These are sample MCQs to indicate pattern, may or may not appear in examination

University of Mumbai
Online Examination 2020

Program: BE Electronics and Telecommunication Engineering
Curriculum Scheme: Revised 2016
Examination: BE SEM VIII R-2016
Course Code:ECC801 and Course Name: RF Design
Time: 1hour Max. Marks: 50

Q	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	One-fourth sections
B	Half sections
C	Square of three-fourth sections
D	Full sections
Q	While designing a constant-k high pass filter (T-section) , the cut-off frequency fc is determined by
A	
B	
C	
D	
Q	For the m-derived filter, attenuation decreases as
A	$\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}\omega < \omega_{\infty}$
B	$\omega = \omega_{\infty}$
C	$\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c\omega < \omega_c$
D	$\omega > \omega_{\infty}$
Q	Image impedance at Port 2 of a two-port network, in terms of ABCD parameters is given by
A	
B	
C	
D	

Q	For a constant k type HPF with T- section, with L= 3 mH and C= 2 µF , what will be the value of Nominal Characteristic Impedance Ro?
A	3873 Ohm
B	387.3 Ohm
C	3.873 Ohm
D	38.73 Ohm
Q	Which of the following is not true about Image Parameter method?
A	Any arbitrary frequency response can be incorporated into the design
B	The method is relatively simple
C	Method involves the specification of passband and stopband characteristics for a cascade of simple two-port networks
D	Method finds application in solid-state traveling-wave amplifier design
Q	For m-Derived HPF of T-section, series component's value is
A	(m L)/2
B	mL
C	(2C)/m
D	2C m
Q	For m-Derived, when ω =ω∞, attenuation becomes____
A	Zero
B	Constant
C	Infinite
D	One
Q	In Composite filter, the _______ provides high attenuation further into the stopband
A	constant-k section
B	m-derived section
C	bisected-π section
D	All sections
Q	In a maximally flat low-pass filter design with a cutoff frequency of 2 GHz, impedance of 50 , and at least 15 dB insertion loss at 3 GHz;Given data-N=5,g1 = 0.618,g2 = 1.618,g3 = 2.000,g4 = 1.618, g5 = 0.618. If first element is capacitor, what is its value in pF?
A	0.489
B	0.49
C	0.984
D	0.564
Q	It is desired to design a maximally flat low-pass filter with at least 15 dB attenuation at ω = 1.3ωc and −3 dB at its band edge. How many elements will be required for this filter?
A	7
B	5
C	4
D	3
Q	Pick up the CORRECT statement from the following:
A	While transforming lowpass filter to bandpass filter, inductor is replaced by parallel combination of inductor and capacitor.
B	While transforming lowpass filter to bandpass filter, inductor is replaced by series combination of inductor and capacitor.

C	While transforming lowpass filter to bandpass filter, capacitor is replaced by series combination of inductor and capacitor.
D	While transforming lowpass filter to bandpass filter, capacitor is replaced by inductor.
Q	_________ filter response has sharpest cut-off but worst group delay characteristics.
A	Binomial
B	Chebyshev
C	Linear-phase
D	Elliptic
Q	A lumped inductors and capacitors based Butterworth LPF is designed to have a cut-off frequency of 5 GHz and an attenuation of at least 15 dB at 7 GHz with 50 ohm impedance. What will be the order of this LPF?
A	3
B	4
C	5
D	6
Q	Identify the best choice out of following to design a LPF with minimum passband ripples
A	Binomial filter
B	Chebyshev filter Type-I
C	Chebyshev filter Type-II
D	Elliptic filter
Q	An engineer wants to design a third order Chebyshev BPF with 3 dB passband ripple. The designed filter must meet B.W. requirement of 20% with center frequency of 2.4 GHz. The filter must match with 50 ohm line impedance. What is the approximate value of first series inductor in final BPF circuit?
A	55.5 nH
B	80 nH
C	55.5 pH
D	80 pH
Q	________ is used to convert standard generator and load resistances to practically realizable resistance values.
A	Richard's transformation
B	Kuroda's identities
C	Impedance scaling
D	normalization
Q	In Richard's transformation, all lines are $\lambda_0/8$ in length, commonly known as ____________ lines.
A	redundant
B	commensurate
C	matched
D	equal-length
Q	The -------------- condition, if met then the transistor can be impedance matched for any load.
A	Conditional stability
B	Unconditional stability
C	unstabilty
D	Infinite input impedance

