: _____ d) Dam: _____ e) Hour: _____		
	OR		
6	Passivize the following sentences.	**Applying**	2
	a) Please take your seat. b) Students were watching a movie. c) Surya broke the window pane. d) He had finished cooking. e) Ravi draws a picture.		
7	Interpret what would happen if one made thoughts the sole aim of one's life ? OR	**Understanding**	
8	In what way the wealth generation is applicable to Knowledge Society	**Understanding**	2
	MODULE – III		
1	From the lesson *Half a Rupee Worth,* is it good to have love for money? defend your argument (s) with examples.	**Understanding**	3
	OR		
2	Subbaih's father practised a theory... *young fellows after ten should be horse whipped if they are not to become brigands.* Do you think it is an appropriate theory/statement in relation to the present generation? explain your answer with examples. .	**Understanding**	3

3	Give the meanings for the following ***Idiomatic Expressions*** and use the same in a meaningful context.	**Applying**	3
	a) Actions speak louder than words. b) Ball is in your court. c) Blessing in disguise. d) Burn the midnight oil. e) Every cloud has a silver lining.		
	OR		
4	Use the following ***Phrasal Verbs*** in appropriate contexts to make meaningful sentences.	**Applying**	3
	a) Call on b) Go through c) Look after d) Break down e) Look up to		
5	Rearrange the following sentences to make it into a meaningful paragraph. a) Since independence, every political party has played communal card whenever election time draws near. b) In fact, the caste and communal cards have been fine-tuned to an art form in the political games that are played in this country. c) This was seen when a political party's youth wing goons were given a free hand to terrorise a certain section of the society all over the country after the assassination of its leader. d) When each party carefully selects political candidates on the basis of religion or caste, it is encouraging and continuing the divide-and-rule tactics of its colonial masters. e) And no political party can absolve itself on this count, worse, political parties take on board hoodlums and	**(Applying)**	3

	gangsters who use their clout in political circles to settle scores and extract money.		
	Or		
6	Punctuate the following sentences wherever necessary. a) one of the greatest country in the world is india b) suresh rahul kiran and pranay are good friends. c) what a beautiful picture d) Anil said we all went on a picnic to nagarjunasagar. e) Altaf said that “He was a student”.	**Applying**	3

Malla Reddy Engineering College (Autonomous)

I B.Tech. II Sem I mid– English. Objective Question Bank

PART-A

	The suffix -est means the most and the suffix -er can mean more.
1	Which word means someone who has lived longer than me?
a	old
b	older
c	oldest
d	ancient
2	What does the prefix dis- mean?
a	not or opposite of
b	again
c	too much
d	earlier or before
3	Which one is correct about the word "disappeared"?
a	
b	"dis" is a prefix
c	"ed" is a suffix
d	"appear" is the root word
	all
4	The prefix mis- means which of the following?
a	too much
b	wrongly
c	again
d	middle
5	Which of these prefixes means "bad" or "wrong"?
a	pre-
b	non-
c	bi-
d	mis-
6.	Which word uses the root meaning "move across"?
a	conscious
b	transportation
c	laminate
d	condense
7.	What is the base word of misguided?
a	guided
b	mis
c	guide
d	misguide

8. The businessmen had a _____ with their colleagues in Japan.
a Telephone
b Telegraph
c Teleconference
d Telecast
9. Choose the right suffix / prefix which means to write, draw, record:
a a) graph, gram b) bio c) hydro d) circ, circum
b
c
d
10. A _____ is an affix added to the beginning of a word.
a base word
b suffix
c ending
d prefix
11. 'mono' means_____
a self
b single
c earth
d small
12. Siri misspelled a word. The prefix mis- most likely means...
a right
b wrong
c not
d below
13. The mouse is the [small] animal. Which suffix would make this sentence true?
a a) –est b) –ing c) –er d) -ed
b
c
d
14. Which word best describes the meaning of multi-?
a enough
b back
c before
d many
15. The prefix post means?
a before
b currently
c after
d none of the above
16. The prefix re- means?
a back, again
b done
c before
d enough

17. If you want to say something is not possible, you would say that it is

a Repossible
b possible
c impossible
d prepossible

18. They usually spend their holidays in ---------- mountains

a A
b the
c An
d No article

19. Los Angels has ---------- ideal climate

a An
b A
c No article
d The

20. This is ---------- best Mexican restaurant in the city.

a An
b A
c The
d No article

21. Identify prefix in the word ‘Postcolonial’

a a) Colony b) al c) post d) postcol
b
c
d

22. Identify suffix in the word ‘ relationship’

a Relationship
b re
c relation
d ship

23. Identify root word in the word ‘ unforgettable’

a Un
b forget
c able
d unforgettable

24. I can’t live on ---------- 500 dollars a month.

a An
b A
c No article
d The

25. Someone call ---------- policeman.

a No article
b A
c An
d The

26. Someone call ---------- police.

a A

b An

c The

d No article

27. Find the suitable suffix to the following word ‘inability’

a a) in b) able c) ability d) ity

b

c

d

28. He is --------- real Indian hero

a No article

b A

c An

d The

29. Identify correct root in this word ‘uncomfortable’

a Un

b able

c uncomfort

d comfort

30. I don’t like ---------- dogs. But I like my brother’s dog.

a The

b A

c An

d No article

31. He was acting in a very _____way. (child)

a Childish

b boy

c kid

d child

32. He wants to be a _____ when he grows up. (mathematics)

a a) Maths b) mathematician c) mathematics d) logical

b

c

d

33. He passed his exam. He was _____ for the second time. (succeed)

a unsucceed

b succeed

c successful

d succeeded

34. She looked _____ .She started to cry. (happy)

a Happiness

b happily

c happy

d unhappy

35. I couldn't find any _____ in his theory. (weak)
a Weakness
b weakly
c weak
d weaked
36. In the following word ‘homelessness’ how many suffixes it contains?
a 1
b 0
c 2
d 3
37. I haven’t seen him -------- in five years.
a The
b A
c An
d No article
38. Sachin Tendulkar is ---------- Cricket player
a a) An b) The c) No article d) A
b
c
d
39. As ------- rule, we write two excel sheets per day.
a The
b A
c An
d No article
40. The examiner is very serious. What is the Root word in ‘Examine’
a examiner
b examine
c exam
d iner
41. I met -------- one-eyed man on the road.
a No article
b An
c The
d A
42. They formed ---------- union to solve their problems.
a a) A b) The c) No article d) An
b
c
d
43. When we get ready for dinner, I have to take my books ---------- the table.
a off
b out
c from

d of

44. It was a long walk, so he began moving slowly ---------- the town.

a for

b towards

c until

d at

45. He was caught by the teacher for cheating --------- the exam.

a after

b near

c during

d outside

46. John needs to submit the report --------- his boss before 5pm.

a to

b at

c of

d on

47. Rahul's wife accused him ---------- cheating.

a up

b of

c to

d with

48. Sudheer apologized ---------- his brother's poor behavior.

a a) for b) in c) off d) at

b

c

d

49. There is no doubt that Ram is good ---------- telling jokes.

a in

b of

c with

d at

50. The detective chased the killer ---------- the streets.

a since

b through

c during

d beyond

51 Your speed should not ---------- the limits.

a exceed

b accede

c exide

d exude

52 Please ---------- her proposal.

a a) accept b) except c) accent d) extent

b

c

d

53 You have to ---------- me tomorrow.

a meet

b meat

c mute

d mount

54 He gave an empty_____

a Cheque

b Check

c Chuck

d chick

55 Don't try to ---------- him.

a beet

b beat

c boot

d bout

56 He is the ---------- of the college.

a principle

b principal

c price

d prilim

57 He is enjoying the beauty of the ----------.

a sea

b see

c saw

d sow

58 Have you seen the news paper ----------?

a ad

b add

c adieu

d ado

59 Which ---------- did you take?

a root

b route

c rote

d rot

60 The ---------- is very courageous

a a) night b) knight c) nite d) note

b

c

d

61 --------- is a useful metal

a steel

b steal

c stool

d stole

62 We ---------- several trucks on the highway.

a passed

b past

c post

d port

63 ---------- your English teacher?

a who's

b whose

c why

d when

64 I went ------- see my friend

a to

b two

c too

d true

65 She has ------- eyes

a a) too b) to c) two d) tour

b

c

d

66 My sister is ------ young to see the film

a two

b too

c to

d tie

67 The children took ------ dog for a walk.

a there

b their

c three

d their’s

68 Once upon a time ------- was a king.

a there

b three

c thru

d their

69 Can you ----- me?

a here

b hear

c hour

d heer

70 Wait ------ for the bus

a

b a) hour b) hover c) here d) hair

c

d

71 ------- of my colleagues are very nice

a sum

b some

c soon

d sour

72 I saw him leaving the house

a He had been seen leaving the house

b He was seen to be leaving the house

c Leaving the house he was seen by me.

d He was seen leaving the house by me.

