

Id	1
Question	Mesh analysis is applicable for non planar networks also.
A	TRUE
B	FALSE
C	Equal
D	None of Above
Answer	
Marks	2
Unit	1

Id	2
Question	A mesh is a loop which contains ____ number of loops within it
A	No loop
B	2
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	3
Question	If there are 8 nodes in network, we can get ____ number of equations in the nodal analysis.
A	7
B	8
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	4
Question	If there are 9 nodes in network, we can get ____ number of equations in the nodal analysis.
A	8
B	9
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	5
Question	In nodal analysis how many nodes are taken as reference nodes?
A	1
B	0
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	6
Question	Energy per unit charge is _____
A	voltage
B	current
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	7
Question	A conductor is said to have resistance of one ohm if a potential difference of one volt across its terminals causes a current of X ampere to flow through it. X=?
A	0
B	1
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	8
Question	Unit of inductance is _____
A	Henry
B	Resitance
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	9
Question	Inductance of an inductor is inversely proportional to its _____
A	Length
B	Area
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	10
Question	The dependent sources are of _____ kinds.
A	4
B	5
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	11
Question	The constant g_m has dimension of _____
A	volt
B	Ampere per volt
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	12
Question	Which of the following is not an example of a linear element?
A	Thermistor
B	Thyristor
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	13
Question	A semiconductor diode is an _____ element.
A	Unilateral
B	linear
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	14
Question	Example of distributed element is _____
A	Transmission Line
B	Resistance
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	15
Question	Potential difference in electrical terminology is known as?
A	voltage
B	current
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	16
Question	The circuit which satisfies Reciprocity Theorem is called?
A	nodes
B	Linear circuit
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	17
Question	The maximum power is delivered from a source to its load when the load resistance is _____ the source resistance.
A	double
B	equal to
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	18
Question	If source impedance is complex, then maximum power transfer occurs when the load impedance is _____ the source impedance.
A	Equal to
B	complex conjugate of
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	19
Question	If the source impedance is complex, then the condition for maximum power transfer is?
A	Equal
B	$Z_L = Z_S^*$
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	20
Question	If $ZL = ZS^*$, then?
A	Not equal
B	$RL = RS$
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	21
Question	Potential difference in electrical terminology is known as?
A	current
B	Voltage
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	22
Question	The circuit in which current has a complete path to flow is called _____ circuit.
A	open
B	closed
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	23
Question	If the voltage-current characteristics is a straight line through the origin, then the element is said to be?
A	same
B	Linear element
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	24
Question	To check for the Reciprocity Theorem we consider _____ of response to excitation.
A	Equal
B	ratio
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	25
Question	In Superposition theorem, while considering a source, all other current sources are?
A	Open circuited
B	Short circuited
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	26
Question	In Superposition theorem, while considering a source, all other voltage sources are?
A	Open circuited
B	Short circuited
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	27
Question	If the resistors of star connected system are R1, R2, R3 then the resistance between 3 and 1 in delta connected system will be?
A	R3
B	$(R1R2 + R2R3 + R3R1)/R2$
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	28
Question	If the resistors of star connected system are R1, R2, R3 then the resistance between 2 and 3 in delta connected system will be?
A	R2
B	$(R1R2 + R2R3 + R3R1)/R1$
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	29
Question	If the resistors of star connected system are R1, R2, R3 then the resistance between 1 and 2 in delta connected system will be?
A	R1
B	$(R_1R_2 + R_2R_3 + R_3R_1)/R_3$
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	30
Question	If a resistor R_x is connected between nodes X and Y, R_y between X and Y, R_z between Y and Z to form a delta connection, then after transformation to star, the resistor at node X is?
A	R_1+R_2
B	$R_x R_y / (R_x + R_y + R_z)$
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	31
Question	Which among the following represents the precise condition of reciprocity for transmission parameters?
A	$AD - BC = 1$
B	$AC - BD = 1$
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	32
Question	If the two ports are connected in cascade configuration, then which arithmetic operation should be performed between the individual transmission parameters in order to determine overall transmission parameters?
A	Addition
B	Subtraction
C	Multiplication
D	Both A and B
Answer	
Marks	2
Unit	1