Q	Stability condition of an amplifier dependent on --------------- .
A	Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin Γin
B	Γin, ΓoutΓin, ΓoutΓin, ΓoutΓin, ΓoutΓin, ΓoutΓin, ΓoutΓin, ΓoutΓin, ΓoutΓin, ΓoutΓin, ΓoutΓin, ΓoutΓin, ΓoutΓin, ΓoutΓin, ΓoutΓin, ΓoutΓi
C	ΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓoutΓout
D	ΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓsΓs
Q	If |S11| < 1 and |S22| <1 the amplifier is :
A	unconditionally stable
B	potentially unstable
C	unstable
D	conditionally stable
Q	The K value of unilateral transistor (S12 = 0) is
A	∞
B	0
C	1
D	5.6
Q	The maximum matching section gain (load GLmax) in terms of scattering parametrs is given by
A	G_{LMAX} = 1/(1-$\|S_{22}\|^2$)G_{LMAX} = 1/(1-$\|S_{22}\|^2$)G_{LMAX} = 1/(1-$\|S_{22}\|^2$)G_{LMAX} = 1/(1-$\|S_{22}\|^2$)G_{LMAX} = 1/(1-$\|S_{22}$
B	G_{LMAX} = 1/(1-$\|S_{11}\|^2$)G_{LMAX} = 1/(1-$\|S_{11}\|^2$)G_{LMAX} = 1/(1-$\|S_{11}\|^2$)G_{LMAX} = 1/(1-$\|S_{11}\|^2$)G_{LMAX} = 1/(1-$\|S_{11}$
C	G_{LMAX} = 1/(1-$\|S_{12}\|^2$)G_{LMAX} = 1/(1-$\|S_{12}\|^2$)G_{LMAX} = 1/(1-$\|S_{12}\|^2$)G_{LMAX} = 1/(1-$\|S_{12}\|^2$)G_{LMAX} = 1/(1-$\|S_{12}$
D	G_{LMAX} = 1/(1-$\|S_{21}\|^2$)G_{LMAX} = 1/(1-$\|S_{21}\|^2$)G_{LMAX} = 1/(1-$\|S_{21}\|^2$)G_{LMAX} = 1/(1-$\|S_{21}\|^2$)G_{LMAX} = 1/(1-$\|S_{21}$
Q	Normalized load Gain Factor is given by
A	$g_l = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl}$ = (
B	$g_l = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl}$ = (
C	$g_l = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl}$ = G_L/(
D	$g_l = G_LG_{LMAXgl} = G_LG_{LMAXgl} = G_LG_{LMAXgl} = G_LG_{LMAXgl} = G_LG_{LMAXgl} = G_LG_{LMAXgl} = G_LG_{LMAXgl} = G_LG_{LMAX}$
Q	In a Microwave Amplifier Design for Maximum Gain, Maximum power transfer from the transistor to the output matching network will occur when
A	$\Gamma_{out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L}$ $\Gamma_{out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L\Gamma out}/\Gamma^*_{L}$
B	$\Gamma_{out}=\Gamma_L$. $e^{j\omega\Gamma}{}_{out}=\Gamma_L$. $e^{j\omega}$
C	$\Gamma_{out}=\Gamma_L$ /$e^{j\omega\Gamma}{}_{out}=\Gamma_L$ /$e^{j\omega}$

D	$\Gamma_{out}=\Gamma^*_{L\Gamma out}=\Gamma^*_L$
Q	In a Maximum Gain Microwave Amplifier Design , since most transistors exhibit a significant impedance mismatch (large $\|S_{11}\|$ and $\|S_{22}\|$), the resulting frequency response may be _______In a Maximum Gain Microwave Amplifier Design , since most transistors exhibit a significant impedance mismatch (large $\|S_{11}\|$ and $\|S_{22}\|$), the resulting frequency response may be _______In a Maximum Gain Microwave Amplifier Design , since most transistors exhibit a significant impedance mismatch (large $\|S_{11}\|$ and $\|S_{22}\|$), the resulting frequency response may be _______In a Maximum Gain Microwave Amplifier Design , since most transistors exhibit a significant impedance mismatch (large $\|S_{11}\|$ and $\|S_{22}\|$), the resulting frequency response may be _______In a Maximum Gain Microwave Amplifier Design , since most transistors exhibit a significant impedance mismatch (large $\|S_{11}\|$ and $\|S_{22}\|$), the resulting frequency response may be _______In a Maximum Gain Microwave Amplifier Design , since most transistors exhibit a significant impedance mismatch (large $\|S_{11}\|$ and $\|S_{22}\|$), the resulting frequency response may be _______In a Maximum Gain Microwave Amplifier Design , since most transistors exhibit a significant impedance mismatch (large $\|S_{11}\|$ and $\|S_{22}\|$), the resulting frequency response may be _______In a Maximum Gain Microwave Amplifier Design , since most transistors exhibit a significant impedance mismatch (large $\|S_{11}\|$ and $\|S_{22}\|$), the resulting frequency response may be _______In a Maximum Gain Microwave Amplifier Design , since most transistors exhibit a significant impedance mismatch (large $\|S_{11}\|$ and $\|S_{22}\|$), the resulting frequency response may be _______In a Maximum Gain Microwave Amplifier Design , since most transistors exhibit a significant impedance mismatch (large $\|S_{11}\|$ and $\|S_{22}\|$), the resulting frequency response may be _______In a Maximum Gain Microwave Amplifier Design , since most transistors exhibit a significant impedance mismatch (large $\|S_{11}\|$ and $\|S_{22}\|$), the resulting frequency response may be _______In a Maximum Gain Microwave Amplifier Design , since most transistors exhibit a significant impedance mismatch (large $\|S_{11}\|$ and $\|S_{22}\|$), the resulting frequency response may be _______In a Maximum Gain Microwave Amplifier Design , since most transistors exhibit a significant impedance mismatch (large $\|S_{11}\|$ and $\|S_{22}\|$), the resulting frequency response may be _______In a Maximum Gain Microwave Amplifier Design , since most transistors exhibit a significant impedance mismatch (large $\|S_{11}\|$ and $\|S_{22}\|$), the resulting frequency response may be _______In a
A	narrowband
B	wideband
C	flat
D	rippled
Q	From practical design considerations for microwave amplifier, always there is a trade-off between
A	stability and gain
B	stability and noise figure
C	gain and operational bandwidth
D	gain and noise figure
Q	Amplifier efficiency is the ratio……………….
A	RF output power to DC input power
B	DC input power to RF output power
C	RF input power to DC input power
D	RF output power to DC output power