73 He teaches us Grammar.

a Grammar is taught to us by him

b We are being taught Grammar by him

c Grammar is being taught us by him.

d We are taught Grammar by him

74 The noise of the traffic kept me awake.

a I remained awake by the noise of the traffic

b I was kept walking by the noise of the traffic

c I was kept awake by the noise of the traffic

d The traffic kept me awake by the noise

75 Who teaches you English ?

a By whom were you taught English?

b By whom are you taught English?

c English is taught by whom ?

d By whom will you be taught English?

76 We are going to Mumbai next week. Can you suggest some------- to us.

a

a) cite b) sight c) site d) seat

b

c

d

77 You must look into this matter

a This matter has been looked into by you.

b This matter may be looked into by you

c This matter should be looked into by you

d This matter into looked by you

78 He is the ----------owner of this property

a sole

b soal

c soul

d sail

79 The burning candle created a pleasant---------- in the room

a scent

b sent

c cent

d set

80 This---------- is meant for hard core terrorists

a a) sail b) sell c) sale d) cell

b

c

d

81 Who is creating this mess?

a Whos has created this mess?

b By whom has this mess been created?

c By whom this mess is being created ?

d By whom is this mess being created ?

82 They are building a house next door to our school.

a Next door to our school a house is being built by them.

b Next door to our school is being built a house by them.

c A house next door to our school is being built by them.

d A house is being built by them next door to our school.

83 The family was in----------after their son died.

a morning
b mourning
c marning
d yearning

84 What are you going to ---------- to the party?

a were
b wear
c where
d weir

85 Somebody told me that there had been an explosion in the Town Hall

a I was told by somebody about the explosion in the town hall
b I was told about the explosion in the town hall
c I was informed that there was an explosion in the Town Hall
d I was told by somebody that there had been an explosion in the town hall

86 They will demolish the entire block.

a a) The entire block is being demolished. b)The block may be demolished entirely. c) The entire block will have to be demolished by the d) The entire block will be demolished
b
c
d

87 This surface feels smooth.

a This surface is felt smooth
b This surface is smooth when it is felt
c This surface when felt is smooth
d This surface is smooth as felt

88 Our task had been completed before sunset.

a a) We completed our task before sunset. b) We have completed our task before sunset. c) We complete our task before sunset. d) We had completed our task before sunset.
b
c
d

89 We have already done the exercise.

a Already, the exercise has been done by us
b The exercise has already been done by us
c The exercise had been already done by us
d The exercise is already done by us

90 You surprise me.

a I am to be surprised
b You are surprised

c I am surprised

d Me is surprised

91 Would you like to have a _____ of cake?

a peace

b piece

c peas

d none

92 On raining, farmers, _____ the seed

a sew

b so

c sow

d all

93 Do not _____ the car

a still

b steal

c steel

d stole

94 The students with mobile phones are not _____ in to the class

a allowed

b aloud

c a lot

d all out

95 The wild _____ chased the boy

a beer

b bare

c bore

d bear

96 She likes to go the temple and _____

a pray

b prey

c pry

d fry

97 The pains are the signs of _____

a

b a) both b) berth c) birth d) breath

c

d

98 If you rest, that leg will _____ properly

a heal

b heel

c hill

d hell

99 The angry man _____ at me

a balled

b bowled

c bawled

d brawled

100 Diamond is measured in _____

a carrot

b carat

c karat

d none

101 To keep one's temper

a To become hungry

b To be in good mood

c To preserve ones energy

d To be aloof from

102 Could you turn ----- the TV as the serial is about to start? a) off b) of c) on d) up

a

b

c

d

103 The TV is too loud. Can you turn ----- the volume a bit?

a up

b of

c off

d down

104 Mother looks ------ the children

a before

b on

c up

d after

105 The girl look ----- her mother

a after

b on

c down

d before

106 The police is looking-----the case

a into

b onto

c at

d up

107 The meeting has been put ----- due to bandh.

a of

b on

c off

d out

108 Please put ---- your ID card

a on

b out

c of

d off

109 The company is taking ----- new workers to meet this projected demand

a off

b into

c onto

d on

110 The new manager wants to bring------changes in the company.

a a) above b) over c) about d) away

b

c

d

111 Can my new dog get ------ with my other dogs?

a along

b across

c above

d about

112 To drive home

a To find one's roots

b To return to place of rest

c Back to original position

d To emphasise

113 To cry wolf

a To listen eagerly

b To give false alarm

c To turn pale

d To keep off starvation

114 To end in smoke

a To make completely understand

b To ruin oneself

c To excite great applause

d To overcome someone

115 To put one's hand to plough

a To take up agricultural farming

b To take a difficult task

c To get entangled into unnecessary things

d Take interest in technical work

116 To play second fiddle

a To be happy, cheerful and healthy

b To reduce importance of one's senior

c To support the role and view of another person

d To do back seat driving

117 To beg the question

a To refer to

b To take for granted

c To raise objections

d To be discussed

118 I bank on my parents. Choose meaning for the phrasal verb in bold

a independent

b depend

c rest

d all

119 I can’t make out if it’s a woman or a man. Choose meaning for the phrasal verb in bold

a proceed

b progress

c identify

d manage

120 It was a bit chilly, so she ……. her jacket.

a Put on

b put off

c put of

d put in

121 If he rings back, just …….

a hang in

b hang on

c hang up

d none

122 The plane doesn´t ……. till 5 o´clock.

a take of

b take out

c take in

d take off

123 The traffic on the motorway was held up by construction work. Choose phrasal verb

a stopped

b started

c cancelled

d none

124 Did you hear that Sarah and David have _____ Choose phrasal verb

a split out

b split in

c split up

d split into

125 If I _____ at about 8.00p.m., I'll be there on time. Choose phrasal verb

a set of

b set out

c set off

d set in

HOD, English

MALLA REDDY ENGINEERING COLLEGE (Autonomous)
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B.Tech. II SEMESTER MID - I QUESTION BANK
(Common to CE, EEE, ME, ECE, CSE, IT & MINING)

MR-18 REGULATIONS **Subject: ENGINEERING MATHEMATICS - II**

MODULE – I

1) Solve $y^2dx + (x^2 - xy - y^2)dy = 0$.
(Applying)

2) Solve $(1 + y^2)dx = [tan^{-1}(y) - x]dy$.
(Applying)

3) Solve $\frac{dy}{dx} + y = x^3y^6$
(Applying)

4) Solve $(1+ e^{x/y})$ dx + $e^{x/y}$ $(1 - \frac{x}{y})$ dy = 0.
(Evaluating)

5) Solve $(y - 2px) = tan^{-1}(xp^2)$.
(Evaluating)

6) State the Newton's Law of cooling. If the air is maintained at 30^0 c and the temperature of the body cools from 80^0 c to 60^0 c in 12 min. Find the temperature of the body after 24 min. (Applying)

7) a) Solve x dx +y dy $= \frac{(xdy-ydx)a^2}{x^2+y^2}$.
(Evaluating)
b) Solve p=tan (px-y).
(Evaluating)

8) Solve y+ px =p^2x^4.
(Evaluating)

MODULE - II

1) Solve $(D^2 + 1)y = cos3xcos2x$.
(Applying)

2) Solve $(D^2 + a^2)y = Secax$ by the method of variation of parameters.
(Applying)

3) Solve $(D^2 - 4D + 4)y = 8x^2 + e^{2x}$
(Applying)

4) Solve $(D^2 - 3D + 2)y = xe^{3x}$
(Evaluating)

5) Solve $(D^2-4D+4)y = 8x^2e^{2x}sin2x$
(Evaluating)

6) Solve $(D^2 - 5D + 6)y = e^x sinx$
(Evaluating)

7) Solve $((2x-1)^2 D^2 + (2x-1) D-2) y=8x^2-2x+3$
(Evaluating)

8) Solve $(x^3D^3 + 2x^2 D^2 + 2)y = 10(x + \frac{1}{x})$

(Evaluating)

MODULE - III

1) If $U = \log(x^3 + y^3 + z^3 - 3xyz)$, prove that $\left(\frac{\partial}{\partial x} + \frac{\partial}{\partial y} + \frac{\partial}{\partial z}\right)^2 U = \frac{-9}{(x+y+z)^2}$.