Id	33
Question	Which is the correct condition of symmetry observed in z-parameters?
A	$Z_{11} = z_{22}$
B	$Z_{11} = z_{12}$
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	34
Question	An open circuit reverse voltage gain in h-parameters is a unitless quantity and generally equivalent to _____
A	V_1 / V_2 (keeping $I_1 = 1$)
B	V_1 / V_2 (keeping $I_1 = 0$)
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	1

Id	35
Question	Which among the following is regarded as short circuit forward transfer admittance?
A	y_{11}
B	y_{11}^{-1}
C	Both A and B
D	y_{21}
Answer	
Marks	2
Unit	1

Id	36
Question	Which elements act as an independent variables in Y-parameters?
A	Current
B	Voltage
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	37
Question	What does the connectivity of energy source at the port of network known as?
A	Driving Point
B	Voltage
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	38
Question	If the value of $(P1/ P2)$ in power ratio expressed in terms of dB is greater than unity, what does 'D' indicate in the network?
A	Power
B	VOLTAGE-CURRENT
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	39
Question	Variable attenuators exhibit variable attenuation but constant _____
A	Input impedance
B	OUTPUT impedance
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	40
Question	What is an ideal value of attenuation for the frequencies in pass band especially for a cascade configuration?
A	0
B	2
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	41
Question	It is possible to overcome the drawback of m-derived filter by connecting number of sections in addition to prototype & m-derived sections with terminating _____
A	1
B	0
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	42
Question	Suppose that a network consists of purely resistive elements, what will be the value of propagation constant (generated output) in terms of attenuation constant and phase constant from the following?
A	$\gamma = \alpha + j0$
B	$\gamma = 0 - j\beta$
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	43
Question	What would be the value of attenuation constant especially for the network consisting of purely reactive elements?
A	3
B	1
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	44
Question	If the value of resonant frequency is 50 kHz in a series RLC circuit along with the bandwidth of about 1 kHz, then what would be the value of quality factor?
A	90
B	5
C	50
D	None of Above
Answer	
Marks	2
Unit	2

Id	45
Question	The circuit is said to be in resonance if the current is _____ with the applied voltage.
A	10
B	Out of phase
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	46
Question	According to the graph theory of loop analysis, how many equilibrium equations are required at a minimum level in terms of number of branches (b) and number of nodes (n) in the graph?
A	b
B	$b-(n-1)$
C	n
D	2
Answer	
Marks	2
Unit	2

Id	47
Question	What would be an order of branch impedance matrix for the below stated KVL equilibrium equation on the basis of loop or mesh analysis?
A	b
B	b x b
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	48
Question	Why does the Superposition theorem not applicable to power?
A	Because it is proportional to square of voltage and voltage is a non-linear function
B	Because it is proportional to square of current and current is a non-linear function
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	49
Question	Which operation is likely to get executed or performed by Millman's theorem in terms of converting the voltage or current sources into a single equivalent voltage or current source?
A	plus
B	Minus
C	Combination
D	Both A and B
Answer	
Marks	2
Unit	2

Id	50
Question	If innumerable branches are present in parallel configuration in a network, which method approves to be extensively beneficial for network analysis?
A	Node method
B	Out of phase
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	51
Question	Which among the following is regarded as short circuit forward transfer admittance?
A	y_{11}
B	y_{22}
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	52
Question	What is an ideal value of network function at poles?
A	INFINITY
B	0
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	53
Question	What is an ideal value of network function at Zero?
A	1
B	Out of phase
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	54
Question	Which among the following belong/s to the category of critical frequency?
A	Poles
B	Zero
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	55
Question	If the complex system function is analytic in nature, the points in s-plane are regarded as _____
A	Multiple points
B	Out of phase
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	56
Question	Why are the variable attenuators applicable for radio broadcasting purposes?
A	For time control
B	Out of phase
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	57
Question	An active element in a circuit is one which _____
A	0
B	Out of phase
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	58
Question	A passive element in a circuit is one which _____
A	Receives energy
B	Out of phase
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	59
Question	A linear circuit is one whose parameter _____
A	Do not changes with voltage and current
B	Out of phase
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	60
Question	The superposition theorem is used when the circuit contains _____
A	Only passive elements
B	A number of voltage sources
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	61
Question	Norton theorem is _____ thevenin's theorem.
A	Equal
B	Out of phase
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	62
Question	In the analysis of a vacuum tube circuit,we generally use _____ theorem
A	Superposition
B	thevenin's theorem.
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	63
Question	In the analysis of transistor theorem, we usually uses _____ theorem.
A	Superposition
B	thevenin's theorem.
C	Both A and B
D	None of Above
Answer	
Marks	2
Unit	2