Q	Efficiency of microwave amplifier ………………
A	Increases with increasing frequency
B	decreases with increasing frequency
C	Increases with decreasing frequency
D	increases with increasing frequency
Q	For an output power of 10 W, the power gain and the drain efficiency of power amplifier are 16.4 dB and 26% respectively %. What is DC input power?
A	38.5
B	40.5
C	35.5
D	37.5
Q	Silicon bipolar transistors have …………power outputs than GaAs FETs at frequencies up to a few GHz, and are generally …………
A	Lower, Cheaper
B	Higher, Costly
C	Higher, Cheaply
D	Lower, Costly
Q	…………..are becoming very popular for high-power applications at RF and low microwave frequencies.
A	Silicon bipolar ransistors
B	GaAs FETs
C	GaN HBTs
D	Silicon Diode
Q	In small-signal amplifier design, the first step is to check the
A	Stability of the device.
B	Input impedance of the device.
C	Output impedance of the device.
D	Gain of the device.
Q	The ratio of power dissipated in the load ZL to the power delivered to the input of the two-port network is called as……………………
A	Available power gain
B	Transducer power gain
C	Network Power gain
D	Power Gain
Q	Amplifier efficiency is also referred as…………
A	Base efficiency
B	Drain efficiency
C	Gate efficiency
D	Emitter efficiency

Q	A silicon bipolar junction transistor has the following scattering parameters at 1.0 GHz, with a 50 ohm reference impedance: S11 = 0.38∠-158, S12 = 0.11∠54, S21 = 3.50∠80, S22 = 0.40∠-43, The source impedance is ZS = 25 Ohm and the load impedance is ZL = 40 Ohm. What is the power gain ? (angles are in degree)
A	20.1
B	18.1
C	13.1
D	22.1
Q	To achieve stable oscillation Zin + ZL = 0 is the -------- condition to be satisfied by the microwave oscillator.
A	necessary and sufficient.
B	necessary.
C	sufficient.
D	unnecessary
Q	Oscillators operating at millimeter wavelength are ------------.
A	less efficient.
B	more efficient
C	insensitive to noise
D	producing desire power
Q	One port oscillator is designed with help of ---------
A	Gunn diode
B	varactor diode
C	BJT
D	FET
Q	Under the steady state condition the net resistance is:
A	$R_{in} + R_L > 0R_{in} + R_L > 0R_{in} + R_L > 0R_{in} + R_L > 0R_{in} + R_L > 0R_{in} + R_L > 0R_{in} + R_L > 0R_{in} + R_L > 0R_{in} + R_L > 0R_{in}$
B	$R_{in} + R_L \neq 0R_{in} + R_L \neq 0R_{in} + R_L \neq 0R_{in} + R_L \neq 0R_{in} + R_L \neq 0R_{in} + R_L \neq 0R_{in} + R_L \neq 0R_{in} + R_L \neq 0R_{in} + R_L \neq 0R_{in}$
C	$R_{in} + R_L = 0R_{in} + R_L = 0R_{in} + R_L = 0R_{in} + R_L = 0R_{in} + R_L = 0R_{in} + R_L = 0R_{in} + R_L = 0R_{in} + R_L = 0R_{in} + R_L = 0R_{in}$
D	$R_{in} + R_L < 0R_{in} + R_L < 0R_{in} + R_L < 0R_{in} + R_L < 0R_{in} + R_L < 0R_{in} + R_L < 0R_{in} + R_L < 0R_{in} + R_L < 0R_{in} + R_L < 0R_{in}$
Q	A -------- terminal device leads to two port oscillator
A	one
B	two
C	three
D	four
Q	The reflection coefficient of Gunn diode at 10 GHz is 1.24 ∠ 30 degree, the load reactance selected in ohm in the oscillator circuit is.
A	58.34Ω
B	158.34Ω
C	100Ω
D	-159Ω
Q	In two port oscillator --------- is one of the important circuit
A	input and output matching network
B	generator tuning network and output matching network
C	input two port filter network