(Evaluating)

2) If $x^x y^y z^z = e$ show that at $x = y = z$, $\frac{\partial^2 z}{\partial x \partial y} = -(x log e x)^{-1}$.

(Evaluating)

3) If $r^2 = x^2 + y^2 + z^2$ and $u = r^n$ then prove that $u_{xx} + u_{yy} + u_{zz} = n(n+1)r^{n-2}$.

(Applying)

4) Verify Euler's Theorem for $u = x^2 tan^{-1}\left(\frac{y}{x}\right) + y^2 tan^{-1}\left(\frac{x}{y}\right)$ and also prove that $\frac{\partial^2 u}{\partial x \partial y} = \frac{x^2 - y^2}{x^2 + y^2}$.

(Applying)

5) If $x = r\cos\theta$, $y = r\sin\theta$ and $z = z$ find the $\frac{\partial(x,y,z)}{\partial(r,\theta,z)}$

(Evaluating)

6) If $u = x+y+z$, $v = x^2+y^2+z^2 - 2xy - 2yz - 2xz$, $w = x^3+y^3+z^3 - 3xyz$ verify whether u,v are functionally dependent If, so find the relation between them.

(Evaluating)

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

I B. Tech– II Sem (MR18-2019-20 Admitted Students)
I Mid Examination Subjective Question Bank

Name of the Subject: Engineering Physics
Code: 80B07
Branches: ME/CE/Min. E

Q. No.	Questions	Bloom's Taxonomy Level	CO
	Module I		
1.	Derive the equation of motion for a simple harmonic oscillator and obtain its solution?	Understanding	1
	OR		
2.	Deduce the expression for the total energy of a simple harmonic oscillator. Show that the total energy remains independent of time and displacement.	Understanding	1
3.	A particle executes simple harmonic motion which is given by the equation $x = 0.5 \cos(10\pi t + \pi/3)$. Where x is the displacement at time t. Assuming that all physical quantities involved in it are in SI units. Find (i) the amplitude (ii) the frequency (iii) the initial phase and (iv) the displacement at time t = 1 sec.	Applying	1
	OR		
4.	A massless spring of spring constant 10 N/m is suspended from a rigid support and carries a mass of 0.1 Kg at its lower end. The system is subjected to a resistive force $-R_m v$, where R_m is a constant and v is the velocity. It is observed that the system performs damped oscillatory motion and its energy decays to 1/e of its initial value in 50 Sec. What is the Q value of the oscillator?	Applying	1
5.	Form the equation of damped harmonic motion and obtain its solution.	Applying	1
	OR		
6.	Discuss the case of light damped (under damped) condition by using the solution of damped harmonic oscillator.	Applying	1

7.	Investigate the conditions of heavy damping and critical damping by using the solution of damped harmonic oscillator.	Applying	1
	OR		
8.	Obtain the expression for energy decay in a damped mechanical harmonic oscillator.	Applying	1
	Module II		
1.	Define interference of light? Derive the expression for fringe width in Young's double slit experiment.	Understanding	2
	OR		
2.	Define coherent sources. Derive the conditions for maxima and minima in interference in thin films by reflection.	Understanding	2
3.	Apply Newton's rings method and determine the wavelength of the monochromatic light.	Applying	2
	OR		
4.	Derive the equation for intensity in the Fraunhofer diffraction due to a single slit?	Applying	2
5.	Obtain the expression for intensity in the Fraunhofer diffraction due to a double slit?	Applying	2
	OR		
6.	Obtain an expression for the resolving power of a grating based on Rayleigh's criterion.	Applying	2
7.	In a Newton's rings experiment, the diameter of 5^{th} dark ring is 0.3 cm and the diameter of 25^{th} dark ring is 0.8 cm. If the radius of curvature of plano convex lens is 100 cm, Find the wavelength of light used?	Applying	2
	OR		
8.	A grating has 15000 lines per inch. Calculate the angular position of 1^{st}, 2^{nd} and 3^{rd} minima for a wavelength of 606 nm. Discuss the possibility of observing the orders.	Applying	2
	Module III		
1.	Obtain an expression for ionic polarizability.	Applying	3
	OR		
2.	Derive the equation for electronic polarizability.	Applying	3

3.	Discuss in detail the three types of polarizations and their dependence on temperature.	Understanding	3
	OR		
4.	Obtain a relation between relative permittivity and electric susceptibility of the dielectric medium and also derive the relation among electric polarization, intensity of electric field and relative permittivity.	Understanding	3
5	A solid elemental dielectric, with density 3×10^8 atoms/m^3 shows an electronic polarizability of 10^{-40} farad m^2. Assuming the internal electric field to be a Lorentz field, calculate the dielectric constant of the material.	Applying	3
	OR		
6	A parallel plate condenser has a capacitance of 2 μF. The dielectric has permittivity $\varepsilon_r = 100$. For an applied voltage of 1000 V, Find the energy stored in the condenser as well as the energy stored in polarizing the dielectric.	Applying	3

Signature of the Faculty **Signature of the HOD (Physics)**

MALLA REDDY ENGINEERING COLLEGE *(Autonomous)*

Maisammaguda, Dhulapally, Secunderabad – 500 100

Applied Physics
Objective Question bank for MR18 (2019-20) I SEM - II MID

1. The vibrating systems are said to be in resonance if
[ ]
a) Their amplitudes are equal b) Their temperatures are equal
c) Their frequencies are equal d) They are in same phase

2. In SHM the force is always directed towards _____
[ ]
a) Extreme Position b) Equilibrium Position c) both d) None

3. In Simple Harmonic Motion (SHM), the acceleration is
[ ]
a) Directly proportional to the displacement from central position
b) Costant
c) Inversely proportional to the displacement from central position
d) Inversely proportional to square of the displacement from central position None

4. The impedance of electrical oscillator is given by $|Z|$ =
[ ]
a) $\sqrt{R^2-\left[\frac{1}{\omega C}-\omega L\right]^2}$ b) $\sqrt{R^2+\left[\frac{1}{\omega C}-\omega L\right]^2}$ c) $\sqrt{R^2+\left[\frac{1}{\omega C}+\omega L\right]^2}$ d) $\sqrt{R^2-\left[\frac{1}{\omega C}+\omega L\right]^2}$

5. Example for the periodic motion
[ ] a) Motion of the pendulum in oil b) Motion of the pointer in voltmeter or ammeter
c) Dead beat motion d) The motion of the Earth around the Sum

6. Time period _____
[ ]
a) Time taken for ten oscillations b) Time taken for one oscillation
c) No. of oscillations in one sec d) none

7. In Simple Harmonic Motion, restoring force is always directed _____ the equilibrium position [ ]
a) Towards b) Away from c) above d) below

8. The maximum displacement from the equilibrium position is called
[ ]
a) Frequency b) Amplitude c) Time period d) none of the above

9. _____ force is involved in free oscillations
[ ]
a) Resisting b) Restoring c) Pseudo d) none of these