Id	64
Question	For transfer of maximum power, the relation between load resistance R and internal resistance r of the voltage source is
A	$R=3r$
B	$R=2r$
C	$R = r$
D	$R = \frac{r}{2}$
Answer	
Marks	2
Unit	2

Id	65
Question	Under the condition of maximum power transfer, the efficiency is
A	100
B	50
C	90
D	54
Answer	
Marks	2
Unit	2

Id	66
Question	The open circuited voltage at the transfer of load R is 30 V. Under the condition of maximum load power transfer, the load voltage will be _____
A	34
B	15
C	4
D	67
Answer	
Marks	2
Unit	2

Id	67
Question	The output resistance of a voltage source is 4Ω . Its internal resistance will be
A	5
B	4
C	0
D	6
Answer	
Marks	2
Unit	2

Id	68
Question	Star/Delta or Delta/Star technique is applied to _____ network
A	3 Terminal
B	30 Terminal
C	0 Terminal
D	2 Terminal
Answer	
Marks	2
Unit	2

Id	69
Question	The resistor value in delta network that is equivalent to a wye containing three $120\ \Omega$ resistors is
A	49
B	600
C	360
D	800
Answer	
Marks	2
Unit	2

Id	70
Question	The resistor values in wye network that is equivalent to a delta containing three 12 kΩ resistor is
A	0 kΩ
B	4 kΩ
C	49 kΩ
D	4 6 kΩ
Answer	
Marks	2
Unit	2

Id	71
Question	What is the applied voltage for a series RLC circuit when $I_T = 3 \text{ mA}$, $V_L = 30 \text{ V}$, $V_C = 18 \text{ V}$, and $R = 1000 \text{ ohms}$?
A	34v
B	67v
C	12v
D	12.37 V
Answer	
Marks	2
Unit	3

Id	72
Question	What effect will a parallel tank have upon final filter current?
A	small
B	big
C	large
D	very little
Answer	
Marks	2
Unit	3

Id	73
Question	What is the range between f_1 and f_2 of an RLC circuit that resonates at 150 kHz and has a Q of 30?
A	147.85 kHz to 152.5 kHz
B	1487.5 kHz to 152.5 kHz
C	1437.85 kHz to 152.5 kHz
D	147.5 kHz to 152.5 kHz
Answer	
Marks	2
Unit	3

Id	74
Question	What is the Q (Quality factor) of a series circuit that resonates at 6 kHz, has equal reactance of 4 kilo-ohms each, and a resistor value of 50 ohms?
A	45
B	80
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	75
Question	How much current will flow in a 100 Hz series RLC circuit if $V_S = 20$ V, $R_T = 66$ ohms, and $X_T = 47$ ohms?
A	45mA
B	247 mA
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	76
Question	In a parallel RLC circuit, which value may always be used as a vector reference?
A	current
B	voltage
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	77
Question	When a parallel circuit resonates it is said to:
A	wheel
B	flywheel
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	78
Question	Series RLC voltage or impedance totals must be calculated by:
A	open
B	voltage
C	adding vectors
D	null
Answer	
Marks	2
Unit	3