D	source and load network
Q	In oscillator circuit source and load reflection coefficients are
A	$\lvert \Gamma_S \rvert > 1, \lvert \Gamma_L \rvert < 1 \lvert \Gamma_S \rvert > 1, \lvert \Gamma_L \rvert < 1 \lvert \Gamma_S \rvert > 1, \lvert \Gamma_L \rvert < 1 \lvert \Gamma_S \rvert > 1, \lvert \Gamma_L \rvert < 1 \lvert \Gamma_S \rvert > 1, \lvert \Gamma_L \rvert < 1 \lvert \Gamma_S$
B	$\lvert \Gamma_S \rvert < 1, \lvert \Gamma_L \rvert < 1 \lvert \Gamma_S \rvert < 1, \lvert \Gamma_L \rvert < 1 \lvert \Gamma_S \rvert < 1, \lvert \Gamma_L \rvert < 1 \lvert \Gamma_S \rvert < 1, \lvert \Gamma_L \rvert < 1 \lvert \Gamma_S \rvert < 1, \lvert \Gamma_L \rvert < 1 \lvert \Gamma_S$
C	$\lvert \Gamma_S \rvert > 1, \lvert \Gamma_L \rvert > 1 \lvert \Gamma_S \rvert > 1, \lvert \Gamma_L \rvert > 1 \lvert \Gamma_S \rvert > 1, \lvert \Gamma_L \rvert > 1 \lvert \Gamma_S \rvert > 1, \lvert \Gamma_L \rvert > 1 \lvert \Gamma_S \rvert > 1, \lvert \Gamma_L \rvert > 1 \lvert \Gamma_S$
D	$\lvert \Gamma_S \rvert < 1, \lvert \Gamma_L \rvert > 1 \lvert \Gamma_S \rvert < 1, \lvert \Gamma_L \rvert > 1 \lvert \Gamma_S \rvert < 1, \lvert \Gamma_L \rvert > 1 \lvert \Gamma_S \rvert < 1, \lvert \Gamma_L \rvert > 1 \lvert \Gamma_S \rvert < 1, \lvert \Gamma_L \rvert > 1 \lvert \Gamma_S$
Q	In oscillator circuit source and load resistances are
A	$R_s<0, R_L>0 R_s<0, R_L>0 R_s<0, R_L>0 R_s<0, R_L>0 R_s<0, R_L>0 R_s<0, R_L>0 R_s<0, R_L>0 R_s<0, R_L>0 R_s<$
B	$R_s>0, R_L>0 R_s>0, R_L>0 R_s>0, R_L>0 R_s>0, R_L>0 R_s>0, R_L>0 R_s>0, R_L>0 R_s>0, R_L>0 R_s>0, R_L>0 R_s>$
C	$R_s<0, R_L<0 R_s<0, R_L<0 R_s<0, R_L<0 R_s<0, R_L<0 R_s<0, R_L<0 R_s<0, R_L<0 R_s<0, R_L<0 R_s<0, R_L<0 R_s<$
D	$R_s>0, R_L<0 R_s>0, R_L<0 R_s>0, R_L<0 R_s>0, R_L<0 R_s>0, R_L<0 R_s>0, R_L<0 R_s>0, R_L<0 R_s>0, R_L<0 R_s>$
Q	Output of a mixer in transmitting chain is
A	Lower frequency
B	Higher frequency
C	Lower Voltage
D	Higher Voltage
Q	The IS-54 digital cellular telephone system uses a receiver frequency band of 869 -894 MHz with a first IF frequency of 87MHz and the channel bandwidth of 30kHz. Then what is RF Image Frequency range
A	1044 to 1069MHz
B	1045 to 1070MHz
C	1043 to 1068 MHz
D	1046 to 1071MHz
Q	The desired output from a mixer is usually selected with a
A	Phase-shift circuit
B	Crystal filter
C	Resonant circuit
D	Transformer
Q	The mixer is sometimes called __________
A	First detector
B	Third detector
C	Second detector
D	Fourth detector
Q	In Single ended FET mixer number of FET :
A	2
B	3
C	1
D	4
Q	Image Reject Mixer generated the no of frequency are
A	Two upper and lower sidebands of a DSB
B	Two upper and lower sidebands of a USB
C	Two upper and lower sidebands of a SSB
D	Two upper and lower sidebands of a DSBSC