10. The electrical impedance consists of reactance term ____
[ ]

a) $\frac{1}{\omega c} - \boldsymbol{\omega L}$ b) $\frac{1}{\omega c} + \boldsymbol{\omega L}$

c) $\frac{K}{\omega}$ d) $\frac{\omega}{k}$

11. Restoring force is directly proportional to the ____.
[ ]

a) Frequency b) Amplitude
c) Time Period d) Displacement

12 . Restoring force and displacement act in the _____ direction
[ ]

a) Opposite b) Same c) Perpendicular d) None

13. Velocity of a particle executing S.H.M is maximum at
[ ]

a) Equilibrium position b) Extreme position c) Intermediate position d) cannot be predicted

14. The energy of an oscillator is proportional to _____ of its amplitude.
[ ]

a) Cube root b) Square root c) Square d) None

15 . The frequency (f) of an oscillator executing free oscillations is given by
[ ]

a) $\frac{1}{2\pi}\sqrt{\frac{k}{m}}$ b) $\frac{1}{2\pi}\sqrt{\frac{m}{k}}$ c) $\frac{1}{\pi}\sqrt{\frac{m}{k}}$ d) $\frac{1}{2}\sqrt{\frac{m}{k}}$

16. The Time period (T) of an oscillator executing free oscillations is given by
[ ]

a) $\frac{1}{2\pi}\sqrt{\frac{k}{m}}$ b) $\frac{1}{2\pi}\sqrt{\frac{m}{k}}$ c) $\frac{1}{\pi}\sqrt{\frac{m}{k}}$ d) $\frac{1}{2}\sqrt{\frac{m}{k}}$

17. Potential energy of a particle executing S.H.M is maximum at _____ position.
[ ]

a) Equilibrium position b) Extreme position c) Intermediate position d) cannot be predicted

18. Kinetic energy of a particle executing S.H.M is maximum at _____ position
[ ]

a) Equilibrium position b) Extreme position c) Intermediate position d) cannot be predicted

19. The acceleration of a particle executing S.H.M is maximum at _____ position
[ ]

a) Equilibrium position b) Extreme position c) Intermediate position d) cannot be predicted

20. As the particle executing free oscillations, displaces from the mean position, the total energy is [ ]

a) Increases b) Decreases c) Remains Constant d) None

21. The Energy stored in a capacitor charged to voltage V =
[ ]

a) 1/2 LI^2 b) ½ CV^2 c) 1/2 LV^2 d) None

22. The energy of the particle in simple harmonic oscillator is
[ ]

a) ½ $\pi^2m^2n^2a$ b) $2ma^2$ c) $2\pi^2n^2a^2m$ d) None

23. The impedance of mechanical oscillator is given by $|Z|$ =
[ ]

a) $\sqrt{b^2-\left[\frac{k}{\omega}-\omega m\right]^2}$ b) $\sqrt{b^2+\left[\frac{k}{\omega}+\omega m\right]^2}$ c) $\sqrt{b^2+\left[\frac{k}{\omega}-\omega m\right]^2}$ d) none

24. The Energy stored in a Capacitor
[ ]

a) Magnetic energy b) Electrostatic Energy c) both d) None

25. The Energy stored in a Inductor
[ ]

a) Magnetic energy b) Electrostatic Energy c) both d) None

26. The frequency of the electrical oscillator is given directly by
[ ]

a) n = $\frac{1}{2\pi\sqrt{LC}}$ b) n = $\frac{1}{\sqrt{LC}}$ c) n = $\frac{2\pi}{\sqrt{LC}}$ d) none

27. Resisting force is _____ proportional to the velocity
[ ]

a) Directly b) exponentially c) Inversely d) none.

28. Resisting force and velocity act in the __ direction
[ ]

a) Opposite b) Same c) Perpendicular d) None

29. If a particle vibrates under damped oscillations, the amplitude of oscillation is
[ ]

a) Remains same b) Increased with time c) Decreased with time d) none

30. $b^2 < \omega^2$ is the condition for _____ vibrations
[ ]
a) Under damped b) Over damped c) Critical damped d) none

31. b2> ω2 is the condition for _____ vibrations
[ ]
a) Under damped motion b) Over damped motion c) Critical damped motion d) None of the above

32. $b^2 = \omega^2$ is the condition for _____ vibrations
[ ]
a) Under damped motion b) Over damped motion c) Critical damped motion d) None of the above

33. Mechanical resistance is independent of the _____ of the applied force.
[ ]
a) Amplitude b) Frequency c) Phase d) None

34. The mechanical equivalent of charge is
[ ]
a) Displacement b) Acceleration c) Velocity d)None of the above

35. A Spring fitted to a door to return it to its closed position after it has been opened, is an example for [ ]
a) Light damping b) heavy damping c) critical damping d) none

36 The mechanical equivalent of current is _____
[ ]
a) Acceleration b) Rate of change of current c) Velocity d) None of these

37. The quality factor of a damped mechanical oscillator is given by
[ ]
a) $Q = \frac{\omega_0}{\gamma}$ b) $Q = \frac{1}{\gamma}$ c) $Q = \frac{\gamma}{\omega_0}$ d) None

38. The frequency of the mechanical oscillator is given directly by n =
[ ]

a) $\frac{1}{2\pi}\sqrt{\frac{k}{m}}$

b) $\frac{1}{2\pi}\sqrt{\frac{m}{k}}$

c) $2\pi\sqrt{\frac{m}{k}}$

d) None

39. The electrical equivalent of mass is _____

[ ]

a) Capacitance b) Resistance c) Inductance d)None of these

40. The electrical equivalent of force constant is_____

[ ]

a) Capacitance b) Reciprocal of capacitance c) Inductance d) Reciprocal of inductance

41. Electrical impedance in LCR series circuit is the collective opposition offered to flow of current by _____, capacitor and resistor

[ ]

a) Diode b) Transistor c) Inductor d) None of these

42. Electrical resistance is independent of the _____of the applied field

[ ]

a) Amplitude b) Frequency c) Magnitude d) None of these

43. The Total energy in SHM

[ ]

a) Increases b) decreases c) Remains constant d) none

44. The Phase different ϕ between emf and current in an electrical oscillator is given by tanϕ = [ ]

a) $\frac{\left[\frac{1}{\omega C}-\omega L\right]}{R}$ b) $\frac{\left[\frac{1}{\omega C}+\omega L\right]}{R}$ c) $\frac{\left[\frac{1}{\omega L}-\omega C\right]}{R}$ d) $\left[\frac{1}{\omega C}-\omega L\right]$

45. The Phase different in mechanical oscillator is given by tan ϕ =

[ ]

a) $\frac{\left[\frac{k}{\omega m}-\omega\right]}{b}$ b) $\frac{\left[\frac{k}{\omega}-\omega m\right]}{b}$ c) $\frac{\left[\frac{k}{\omega}+\omega m\right]}{b}$ d) $\left[\frac{k}{\omega}-\omega m\right]$

46. ____electric field is applied in LCR series resonant circuit.

[ ]

a) AC b) DC c) AC &DC d) None of the Above

47. Potential energy of a particle executing S.H.M is minimum at _____ position

[ ]

a) Equilibrium position b) Extreme position c) Intermediate position d) Cannot be predicted

48. The amplitude of a body executing Free oscillations_____ with time

[ ]

a) Increases b) Decreases c) Remains constant d) None of the above

49. Velocity of a particle executing S.H.M is minimum at _____ position
[ ]
a) Equilibrium position b) Extreme position c) Intermediate position d) Cannot be predicted

50. Total Energy of an electrical harmonic Oscillator given by E=
[ ]
a) $LI^2 - CV^2$ b) $CV^2 + LI^2$ c) $LI^2 + CV^2$ d) Both A and B

51. If a1 and a2 are the amplitudes of two sources in Young's double slit experiment, then the maximum intensity of interference fringe is
[ ]
a) (a_1+a_2) b)$2(a_1+a_2)$ c)$(a_1+a_2)^2$ d)$(a_1-a_2)^2$

52. Two coherent waves with same amplitude 'a' interfere then the minimum intensity expected is [ ]
a) 2a b)0 c)$2a^2$ d)$4a^2$