Id	79
Question	When $X_C = X_L$ the circuit:
A	below resonance
B	is at resonance
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	80
Question	At resonance, the term bandwidth includes all frequencies that allow what percentage of maximum current to flow?
A	80.9
B	70.7
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	81
Question	What is the true power consumed in a 30 V series RLC circuit if $Z = 20$ ohms and $R = 10$ ohms?
A	12 w
B	22.5 watts
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	82
Question	What is the current phase angle for a parallel RLC circuit when $I_L = 15.3$ A, $I_C = 0.43$ A, and $I = 3.5$ A?
A	0 degrees
B	-76.7 degrees
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	83
Question	At any resonant frequency, what voltage is measured across the two series reactive components?
A	0
B	1
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	84
Question	Which statement best describes reactance in a series <i>RLC</i> circuit?
A	Smaller
B	The larger of the two reactances is dominant.
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	85
Question	What is the band pass ($F_1 - F_2$) of an RLC filter that resonates at 150 kHz and has a coil Q of 30?
A	17.35 kHz to 152.5 kHz
B	147.5 kHz to 152.5 kHz
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	86
Question	What would be the power factor for an RLC circuit that acts inductively?
A	zero
B	1
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	87
Question	Voltage lags current in an RLC circuit when it acts:
A	INDUCTOR
B	capacitively
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	88
Question	When a parallel tank is used in series with an output load resistor the filter is a(n) _____ filter.
A	band-stop
B	band-pass
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	89
Question	When inductive and capacitive reactance are present in the same series circuit, the magnitude of the total reactance is equal to the sum of the magnitudes of the individual reactances.
A	TRUE
B	FALSE
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	90
Question	The quality factor at resonance of a series circuit is V_R/V_L .
A	TRUE
B	FALSE
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	91
Question	The less selective a filter is, the steeper the slope of its curves at the cutoff frequencies.
A	TRUE
B	FALSE
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	92
Question	By increasing the resistance of a coil you can increase the Q of the coil at resonance.
A	TRUE
B	FALSE
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	93
Question	The bandwidth of a filter is the range of frequencies between the half-power frequencies.
A	TRUE
B	FALSE
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	94
Question	A resonant circuit has a lower critical frequency of 7 kHz and an upper critical frequency of 13 kHz. The bandwidth of the circuit is
A	4 kHz
B	voltage
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	95
Question	If the value of C in a series RLC circuit is decreased, the resonant frequency
A	increases
B	voltage
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	96
Question	If the resistance in parallel with a parallel resonant circuit is reduced, the bandwidth
A	decreases
B	voltage
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	97
Question	To tune a parallel resonant circuit to a higher frequency, the capacitance should be
A	decreased
B	voltage
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	98
Question	The quality factor of a parallel circuit at resonance is V_C/V_S or V_L/V_S .
A	TRUE
B	FALSE
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	99
Question	Series <i>LC</i> combinations are used more often in tuned amplifier circuits than are parallel <i>LC</i> combinations.
A	TRUE
B	FALSE
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	100
Question	A parallel tuned circuit can be used to couple energy from one circuit to another.
A	TRUE
B	FALSE
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	101
Question	The greater the selectivity, the wider the bandwidth.
A	TRUE
B	FALSE
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	102
Question	Series resonance happens when _____.
A	$XL = XC$
B	voltage
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	103
Question	When a parallel tank circuit is used in series with an output load resistor the filter is _____.
A	band-stop
B	voltage
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	104
Question	At frequencies well above and below the resonant frequency, the series RLC circuit looks _____ and the parallel RLC circuit looks _____.
A	capacitive, inductive
B	voltage
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	105
Question	The ___ of a circuit describes the ability of that circuit to respond to certain frequencies while rejecting all others.
A	selectivity
B	voltage
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	3