Q	RF input matching and RF-LO isolation can be improved through the use of:
A	Balanced mixer
B	Single-ender diode mixer
C	Single ended FET mixer
D	Image reject mixer
Q	The balance mixer number of diode is
A	2
B	1
C	3
D	4
Q	How many Low Pass Filter in Image reject mixer circuit
A	4
B	2
C	3
D	6
Q	In frequency synthesizer using PLL, the output frequency can be changed by using In frequency synthesizer using PLL, the output frequency can be changed by using In frequency synthesizer using PLL, the output frequency can be changed by using In frequency synthesizer using PLL, the output frequency can be changed by using In frequency synthesizer using PLL, the output frequency can be changed by using In frequency synthesizer using PLL, the output frequency can be changed by using In frequency synthesizer using PLL, the output frequency can be changed by using In frequency synthesizer using PLL, the output frequency can be changed by using In frequency synthesizer using PLL, the output frequency can be changed by using In frequency synthesizer using PLL, the output frequency can be changed by using In frequency synthesizer using PLL, the output frequency can be changed by using In frequency synthesizer using PLL, the output frequency can be changed by using In frequency synthesizer using PLL, the output frequency can be changed by using In frequency synthesizer using PLL, the output frequency can be changed by using In frequency synthesizer using PLL, the output frequency can be changed by using In frequency synthesizer using PLL, the output frequency can be changed by using
A	Programmable multiplier
B	Programmable adder
C	Programmable substractorProgrammable substractorProgrammable substractorProgrammable substractorProgrammable substractorProgrammable substractorProgrammable substractorProgrammable substractorProgrammable substractorProgrammable substractorProgrammable substractorProgrammable substractorProgrammable substractorProgrammable substractorProgrammable substractor
D	Programmable divider
Q	A -------------- is the important entity in frequency synthesizer using PLL
A	voltage detector
B	current detector
C	phase detector
D	power detector

Q	Frequency synthesizer used in ---------------
A	Single channel radio receiver.
B	WiFi receiver.WiFi receiver.WiFi receiver.WiFi receiver.WiFi receiver.WiFi receiver.WiFi receiver.WiFi receiver.WiFi receiver.WiFi receiver.WiFi receiver.WiFi receiver.WiFi receiver.WiFi receiver.WiFi receiver.
C	Multi channel radio receiver.Multi channel radio receiver.Multi channel radio receiver.Multi channel radio receiver.Multi channel radio receiver.Multi channel radio receiver.Multi channel radio receiver.Multi channel radio receiver.Multi channel radio receiver.Multi channel radio receiver.Multi channel radio receiver.Multi channel radio receiver.Multi channel radio receiver.Multi channel radio receiver.Multi channel radio receiver.
D	Local wireless network
Q	The indirect frequency synthesizer consists of divide by N programmable counter, if reference frequency is fr , then output frequency f0 is
A	2Nfr
B	fr/N
C	Nfr
D	fr/2N
Q	In Frequency synthesizer using PLL with programmable divider and single modulus prescaler the frequency resolution can be increased by ----------
A	increasing divider N of the programmable divider
B	increasing reference frequency
C	decreasing reference frequency
D	increasing P of the prescaler
Q	In Frequency synthesizer using PLL with programmable divider N=10 and single modulus prescaler P=5 and the reference frequency 2Hz, the output frequency f0 is:
A	25Hz
B	100Hz
C	1Hz
D	4Hz
Q	Number of memory locations of ROM in 8-bit direct digital frequency synthesizer are ------------------
A	65536
B	256
C	1024
D	16
Q	The word length required in direct digital frequency synthesizer for output spectral purity of at least 80dB.
A	15
B	16
C	8
D	10
Q	8 bit words including one sign bit gives the spectral purity of -------------dB
A	56
B	42

C	48
D	64
Q	To get the spectral purity of 42 dB ---------- bits direct digital frequency synthesizer is required
A	8
B	20
C	10
D	16
Q	One method of reducing the response time of Frequency synthesizer is to include a _______
A	coarse steering signal
B	Impulse signal
C	Ramp Signal
D	Noise Signal
Q	In a DDFS, The _____ is determined by $4f_u/f_L$In a DDFS, The _____ is determined by $4f_u/f_L$In a DDFS, The _____ is determined by $4f_u/f_L$In a DDFS, The _____ is determined by $4f_u/f_L$In a DDFS, The _____ is determined by $4f_u/f_L$In a DDFS, The _____ is determined by $4f_u/f_L$In a DDFS, The _____ is determined by $4f_u/f_L$In a DDFS, The _____ is determined by $4f_u/f_L$In a DDFS, The _____ is determined by $4f_u/f_L$In a DDFS, The _____ is determined by $4f_u/f_L$In a DDFS, The _____ is determined by $4f_u/f_L$In a DDFS, The _____ is determined by $4f_u/f_L$
A	Reference Clock Frequency
B	highest output frequency
C	frequency resolution
D	number of points in the lowest-frequency sinusoid
Q	What is the advantage of direct synthesis method?
A	Slow frequency switching
B	Fine frequency resolution
C	Lowest frequency of operation
D	High phase noise
Q	The Method used to obtain good frequency resolution at high frequency is……….
A	Direct synthesis
B	Frequency synthesis by phase lock
C	The multiple oscillator approach
D	Variable modulus prescaling
Q	In frequency synthesizers, variable modulus prescaling provides __________ than fixed modulus prescaling.
A	better frequency resolution
B	worst frequency resolution
C	less loop settling time
D	worst loop stability
Q	Disadvantages associated with direct frequency synthesis are greatly diminished with the frequency synthesis technique that employ:
A	DAC
B	mixer