53. Two coherent monochromatic light beams of intensities I and 4I are superposed. The maximum and minimum possible intensities in the resulting beam are
[ ]
a) 5I and I b)9I and I c)5I and 3I d)5I and 2I

54. In Young's double slit experiment, the wavelength of the light used is doubled and distance between two slits is half of initial distance, the resultant fringe width becomes
[ ]
a) 2 times b)3 times c)4 times d)½ times

55. If a_1 and a_2 are the amplitudes of two sources in Young's double slit experiment then the minimum intensity of interference fringe is
[ ]
a) (a_1+a_2) b)$2(a_1+a_2)$ c)$(a_1+a_2)^2$ d)$(a_1-a_2)^2$

56. If white light is used in Young's double slit experiment, what will happen to the interference bands? [ ]
a) No bands will be obtained
b) Many bands will be obtained as in the case of monochromatic light, but they will be coloured except the centre of the central band which will be white
c) Very few bands will be obtained, but they will be coloured except the centre of the central band which will be white
d) Many bands will be obtained as in the case of monochromatic light, but all of them will be white

57. Wavelength of light of frequency 100Hz
[ ]
a) 2×10^6 m b) 4×10^6 m c) 3×10^6 m d) 5×10^6 m

58. Two sources are said to coherent if their emitted waves have
[ ]
a) Same wavelength b)Same frequency c)Constant phase difference d) All the above

59. When the light wave is reflected from the glass-air interface, the change of phase of the reflected wave will be
a) 0 b)π/2 c) π/4 d)π
[ ]

60. Two coherent waves with same amplitude 'a' interfere then the maximum intensity expected is [ ]
a) $2a^2$ b) a^2 c) $4a^2$ d)2a

61. Wave nature of light is supported by
[ ]
(a) Photoelectric effect (b) Interference (c) Black body radiation (d) Reflection

62. In the Young's double slit experiment, for which colour the fringe width is least
[ ]
(a) Red (b) Green (c) Blue (d) Violet

63. When the light wave is reflected from the air-glass interface, the change of phase of the reflected wave will be
[ ]
(a) 0 (b) π/2 (c) π/4 (d) π

64. In order that a thin film of a oil floating on the surface of water should show colours due to interference, the thickness of the oil film should be of the order
[ ]
(a) 1 cm (b) 1 nm (c) 100 nm (d) 1000 nm

65. The two waves having amplitudes in the ration 5:1 produce interference pattern. The ratio of the maximum to the minimum intensity is
[ ]
(a) 25:1 (b) 6:4 (c) 4:9 (d) 9:4

66. A phase difference of π/2 between two interfering beams is equivalent to the path difference of [ ]
(a) λ (b) 0 (c) λ/4 (d) λ/2

67. In the interference pattern, energy is
[ ]
(a) Created at the position of maxima (b) Conserved but is redistributed
(c) Destroyed at the position of minima (d) None of the above

68. Oil film or soap bubble forms visible colours due to
[ ]
(a) Diffraction (b) Polarization (c) Reflection (d) Interference

69. A beam of monochromatic light of wavelength 'λ' is incident on the oil film of 't' thickness and 'μ' refractive index, forms the interference fringes. Then, what is the effective path difference between the reflected rays coming from the oil film?
[ ]
(a) 2μt Sin r + λ/2 (b) 2μt Cos r (c) 2μt Cos r + λ/2 (d) 2μt Co r + λ

70. Two coherent sources of light can be obtained by
[ ]
(a) Two different lamps (b) Two different lamps of same power and having the same colour
(c) Two different lamps but of the same power (d) None of the above

71. In a plane parallel film due to reflected light, what is the condition for maxima band?
[ ]
(a) 2μt Cos r = nλ (b) 2μt Cos r = (3n+2)λ/2 (c) 2μt Cos r = (2n-1)λ/2 (d) 2μt Sin r = nλ

72. In Reflected light, the central fringe in Newton's rings is
[ ]
(a) Bright (b) Dark (c) Both a and b (d) None of the above

73. The Radius of Curvature of the Plane surface of the Plano-convex lens is
[ ]
(a) Zero (b) Finite (c) 100 cm (d) Infinite

74. The path difference condition for the reflected light rays from the Lens-plate system in Newton's rings experiment in air (Normal Incidence, r=0)
[ ]
(a) δ = 2t (b) δ = 2t + λ (c) δ = 2t + λ/2 (d) δ = λ/2

75. Snell's Law
[ ]
(a) μ = Sin r / Cos I (b) μ = Cos i / Sin r (c) μ = Sin i / Cos r (d) μ = Sin i / Sin r

76. In Newton' rings experiment, the diameter of bright rings is proportional to
[ ]
(a) Odd natural numbers (b) Natural numbers (C) Square root natural numbers (d) Square root of odd

77. In Newton's rings experiment, the diameter of the 10th dark ring in a monochromatic light of wavelength λ=600 nm and R is 100 cm is
[ ]
(a) 0.25 cm (b) 0.48 cm (c) 0.89 cm (ds) 0.48 mm

78. In Newton's rings experiment, the diameter of dark rings is proportional to
[ ]
(a) Odd natural numbers (b) Natural numbers (c) Square root natural numbers (d) Square root of odd

79. A Parallel beam of light of λ=5400A0, is incident on a glass plate (μ= 1.5) such that angle of refraction into plate is 600. Calculate the Smallest thickness of the plate which will make it appear dark by reflection. [ ]
(a) 10 μm (b) 15 μm (c) 18 nm (d) 360 nm

80. The condition for the Dark band (minima) in parallel thin film due to reflected light
[ ]
(a) $2\mu t \cos r = n\lambda$ (b) $2\mu t \cos r = (3n+2)\lambda/2$ (c) $2\mu t \cos r = (2n-1)\lambda/2$ (d) $2\mu t \sin r = n\lambda$

81. The source used in Newton's rings experiment is a
[ ]
(a) Monochromatic (b) Polychromatic (c) Both (d) none

82. In Newton's rings experiment, interference is due to light rays reflected from
[ ]
(a) Lower surface of the glass plate and upper surface of lens
(b) Lower surface of lens and lower surface of glass plate
(c) Lower surface of lens and upper surface of the glass plate
(d) Upper surface of glass plate and upper surface of lens

83. If the Newton's rings experiment is performed in water, the diameter of the rings is (compare with air) [ ]
(a) Remains same (b)Increases (c)Two times (d) Decreases

84. In Young's double slit experiment, the distance between the two slits is '2d' which are illuminated with monochromatic light of 'λ' and the distance of the screen form the slits is 'D', then the width between any two same consecutive fringes is
[ ]
(a) $\beta = \lambda d/D$ (b) $\beta = \lambda d/2D$ (c) $\beta = \lambda D/2d$ (d) $\beta = \lambda d$

85. The penetration of waves into the regions of the geometrical shadow is
[ ]
(a) Interference (b) Diffraction (c) Polarization (d) Dispersion

86. In fraunhofer diffraction the wavefront undergoing diffraction has to be
[ ]
(a) Spherical (b) Cylindrical (c) Elliptical (d) Plane

87. A parallel beam of monochromatic light falls normally on a plane diffraction grating having 5000 lines/cm.
A second order spectral line is diffracted through an angle of 30o. The wavelength of light is [ ]
(a) 5×10^{-7} cm (b) 5×10^{-6} cm (c) 5×10^{-5} cm (d) 5×10^{-4} cm

88. To find prominent diffraction, the size of the diffracting object should be
[ ]
(a) Greater than the wavelength of light (b) Of the order of the wavelength of light
(c) Less than the wavelength of light (d) None of these

89. The maximum number of orders possible with a grating is
[ ]
(a) Independent of grating element (b) Directly proportional to grating element
(c) Inversely proportional to grating element (d) Directly proportional to wavelength

90. In which experiment screen and sources are close
[ ]
(a) Fresnel's diffraction (b) Fraunhofer's diffraction (c) Both A &B
(d) None

91. Diffraction grating equation
[ ]
a) (e+d) Cos θ= nλ b) (e+d) Tan θ= nλ c) (e+d) = nλ d) (e+d) Sin θ= nλ

92. In Fraunhofer's diffraction at single slit, if the slit width is reduced
[ ]
a) The fringes become brighter b) The fringes become narrower
c) The fringes become wider d) Colours of the fringes change
`