Id	106
Question	While solving the ordinary differential equation using unilateral laplace transform, we consider the initial conditions of the system.
A	TRUE
B	FALSE
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	107
Question	With the help of _____ Mr.Melin gave inverse laplace transformation formula.
A	Theory of statistics
B	Theory of residues
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	108
Question	What is the laplace transform of the first derivative of a function $y(t)$ with respect to $t : y'(t)$?
A	$sY(s) - y(0)$
B	$y(0)$
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	109
Question	Solve the Ordinary Differential Equation by Laplace Transformation $y'' - 2y' - 8y = 0$ if $y(0) = 3$ and $y'(0) = 6$.
A	$(3e^t \cos(3t) + t \sin(3t))$
B	$\cos(3t) + t \sin(3t)$
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	110
Question	Solve the Ordinary Differential Equation $y'' + 2y' + 5y = e^{-t} \sin(t)$ when $y(0) = 0$ and $y'(0) = 1$. (Without solving for the constants we get in the partial fractions).
A	$\frac{(B1)}{2} \sin(2t)$
B	$e^{-t} [A \cos t + A1 \sin t + B \cos(2t) + \frac{(B1)}{2} \sin(2t)]$
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	111
Question	Solve the Ordinary Differential Equation using Laplace Transformation $y'''' - 3y'' + 3y' - y = t^2$ et when $y(0) = 1$, $y'(0) = 0$ and $y''(0) = 2$.
A	$y''(0) = 2$.
B	$y''(0) = 23$
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	112
Question	What is the inverse Laplace Transform of a function $y(t)$ if after solving the Ordinary Differential Equation $Y(s)$ comes out to be $\left(Y(s) = \frac{s^2 - s + 3}{(s+1)(s+2)(s+3)}\right)$?
A	$\left(\frac{-1}{2} e^{-t} + \frac{9}{2} e^{-2t} - 3e^{-3t}\right)$
B	$3e^{-3t}$
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	113
Question	For the Transient analysis of a circuit with capacitors, inductors, resistors, we use bilateral Laplace Transformation to solve the equation obtained from the Kirchoff's current/voltage law.
A	TRUE
B	FALSE
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	114
Question	While solving an Ordinary Differential Equation using the unilateral Laplace Transform, it is possible to solve if there is no function in the right hand side of the equation in standard form and if the initial conditions are zero.
A	TRUE
B	FALSE
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	115
Question	The first and second derivatives of a quadratic Polynomial at $x = 1$ are 1 and 2 respectively. Then the value of $f(1) - f(0)$ Is given by?
A	1
B	0
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	116
Question	Let $f(x) = x^9 e^x$ then the ninth derivative of $f(x)$ at $x = 0$ is given by?
A	$2!$
B	$9!$
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	117
Question	The current in the R-L circuit at a time $t = 0+$ is?
A	V/R
B	R
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	118
Question	The expression of current in R- C circuit is?
A	$i=(V/R)\exp(f_0/RC)$
B	$i=(V/R)\exp(f_0)$
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	119
Question	In an R-C circuit, when the switch is closed, the response _____
A	decays with voltage
B	decays with time
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	120
Question	After how many time constants, the transient part reaches more than 99 percent of its final value?
A	3
B	5
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	121
Question	If the roots of an equation are real and unequal, then the response will be?
A	over damped
B	Under damped
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	122
Question	If the roots of an equation are complex conjugate, then the response will be?
A	over damped
B	Under damped
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	123
Question	If the roots of an equation are real and equal, then the response will be?
A	critically damped
B	damped
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	124
Question	Replacing the differentiation with D1, D2 in the equation obtained from RL Circuit Find the values of D1, D2.
A	$-200 \pm j979.8$
B	$200 \pm j979.8$
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	125
Question	At time $t = 0$, the value of current in the RL Circuit
A	0
B	1
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	126
Question	In the sinusoidal response of R-L circuit, the complementary function of the solution of i is?
A	0
B	1
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	127
Question	The particular current obtained from the solution of i in the sinusoidal response of R-L circuit is?
A	45
B	$T+2$
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	128
Question	Order of differential equation corresponding to family of curves $y = Ae^{2x} + Be^{-2x}$ is _____
A	1
B	2
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	129
Question	The order of the differential equation corresponding to the family of curves $y = c(x - c)^2$, c is constant is _____
A	1
B	0
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	130
Question	The order of the differential equation of all the circles of given radius 4 is
A	2
B	2
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	131
Question	The differential equation of the family of lines passing through ongoing is
A	$x dy - y dx = 0$
B	$x dy + y dx = 0$
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	132
Question	Form the differential equation representing the family of parabolas having vertex at origin and axis along positive direction of the x-axis.
A	$y^2 = 22xyy'$.
B	$y^2 = 2xyy'$.
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	133
Question	Find the particular solution of the differential equation $\frac{dy}{dx} = y \tan x$, given that $y = 1$ when $x = 0$.
A	$y = \sec x$
B	$y = \operatorname{cosec} x$
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	134
Question	Classify the following differential equation: $xy \, dx + 3y = x^2y$
A	Separable and not linear
B	Separable and linear
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	135
Question	Classify the following differential equation: $dz/dt = 1+z+t+zt$
A	Separable and not linear
B	Separable and linear
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	136
Question	In RC series circuit $R = 2\Omega$, $C = 2\mu\text{F}$ and 10V dc is applied. Then what is the value of current?
A	0A
B	3A
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	137
Question	A CR network is one which consists of _____
A	A capacitor and resistor connected in series
B	series connection of C and R
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	138
Question	At DC, capacitor acts as _____
A	Open circuit
B	Closed circuit
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	139
Question	In an RC series circuit, when the switch is closed and the circuit is complete, what is the response?
A	Decays with current
B	Decays with time
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	4