C	PLL
D	harmonic generator
Q	In frequency synthesizers, for adequate PLL stability -
A	Loop Bandwidth = Filter Bandwidth
B	Loop Bandwidth > Filter Bandwidth
C	Loop Bandwidth < Filter Bandwidth
D	Loop Bandwidth >>> Filter Bandwidth
Q	In frequency synthesizers, the mechanism of frequency down-conversion uses phase lag of filter in feedback path. This can cause -
A	enhancement in loop performance
B	very high loop stability
C	degradation in loop performance
D	very low loop stability
Q	In Grounding system, the full form of NEC is -----------In Grounding system, the full form of NEC is -----------In Grounding system, the full form of NEC is -----------In Grounding system, the full form of NEC is -----------In Grounding system, the full form of NEC is -----------In Grounding system, the full form of NEC is -----------In Grounding system, the full form of NEC is -----------In Grounding system, the full form of NEC is -----------In Grounding system, the full form of NEC is -----------
A	Nation Electric Code
B	Nation Electrical Code
C	National Electric Code
D	National Electrical Code
Q	A ------------ is the number of electric lines of flux passing through a unit area
A	Magnetic flux density
B	Electrical Flux density
C	Magnetic flux intensity
D	Electrical Flux intensity
Q	Electrical Field Intensity (E) is a
A	Differential
B	Vector
C	Scalar
D	Integral
Q	Two or more extraneous signals may combine to produce signals at frequencies close to tuned frequency of receiver is called as……………..
A	Intermodulation
B	Passive Intermodulation
C	Cross Talk
D	Cross Modulation
Q	Rise time of the lightning current is ---------------
A	1 µs1 µs1 µs1 µs1 µs1 µs1 µs1 µs1 µs
B	2.36 µs2.36 µs2.36 µs2.36 µs2.36 µs2.36 µs2.36 µs2.36 µs2.36 µs
C	1.36 µs1.36 µs1.36 µs1.36 µs1.36 µs1.36 µs1.36 µs1.36 µs1.36 µs
D	0.36 µs0.36 µs0.36 µs0.36 µs0.36 µs0.36 µs0.36 µs0.36 µs

Q	Following is not a common source of the EMI
A	lightning
B	switching transient
C	high amplitude nuclear electromagnetic pulse
D	electrostatic discharge
Q	Following is a common source of the EMI
A	electrostatic discharge
B	high amplitude nuclear electromagnetic pulse
C	current transient
D	jammer
Q	Triboelectric charging occurs in -----------------
A	copper
B	aluminum
C	plastic
D	wood
Q	Signal to noise ratio of the electrical circuit can be improved by -----------------
A	increasing current
B	increasing common impedance
C	decreasing common impedance
D	decreasing current
Q	EMI stands for in RF design …………….
A	Electromagnetic interference
B	Electromagnetic induction
C	Electromagnetic Inductance
D	Electromagnetic Interpolation
Q	Electromagnetic energy transfer or coupling from one transmission line to another line is called as……………
A	Frequency Modulation
B	Passive Intermodulation
C	Cross Talk
D	Cross Modulation
Q	EMI occurs when noise develops in the same phase when two conductors are used. Such EMI coupling is known as______EMI occurs when noise develops in the same phase when two conductors are used. Such EMI coupling is known as______EMI occurs when noise develops in the same phase when two conductors are used. Such EMI coupling is known as______EMI occurs when noise develops in the same phase when two conductors are used. Such EMI coupling is known as______EMI occurs when noise develops in the same phase when two conductors are used. Such EMI coupling is known as______EMI occurs when noise develops in the same phase when two conductors are used. Such EMI coupling is known as______EMI occurs when noise develops in the same phase when two conductors are used. Such EMI coupling is known as______
A	Radiation Coupling
B	Conduction Coupling
C	Common Mode Coupling