93. Newton's rings are observed in the reflected light of wavelength 5900A°. The diameter of the 10th dark ring is 0.5 cm. Find the radius of curvature of the lens used.
[ ]
a) 140 cm b) 102 cm c) 106 cm d) 100 cm

94. a Diffraction grating has
[ ]
a) Large number of equidistant slits b) Only one slit c) Only one slit d) Circular slit

95. In which experiment lenses are required
[ ]
a) Fresnel's diffraction b) Fraunhofer's diffraction c) Both A &B d) None

96. Resolving power of the grating is
[ ]
a)Zero b) Error! Reference source not found c) Infinite d) $\frac{\lambda}{d\lambda} = N(e-d)sin\frac{\theta}{\lambda}$

97. A parallel beam of light is allowed to fall on a grating having 4250 lines per cm. The second order spectral line is observed at 30^0. What is the wavelength of the light?
[ ]
(a) 5882 Å (b) 4890 Å (c) 6250 Å (d) None

98. Diameter of the dark ring in Newton's rings experiment is
[ ]

(a) $D_n = \sqrt{4Rn\lambda}$ (b) $D_n = \sqrt{4Rn\lambda}$

(c) $D_n = \sqrt{(2n-1)R\lambda}$ (d) $D_n = \sqrt{4n\lambda}$

99. The intensity of maxima bands in diffraction pattern is
[ ]

(a) Constant (b) Zero (c) Varying (d) None

100. If sodium light is replaced with white light, the fringes in Newton's rings experiment is
[ ]

(a) Remains same as that of monochromatic light (b) Few colored fringes will be observed near the center

(c) All colours are observed (d)none

101 The Unit for permittivity of free space Ɛ0 is
[ ] (a) Hm^{-1} (b) Fm^{-1} (c) Cm^{-1} (d) none

102. The Unit of Relative permitivity is
[ ]

(a) Hm^{-1} (b) Fm^{-1} (c) Cm^{-1} (d) Dimensionless

103. Choose correct relation
[ ]

(a) $E=Ɛ_0(Ɛ_r -1)P$ (b) $D=Ɛ_0(Ɛ_r -1)E$ (c) $P=Ɛ_0(Ɛ_r -1)E$ (d) $D=Ɛ_0(Ɛ_r -1)P$

104. Choose correct relation
[ ] (a) $\chi_e = (Ɛ_0 -1)$ (b) $\chi_e = (Ɛ_r +1)$ (c) $\chi_e = (Ɛ_r -1)$ (d) $\chi_e = (Ɛ_0 +1)$

105. Insertion of a dielectric Material between the plates of a Capacitor
[ ]

(a) Increase the capacitance (b) Decrease the Capacitance (c) no change
(d) none

106. Electronic Polarization
[ ]

(a) Decreases with Increase of Temperature (b) increase with Temperature
(c) Is independent of Temperature (d) none

107. The polarization vector P=

[ ]

(a) N/μ (b)μ/N (c) μN (d) none

108. Ionic polarization

[ ]

(a) Decreases with Increase of Temperature (b) Increase with Temperature

(c) Is independent of Temperature (d) None

109. Orientational Polarization

[ ]

(a) Decreases with Increase of Temperature (b) Increase with Temperature

(c) Is independent of Temperature (d) None

110. Choose correct relation for Orientation polarization

[ ]

(a) $\alpha_o = \mu^2 kT$ (b) $\alpha_o = \mu^2/KT$ (c) $\alpha_o = 3KT/\mu^2$ (d) $\alpha_o = \mu^2/3KT$

111 .The electric susceptibility

[ ]

(a) PE (b) P/E (c) E/P (d) none

112. The units of dipole moment is

[ ]

(a) Coulomb m^2 (b) Coulomb m (c) Coulomb/ m (d) No dimension

113. At Normal temperatures, the Polarizations Which are Independent of temperature are

[ ]

(a) electronic and ionic (b) ionic and Orientational (c) only Orentational (d) None

114 .Orientational Polarization is

[ ]

(a) directly proportional to absolute temperature

(b) inversely proportional to absolute temperature

(c) directly proportional to square of absolute temperature

(d) inversely proportional to square of absolute temperature

115.Dielectrics are

[ ]

(a) Solids (b) Metals (c) Semiconductors (d) Insulators

116.In the absence of external electric field, the dipoles in a dipolar substance are
[ ]
(a) Parallel (b) Anti-parallel (c) randomly oriented (d) all of the above

117. Orientation polarization is due to___ of Polar molecules in dielectric substances
[ ]
(a) Rotation (b) creation of dipoles (c) charge separation (d) none of these

118. The process of producing electric dipole which are oriented along the field direction is called_____
(a) Polarization in dielectrics (b) Polarization in magnetic materials
[ ]
(c) Polarization in semiconductors (d) none

119 .The dielectric constant ε_r
[ ]
(a) $\varepsilon/\varepsilon_o$ (b) $\varepsilon_o/\varepsilon$ (c) $\varepsilon_o\varepsilon$ (d) None

120. In standard notation the quantity having the same dimensional expression as that of polarization P [ ]
(a) E (b) ε_o (c)ε_r (d) D

121. The units of dielecric-constant are
[ ]
(a) Coulomb m (b) Coulomb/m (c)farad/m (d) none

122. If N is the number of dipoles per unit volume and E is the electric field applied orientational Polarizability α_o is related to orientational polarization P_o by
[ ]
(a) $\alpha_o = P_oNE$ (b) $\alpha_o = NE/P_o$ (c) $\alpha_o = P_o/NE$ (d) $\alpha_o = P_oN/E$

123. The polarizations Which are dependent of temperature are
[ ]
(a) electronic (b) ionic (c) Orientational (d) None
124. the units of Polarizability
[ ]
(a) Cm^2V^{-1} (b) Cm/V^{-1} (C) C/m^2V^{-1} (d) None

125. Induced dipole moment for unit electric field is known as
[ ]
(a) Susceptibility (b) Polarizability (c) Dielectric Constant (d) Magnetic moment

1 Program is a collection of ____. [ ]

A.Instructions B.Statement C. Sentences D.Identifiers

2. single binary bit is known as _____. [ ]

A.8bits B.1bit C.1byte D. 1GB

3 A file name extension for C programming file is ____. [ ]

A . .txt B . .doc C. .cpp D. .c

4 _____a program that translates between programs in high level into object code. [ ]

A.LinkersB.LoadersC.Compilers D.Assemblers

5 Standard input / output library function is called ____and is normally connected to the keyboard. [ ]

A.stdio.h B.conio.h C.math.h D. None

6 _____ Function provides for formatted output to the screen. [ ]

A. scanf() B. clrscr() C.printf() D.getch()

7 In a C program sample code is given below what is output?

```
int  a=10, b= 2;
result = a%b;
printf("The result is :%d",result);
```

[ ]

A.1 B.2 C.0 D.None

8 In a C program sample code is given below what is output? int a=10, b= 2;

result = (a>b) ? a: b);

printf("The result is :%d",result); [ ]

A.2 B.10 C.1 D.5

9 In which of the following operator has highest precedence? [ ]

A.* B.+ C.- D.>

10 In which of the following operator executes from right to left is true? [ ]

A.= B.> C.< D.!

11 In a the following C program code find the error

```
#include<stdio.h>
#include<conio.h>
void main()

{
int  a=10;
printf("\n A value is :%f",a);
}
```

[ ]

A.Declaration error B.Compilation error C.Runtime error D.Logical error

12 In which of the following operator executes from logical operator

[ ]

A.|| B.| C.& D.^

13 _____ function provides for getting exactly one character from the keyboard .

[ ]

A.putchar() B.puts() C.getchar() D.gets()

14 Identify the octal constant given below

[ ]

A.647 B.0x25 C.0743 D.06.25

15 Identify the logical operator given below

[ ]

A.:= B.~ C.! D.++

16 .Which is one of the size of long double data type?