Id	140
Question	The expression for the current in an RC circuit is?
A	$i=(V/R)e^{-t/RC}$
B	0
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	141
Question	What is a filter?
A	Frequency selective network
B	Frequency selective circuit
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	142
Question	What are filters created by using resistors and capacitors or inductors and capacitors called?
A	Active
B	Passive
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	143
Question	What type of filter produces a predictable phase shift characteristic in all frequencies?
A	Low pass filter
B	Band pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	144
Question	What type of filter produces a predictable phase shift characteristic in all frequencies?
A	Low pass filter
B	Band pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	145
Question	Find the cut off frequency for an RC low pass filter of $R=8.2\Omega$ and $C=0.0033\mu F$?
A	5.88KHz
B	58KHz
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	146
Question	What is the value of resistor for a high pass RC filter to produce a cutoff frequency of 3.4KHz if $C = 0.047\mu\text{F}$?
A	996 Ω
B	9096 Ω
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	147
Question	What is the value of notch frequency if the values of resistance and capacitance are 100 kV and 0.02 μ F?
A	179.6Hz
B	79.6Hz
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	148
Question	What is the loss the filter introduces to the signals in the passband called?
A	Attenuation
B	Amplifier
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	149
Question	The attenuation rate is also called
A	Roll off
B	Gain
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	150
Question	What is reactance?
A	Resistance offered to ac current by coil and capacitance
B	Resistance offered to ac current by capacitance
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	151
Question	Which filter performs exactly the opposite to the band-pass filter?
A	Low pass filter
B	High pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	152
Question	Given the lower and higher cut-off frequency of a band-pass filter are 2.5kHz and 10kHz. Determine its bandwidth.
A	7500
B	750
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	153
Question	In which filter the output and input voltages are equal in amplitude for all frequencies?
A	All pass filter
B	Filter pass all frequency
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	154
Question	Name the filter that has two stop bands?
A	Low pass filter
B	High pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	155
Question	A _____ filter rejects all frequencies within a specified band and passes all those outside this band.
A	Low pass filter
B	High pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	156
Question	A _____ filter significantly attenuates all frequencies below f_c and passes all frequencies above f_c .
A	high-pass reject
B	high-pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	157
Question	Which of the following L-type filter is the best bandstop filter?
A	high-pass reject
B	high-pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	158
Question	Which filter exhibits a linear phase characteristic?
A	Low pass filter
B	High pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	159
Question	Which filter has a maximally flat response?
A	Low pass filter
B	High pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	160
Question	Which filter has a maximally narrow response?
A	Low pass filter
B	High pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	161
Question	How is the higher order filters formed?
A	Low pass filter
B	High pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	162
Question	In a first order high pass filter, frequencies higher than low cut-off frequencies are called
A	Low pass filter
B	High pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	163
Question	A bandstop filter is sometimes called a
A	Notch filter
B	High pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	164
Question	The Q of a narrowband filter is always
A	Low pass filter
B	High pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	165
Question	Ideal response of filter takes place in
A	Low pass filter
B	High pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	166
Question	Filters are classified as
A	Low pass filter
B	High pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	167
Question	A third-order filter will have a roll-off rate of
A	Low pass filter
B	High pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	168
Question	Which filter exhibits the most rapid roll-off rate?
A	Low pass filter
B	High pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	169
Question	A third-order filter will have a roll-off rate of
A	Low pass filter
B	High pass filter
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	170
Question	The value of N in dB is?
A	$N = \text{anti log (dB)}$
B	$N = \text{anti}10 \text{ log (dB)}$
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	171
Question	If the value of $(P1/ P2)$ in power ratio expressed in terms of dB is greater than unity, what does 'D' indicate in the network?
A	Power loss
B	Power gain
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	172
Question	Variable attenuators exhibit variable attenuation but constant _____
A	Input impedance
B	Output impedance
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	173
Question	Why are the variable attenuators applicable for radio broadcasting purposes?
A	Volume control
B	Voltage control
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	174
Question	Which type of attenuators provide a fixed amount of attenuation by allowing the user to vary the attenuation in multiple steps?
A	ladder
B	T Type
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	175
Question	Narrow band-pass filters are defined as
A	$Q < 10$
B	$Q \geq 10$
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	5