D	Differential Mode Coupling
Q	Frequency range of the lightning is:
A	1KHz to 500MHz
B	1KHz to 50MHz
C	1GHz to 10GHz
D	4GHz to 10GHz
Q	------------- is the number of electric lines of flux passing through a unit area.
A	Magnetic flux density
B	Electric flux density
C	Magnetic flux intensity
D	Electric flux intensity
Q	LISN is a device used to measure conducted emissions. LISN stands for
A	Line integrated stabilization network
B	Line impedance stabilization network
C	Line integrated stored network
D	Laser integrated stabilization networking
Q	Radiated emissions are characterized in terms of -
A	Volts
B	Amperes
C	Volts per Amperes (V/A)
D	Volts per meter (V/m)
Q	Following is not a standards method for measurement of radiated emission of the product
A	open area test
B	Anechoic chamber (AC) test
C	Reverberating Chamber (RC) test
D	indoor test
Q	250 milliwatt = ________ dBmicrowatt
A	24
B	108
C	54
D	-6
Q	The -------------------- body responsible for regulation of EMC emissions in the European Union
A	FCC
B	CE
C	BIS
D	TEC
Q	The resistance to earth of an electrode is __________ soil resistivity.
A	directly proportional to
B	inversely proportional to
C	equal to
D	independent of
Q	EMC gaskets is of the order of
A	80- 100 dB
B	8- 10 dB

C	800- 1000 dB.
D	50 - 70 dB
Q	EMI/EMC standards primarily focus on specifying limits for
A	Conducted and Radiated Emissions
B	Susceptibility to Conducted and Radiated Emissions
C	Maximum necessary performance specifications for given applications
D	EMC Applications Support
Q	_____________ standard include Definitions and System of Units, EMI/EMC technology.
A	MIL-STD-461
B	MIL-STD-462
C	MIL-STD-463
D	MIL-STD-464
Q	Name of the testing conducted by EMC directive that a level of electromagnetic signal generated by the product/equipment is measured.
A	immunity testing
B	emission testing
C	high voltage testing
D	low voltage testing
Q	Generally EMC is measured in --------
A	dB
B	Ohm
C	Watt
D	Volts
Q	The opposite of susceptibility is
A	Immunity
B	Emission
C	Interference
D	Electromagnetic compatibility
Q	Due to reduction in operating frequency, absorption loss
A	decreases
B	increases
C	remains unchanged
D	vanishes to zero
Q	Which test method is most preferable for immunity testing of a mobile phone over a large frequency range?
A	Open Area Test Sites (OATS)
B	Anechoic Chamber (AC)
C	Reverberating Chamber (RC)
D	Gigahertz Transverse Electromagnetic (GTEM) cell

$_n$, $\Gamma_{out}\Gamma_{in}$, $\Gamma_{out}\Gamma_{in}$, $\Gamma_{out}\Gamma_{in}$, $\Gamma_{out}\Gamma_{in}$, $\Gamma_{out}\Gamma_{in}$, $\Gamma_{out}\Gamma_{in}$, $\Gamma_{out}\Gamma_{in}$, $\Gamma_{out}\Gamma_{in}$, $\Gamma_{out}\Gamma_{in}$, $\Gamma_{out}\Gamma_{in}$, Γ_{out}

$|^2)G_{LMAX} = 1/(1-|S_{22}|^2)G_{LMAX} = 1/(1-|S_{22}|^2)G_{LMAX} = 1/(1-|S_{22}|^2)G_{LMAX} = 1/(1-|S_{22}|^2)G_{LMAX} = 1/(1-|S_{22}|^2)G_{LMAX}$

$|^2)G_{LMAX} = 1/(1-|S_{11}|^2)G_{LMAX} = 1/(1-|S_{11}|^2)G_{LMAX} = 1/(1-|S_{11}|^2)G_{LMAX} = 1/(1-|S_{11}|^2)G_{LMAX} = 1/(1-|S_{11}|^2)G_{LMAX}$

$|^2)G_{LMAX} = 1/(1-|S_{12}|^2)G_{LMAX} = 1/(1-|S_{12}|^2)G_{LMAX} = 1/(1-|S_{12}|^2)G_{LMAX} = 1/(1-|S_{12}|^2)G_{LMAX} = 1/(1-|S_{12}|^2)G_{LMAX}$

$|^2)G_{LMAX} = 1/(1-|S_{21}|^2)G_{LMAX} = 1/(1-|S_{21}|^2)G_{LMAX} = 1/(1-|S_{21}|^2)G_{LMAX} = 1/(1-|S_{21}|^2)G_{LMAX} = 1/(1-|S_{21}|^2)G_{LMAX}$

$G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{L}$

$G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/$

$G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/$

$_{gl} = G_L G_{LMAXgl} = G_L G_{LMAXgl} = G_L G_{LMAXgl} = G_L G_{LMAXgl} = G_L G_{LMAXgl} = G_L G_{LMAXgl} = G_L G_{LMAXgl} = G_L G_{LMAXgl} = G_L G_{LM}$

$+ R_L > OR_{in} + R_L > OR_{in} + R_L > OR_{in} + R_L > OR_{in} + R_L > OR_{in} + R_L > OR_{in} + R_L > OR_{in} + R_L > OR_{in} + R_L > OR_{in} + R_L > OR_{in} + R$