[ ]

A.4bytes B.8 bytes C.10bytes D.6bytes

17. Which is related bit-wise operator?

[ ]

A).> B).= C).! D.)||

18 Which one of the Assignment operator?

[ ]

A.)= B).+ C.)- D.)>

19 Algorithm is _____process which solves the problems

[ ]

A.step-by-step procedure B.sequence of operators

C. sequence of variables D.None

20 If x= -4 then y=(x > 1 ? 3 : 4) y=____

[ ]

A.1 B.3 C.4

D.None

21 What is the size of an int data type?

[ ]

A.1Byte B.8Byte C.4Byte D.2Byte

22 RAM Stands for_____

[ ]

A.Read available memory B.Reading access memory C.Random access memory D.All of the above

23 What is the output of this C code?

```
#include <stdio.h>
void main()
{
int x = 90,y=80;
printf("%d , %d\n", ++x,--y);
}
```

[ ]

A.91 , 79 B .79 , 91 C.90 , 79 D.89 , 79

24 Which is not a valid expression?

[ ]

A. ++(a+b) B. a++ C. --b D. a--

25 The symbol for ternary operator.

[ ]

A . ? : B. : ? C.: ; D. ? ;

26 A block is enclosed with pair of

[ ]

A.{ } B. () C.[] D.<>

27 When was the C language developed?

[ ]

A.1970 B.1972 C.1971 D.1973

28 The parallelogram symbol is used to representation_____.

[ ]

A.Start B.Computing C.decision D.Input/output

29 Which is not a key word of C?

[ ]

A.Const B.Main C.Sizeof D.Void

30 C is a_____.

[ ]

A.Structured language B. Machine language

C. Assembly language D.Object-oriented language

31 Which one of the following is a float data type? [ ]

A.Int B.long int C.Double D.None of the above

32 Which one of the following is User-defined data type? [ ]

A.Typedef B.Characters C.Arrays D.Functions

33 Which is one of the following is a string constant? [ ]

A. '5' B. "hello" C. 'd' D. 25

34 The range of values for a char data type is [ ]

A.-32,768 to 32,768 B.0 to 255 C.-128 to 127 D.0 to 65535

35 a+=1 will result in_____. [ ]

A.a= a-1 B.a= 1+1 C.a=a+a D.a=a+1

36 Which of the following is the bitwise left shift operator [ ]

A.<<< B.> C.<< D.>>>

37 Which function is used for reading data from keyboard in C language? [ ]

A.printf() B.clrscr() C.Scanf() D.None

38 _____is the interface between user and hardware. [ ]

A.Operating system B.Mother board C.Keyboard D.RAM

39 Which is one of the 125 decimal number to binary number? [ ]

A.1011010 B.1111101 C.0001101 D.1111011

40 If a=20,b=10 then result of ++a,--b is _____. [ ]

A.20,10 B.21,10 C.21,9 D.9,21

41 Who developed the C language? [ ]

A.Ken Thompson B.Dennis Ritchie C.Kernighan Ritchie D.E.Balagurusamy

42 _____is a pictorial representation of an algorithm. [ ]

A.Program B.Flowchart C.Language D.Instruction

43 Algorithm written in English like language is called___. [ ]

A.object code B.source code C.pseudo code D. machine code

44 Identifiers are a_____. [ ]

A.Keywords B.User_defined names C.Constants D.all of the above

45 Which is one of the Hexa decimal integers constant? [ ]

A. 07777 B.0xFFFF C.-7777 D.777.77

46 Which is one of the user-defined data type? [ ]

A.Integer B.Typedef C.Sizeof D.Function

47 Type conversion is also called _____. [ ]

A.Evaluation B.expression C. type casting D. all of the above

48 Which of the following is the correct statement for computing logical AND? [ ]

A.a<b & x>y B.a<b && x>y C. a<b || x>y D.a<b AND x>y

49 The equal to operator is represented by _____. [ ]

A.:= B.!= C.== D.=

50 Which is one of the format descriptor a new line? [ ]

A.\n B.\t C.\a D.\v

51 What will be output of following c code?

```
#include<stdio.h>
main(){
   int i;
   for(i=0;i<=5;i++);
   printf("%d",i);
   }
```

[ ]

A.6 B.7 C.8 D.None

52 What will be output of following c code?

```
#include<stdio.h>
main(){
   int i;
   for(i=0;i<=5;i++)
  {
        break;
   printf("%d",i);
   }
}                                                                    [
]
```

A. B.12345 C.0 D.5

53 What will be output of following c code?

```
#include<stdio.h>
main(){
   int i=2,j=2;
   while(i==2?--i:j++)
       printf("%d",i);
}                                                                    [
]
```

A.1 B.2 C.4 D.None

54 What will be output of following c code?

```
#include<stdio.h>
 main(){
   for(;;) {
       printf("%d ",10);
   }
}                                                                     [
]
```

A.Infinite Loop B.10 C.1 to 10 D.None

55 What will be output of following c code?

```
#include<stdio.h>
main(){
   int i;
   for(i=0;i<=5;i++)
   printf("%d",i);
}
```

[
]

A.012345 B.123 C.5 D.None

56 What will be output of following c code?

```
#include <stdio.h>
   void main()
   {
      int x = 5;
      if (x < 1)
         printf("hello");
      if (x == 5)
         printf("hi");
      else
         printf("no");
   }
```

[
]

A.Hi B.Hello C.No D.None

57 What will be output of following c code?

```
#include <stdio.h>
   void main()
   {
      int x = 0;
      if (x == 0)
```

```
        printf("hi");
    else
        printf("how are u");
        printf("hello");
  }                                                                    [
]
```

A.Hi B.how are you C.Hello D.Hihello

58 What will be output of following c code?

```
#include <stdio.h>
  void main()
  {
    int x = 5;
    if (x < 1);
        printf("Hello");
   }                                                                   [
]
```

A.Nothing B.Run time error C.Hello D.Varies

59 What will be output of following c code?

```
#include <stdio.h>
  void main()
  {
    double ch;
    printf("enter a value btw 1 to 2:");
    scanf("%lf", &ch);
    switch (ch)
    {
    case 1:
        printf("1");
        break;
    case 2:
        printf("2");
        break;
```

```
    }
  }                                                                    [
]
```

A.Compile time error B.1 C.2 D.None

60 _____ Statement is must within the end of each case in switch case statements

[ ]

A.Continue B.Break C.Default D.None

61 Case Labels must ends with _____ delimiter. [ ]

A. : B.; C.! D.@

62 Case label should not be _____. [ ]

A.Integer B.Floating point number C.Character D.None of the above

63 _____ Operators are not allowed in Switch Statement.

[ ]

A.Relational B.Arithmetic C. Const Variable D. None of the Above

64 How many times printf() statement is executed?

```
#include <stdio.h>
  int main()
  {
     int i = 0;
     while(i<3) {
        i++;
        printf("in while loop\n");
     }
  }                                                                    [
]
```

A.2 B.3 C.4 D.1

65 How many times i value is checked in the below code?

```
#include <stdio.h>
   int main()
   {
      int i = 0;
      do {
         i++;
         printf("in while loop\n");
      } while (i < 3);
   }
```

[ ]

A.2 B.3 C.4 D.1

66 What will be output of following c code?

```
#include <stdio.h>
   void main()
   {
      int i = 2;
      do
      {
         printf("Hi");
      } while (i < 2)
   }
```

[ ]

A.Compile time error B.Hi Hi C.Hi D.Varies

67 What will be output of following c code?

```
#include <stdio.h>
   void main()
```

```
{
    int i = 0;
    do
    {
        printf("Hello");
    } while (i != 0);
}
```

[ ]

A.Nothing B. H is printed infinite times C.Hello D. Run time error

68 What will be output of following c code?

```
#include <stdio.h>
void main()
{
    int k = 0;
    for (k)
        printf("Hello");
}
```

[ ]

A.Compile time erro r B.hello C. Nothing D.Varies

69 What will be output of following c code?

```
#include <stdio.h>
void main()
{
    int k = 0;
    for (k < 3; k++)
    printf("Hello");
}
```