Id	176
Question	A band-pass filter has a bandwidth of 250Hz and center frequency of 866Hz. Find the quality factor of the filter?
A	3.46
B	4.87
C	6.78
D	None of above
Answer	
Marks	2
Unit	6

Id	177
Question	Find the voltage gain magnitude of the wide band-pass filter? Where total pass band gain is=6, input frequency = 750Hz, Low cut-off frequency =200Hz and high cut-off frequency=1khz.
A	194.837dB
B	14.837dB
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	178
Question	Compute the quality factor of the wide band-pass filter with high and low cut-off frequencies equal to 950Hz and 250Hz.
A	194.837dB
B	14.837dB
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	179
Question	The details of low pass filter sections are given as $f_h = 10\text{kHz}$, $AF = 2$ and $f = 1.2\text{kHz}$. Find the voltage gain magnitude of first order wide band-pass filter, if the voltage gain magnitude of high pass filter section is 8.32dB .
A	14.28
B	56.2
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	180
Question	The quality factor of a wide band-pass filter can be
A	9.1
B	9
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	181
Question	If the gain at center frequency is 10, find the quality factor of narrow band-pass filter
A	4
B	3
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	182
Question	The advantage of narrow band-pass filter is
A	Fc can be changed without changing gain
B	LOW POWER
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	183
Question	How many types of band elimination filters are present
A	2
B	3
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	184
Question	The phenomenon due to which there is an induced current in one coil due to the current in a neighboring coil is?
A	Mutual inductance
B	MUTUAL R
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	185
Question	If the current in one coil becomes steady, the current in neighbouring coil is?
A	0
B	1
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	186
Question	If the current in one coil is steady, what happens to the mutual inductance?
A	0
B	2
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	187
Question	What is the SI unit of mutual inductance?
A	Henry
B	simens
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	188
Question	Which, among the following, is the correct expression for mutual inductance?
A	$M=N_2\phi_2/I_1$
B	$M=N_2\phi_{21}/I_1$
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	189
Question	If the flux linkage in coil 1 is 3Wb and it has 500 turns and the current in coil 2 is 2A, calculate the mutual inductance.
A	750
B	400
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	190
Question	The flux linkage in coil 1 is 3Wb and it has x turns and the current in coil 2 is 2A, calculate the value of x if the mutual inductance is 750H.
A	300
B	500
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	191
Question	The flux linkage in coil 1 is x and it has 500 turns and the current in coil 2 is 2A, calculate the value of x if the mutual inductance is 750H.
A	3
B	4
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	192
Question	The flux linkage in coil 1 is 3 Wb and it has 500 turns and the current in coil 2 is xA, calculate the value of x if the mutual inductance is 750H.
A	2
B	3
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	193
Question	Practical application of mutual inductance is _____
A	Transformer
B	Rectifier
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	194
Question	The types of inductors are _____
A	FIXED AND VARIABLE
B	VARIABLE ONLY
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	195
Question	What is the coupling coefficient when all the flux of coil 1 links with coil 2?
A	100
B	1
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	196
Question	What is the coupling coefficient when there is ideal coupling?
A	1
B	0
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	197
Question	Can the coupling coefficient practically ever be equal to 1?
A	NO
B	YES
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	198
Question	Mutual inductance between two coupled coils depend on?
A	Rate of change of flux linkage
B	Rate of change of current
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	199
Question	Which, among the following, is the correct formula to find the coupling coefficient?
A	$k=M/\sqrt{L_1L_2}$
B	$k=M/\sqrt{L_1L_2^2}$
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	200
Question	What happens to the coupling coefficient when the flux linkage of coil 1 and coil 2 increases?
A	Increases
B	decreases
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	201
Question	What is the SI unit of coupling coefficient?
A	H
B	F
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	202
Question	Find the coupling coefficient if the Mutual inductance is 20H, the inductance of coil 1 is 2H and the inductance of coil 2 is 8H.
A	5
B	15
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	203
Question	Find the value of x if the Mutual inductance is 20H, the inductance of coil 1 is xH and the inductance of coil 2 is 8H. The coupling coefficient is 5.
A	2H
B	3H
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6

Id	204
Question	Find the value of x if the Mutual inductance is x H, the inductance of coil 1 is 2H and the inductance of coil 2 is 8H. The coupling coefficient is 5.
A	20H
B	30H
C	Both A and B
D	None of above
Answer	
Marks	2
Unit	6