[ ]

A.Compile time error B. Hello is printed thrice C. Nothing D. Varies

70 _____ is a looping statement that will always executes at least ones, before the test is made to determine whether it should continue [ ]

A.While B.Do While C.For D.None

71 The _____ statement terminates the loop immediately when it is encountered. [ ]

A.Continue B.Go to C.Break D.None

72 The _____ statement skips some statements inside the loop. [ ]

A.Continue B.Go to C.Break D.None

73 _____ Transfers control to the labeled statement. [ ]

A.Continue B.Go to C.Break D.None

74 Ternary operator Exp1?Exp2:Exp3; is similar to _____ decision making Statement [ ]

A.If else B.Else if ladder C.Nested if D.Simple if

75 What will be output of following c code?

```
#include<stdio.h>
main(){
   int i=2;
   (i<=2)?printf("Success"):printf("Fail);
     }
```

[ ]

A.Success B.Fail C.Error D.None

76 _____is a fixed size sequenced collection of elements of the same data type. [ ]

A.Array B.Structure C.Identifier D.None

77 An Array can be initialized either at compile time or at _____ [ ]

A.Run time B.Static time C.Run time & static time D.None

78 In C,by default the first subscript of array is _____ [ ]

A.One B.Zero C.Two D.None

79 What will be the output of the program?

```
#include<stdio.h>
int main()
{
   int a[5] = {5, 1, 15, 20, 25};
   int i, j, m;
   i = ++a[1];
   j = a[1]++;
   m = a[i];
   printf("%d, %d  ,%d", i, j, m);
   return 0;
}
```

[ ]

A.2, 1, 15 B.1, 2, 5 C.2, 2, 15 D.2, 3, 20

80 What is right way to Initialize array? [ ]

A.int num[6] = { 2, 4, 12, 5, 45, 5 }; B.int n{} = { 2, 4, 12, 5, 45, 5 };

C.int n{6} = { 2, 4, 12 }; D.int n(6) = { 2, 4, 12, 5, 45, 5 };

81 An array elements are always stored in _____ memory locations. [ ]

A.Sequential B.Random C.Sequential and Random D.None of the above

82 What is the maximum number of dimensions an array in C may have? [ ]

A.2 B.8 C.20

D.Theoretically no limit. The only practical limits are memory size and compilers

83 Size of the array need not be specified, when [ ]

A.Initialization is a part of definition B.It is a declaration

C.It is a formal parameter D.All of these

84 What is the size of array? [ ]

Int a[10];

A.10 B.20 C.30 D.50

85 Which of the following correctly accesses the seventh element stored in arr, an array with 100 elements? [ ]

A.Arr[6] B.Arr[7] C.Arr{8} D.Arr{6}

86 int a[5] = {1,2,3}

What is the value of a[2]? [ ]

A.1 B.2 C.3 D.0

87 What is meaning of following declaration?

int arr[20]; [ ]

A.Array of size 20 that can have integer address B.Array of Size 20

C.Integer Array of size 20 D.None of these

88 Below is an example of -

int RollNum[30][4]; [ ]

A.1-D Array B.2-D Array C.3-D Array D.4-D Array

89 If we have declared an array described below -

int arr[6];

then which of the following array element is considered as last array element ? [ ]

A.Arr[4] B.Arr[5] C.Arr[3] D.Arr[0]

90 Array is _____ data type in C Programming language. [ ]

A.Basic data type B.Derived data type

C.User defined data type D.none

91 One Dimensional array is declared as [ ]

A.Type arr_name[row-size][col-size]; B.Type arr_name[];

C.Type arr_name[][][]; D.Type arr_name[][];

92 Correct format to initialize the 1-D array [ ]

A.Int a[10]=[1,2]; B.Int a[3]={1,2,3}; C.Char a[2]=qs; D.None

93 Which of the following correctly declares an array? [ ]

A. int anarray[10]; B. int anarray; C. anarray{10}; D. array anarray[10];

94 The array elements are represented by [ ]

A.Index values B.Subscripted variables C.Array name D.Size of array

95 When should an array be used? [ ]

A.When we need to hold variable constants B.When we need to hold data of same type C.When we need to hold data of different type D.None

96 One dimensional array is also known as_____ [ ]

A.Single subscripted variable B.Double subscripted variable
C.Three subscripted variable D.None

97 An array is a _____sequenced collection of elements of the data type [ ]

A.Variable size B.Fixed size C.Dynamic size D.None

98 The process of allocating memory at compile time is known as _____ [ ]

A.Dynamic memory allocation B.Static memory allocation
C.Both A & B D. None

99 Syntax of three dimensional array [ ]

A.Int a[][][] B.Char a[] C.Float a{} D. Int aP{}{}

100 When we declare an array ,we need to specify _____ [ ]

A.Name B.Type C.Size D. All

101 _____ is a sequence of characters that is treated a single data item. [ ]

A.StringB.Array C.Function D. Pointer

102 The following header file is required when using character handling functions. [ ]

A.#include<stdio.h> B.#include<conio.h>

C. #include<ctype.h > D. #include<math.h>

103 The following fucntion is used to determine the length of a string. [ ]

A.Strcmp B.Strcat C.Strlen D. Strcpy

104 Which of the following is used to display a string on the I/O console. [ ]

A.%c B.%s C.%c D. %f

105 Which of the following is used to represent the end of the file. [ ]

A.Blank space B.Null character

C.New line character D. Last element of the string

106 It is a _____ error to assign a string to a variable. [ ]

A.Runtime error B.Fatal error C.Compile time error D. None

107 Which of the following fuction is used to copy one string into another. [ ]

A.Strcat B.Strcmp C. Strstr D.Strcpy

108 When the field width is _____ the length of the string, the entire string is printed. [ ]

A.>B.< C. = D. <=

109 Which of the following function is used to read a single character from the input . [ ]

A.putchar( ) B.getchar( ) C. puts( ) D. gets( )

110 Which of the following backslash character constant is used to give 8 spaces at a time in a printf statement. [ ]

A. '\a B. '\0' C. '\v' D. '\t'

111 What is the output of the following statement.

printf("%c", 97); [ ]

A.97 B. A C. C D. None

112 _____ is the character test function to check wether the entered alphabet is lower case or not.

[ ]

A.isdigit(c) B.isprint(c) C. isupper(c) D. islower(c)

113 Field specification of control string in scanf function consists of following. [ ]

A.coversion character % B.datatype character

C. field width number D. All the above

114 When two strings are equal then strcmp() return: [ ]

A.1 B.2 C. 0 D. -1

115 _____ is appened to the target string when the number of characters copied is less than or equal to the source string. [ ]

A.Null character B.Backslash character C.constant character D. All the above

116 Which of the following is true for putchar ? [ ]

A.Read a character B.Read string of characters

C.Write a character D.write string of character

117 When string variable is used in scanf function ___ operator is not included. [ ]

A. B.^ C. & D. +

118 An input field may be skipped by_____ in the place of field width.

[ ]

A.* B.@ C. # D. &

119 _____is commonly used printf format code for printing the floating point value in exponent form. [ ]

A.%i B.%d C. %e D. %f

120 strcpy function works almost like a_____ operator.

[ ]

A.String assignment B.String concatination C. A and B D. None

121 Which of the following is the correct syntax for copying a string s1 into string s2. [ ]

A.strcpy(s2,s1); B.strcpy(s1,s2); C.strcmp(s1,s2); D.strcmp(s2,s1);

122 _____backslash character constant places cursor at the beginning of output statement. [ ]

A. '\r' B. '\v' C. '\0' D. '\?'

123 How will you print \n on the screen. [ ]

A.printf("\n"); B.printf('\n'); C. echo "\n"; D. printf("\\n");

124 Which of the following function is used to find the first occurance of a given string in another string. [ ]

A.strchr( ) B.strcmp( ) C.strstr( ) D. All of the above

125 The new line \n doesn't work in the following printf statement.

[ ]

A.printf(“hello \t world \n”);

B.printf(“hello \0 world \n”);

C.printf(“hello \r world \n”);

D.printf(“hello \? world \n”);