$+ R_L \neq OR_{in} + R_L \neq OR_{in} + R_L \neq OR_{in} + R_L \neq OR_{in} + R_L \neq OR_{in} + R_L \neq OR_{in} + R_L \neq OR_{in} + R_L \neq OR_{in} + R_L \neq OR_{in} + R_L \neq OR_{in} + R$

$+ R_L = OR_{in} + R_L = OR_{in} + R_L = OR_{in} + R_L = OR_{in} + R_L = OR_{in} + R_L = OR_{in} + R_L = OR_{in} + R_L = OR_{in} + R_L = OR_{in} + R_L = OR_{in} + R$

$+ R_L < OR_{in} + R_L < OR_{in} + R_L < OR_{in} + R_L < OR_{in} + R_L < OR_{in} + R_L < OR_{in} + R_L < OR_{in} + R_L < OR_{in} + R_L < OR_{in} + R_L < OR_{in} + R$

$| > 1, | \Gamma_L | < 1| \Gamma_S | > 1, | \Gamma_L | < 1| \Gamma_S | > 1, | \Gamma_L | < 1| \Gamma_S | > 1, | \Gamma_L | < 1| \Gamma_S | > 1, | \Gamma_L | < 1| \Gamma_S | > 1, | \Gamma_L | < 1$

$| < 1, | \Gamma_L | < 1| \Gamma_S | < 1, | \Gamma_L | < 1| \Gamma_S | < 1, | \Gamma_L | < 1| \Gamma_S | < 1, | \Gamma_L | < 1| \Gamma_S | < 1, | \Gamma_L | < 1| \Gamma_S | < 1, | \Gamma_L | < 1$

$| > 1, | \Gamma_L | > 1| \Gamma_S | > 1, | \Gamma_L | > 1| \Gamma_S | > 1, | \Gamma_L | > 1| \Gamma_S | > 1, | \Gamma_L | > 1| \Gamma_S | > 1, | \Gamma_L | > 1| \Gamma_S | > 1, | \Gamma_L | > 1$

$| < 1, | \Gamma_L | > 1| \Gamma_S | < 1, | \Gamma_L | > 1| \Gamma_S | < 1, | \Gamma_L | > 1| \Gamma_S | < 1, | \Gamma_L | > 1| \Gamma_S | < 1, | \Gamma_L | > 1| \Gamma_S | < 1, | \Gamma_L | > 1$

$0, R_L > 0 R_s < 0, R_L > 0 R_s < 0, R_L > 0 R_s < 0, R_L > 0 R_s < 0, R_L > 0 R_s < 0, R_L > 0 R_s < 0, R_L > 0 R_s < 0, R_L > 0 R_s < 0, R_L > 0 R_s < 0, R$

$0, R_L > 0 R_s > 0, R_L > 0 R_s > 0, R_L > 0 R_s > 0, R_L > 0 R_s > 0, R_L > 0 R_s > 0, R_L > 0 R_s > 0, R_L > 0 R_s > 0, R_L > 0 R_s > 0, R_L > 0 R_s > 0, R$

$0, R_L < 0 R_s < 0, R_L < 0 R_s < 0, R_L < 0 R_s < 0, R_L < 0 R_s < 0, R_L < 0 R_s < 0, R_L < 0 R_s < 0, R_L < 0 R_s < 0, R_L < 0 R_s < 0, R_L < 0 R_s < 0, R$

$0, R_L < 0 R_s > 0, R_L < 0 R_s > 0, R_L < 0 R_s > 0, R_L < 0 R_s > 0, R_L < 0 R_s > 0, R_L < 0 R_s > 0, R_L < 0 R_s > 0, R_L < 0 R_s > 0, R_L < 0 R_s > 0, R$

$= 1/(1-|S_{22}|^2)G_{LMAX}$ $= 1/(1-|S_{22}|^2)G_{LMAX}$ $= 1/(1-|S_{22}|^2)G_{LMAX}$ $= 1/(1-|S_{22}|^2)G_{LMAX}$ $= 1/(1-|S_{22}|^2)G_{LMAX}$ $= 1/(1-|$

$= 1/(1-|S_{11}|^2)G_{LMAX}$ $= 1/(1-|S_{11}|^2)G_{LMAX}$ $= 1/(1-|S_{11}|^2)G_{LMAX}$ $= 1/(1-|S_{11}|^2)G_{LMAX}$ $= 1/(1-|S_{11}|^2)G_{LMAX}$ $= 1/(1-|$

$= 1/(1-|S_{12}|^2)G_{LMAX}$ $= 1/(1-|S_{12}|^2)G_{LMAX}$ $= 1/(1-|S_{12}|^2)G_{LMAX}$ $= 1/(1-|S_{12}|^2)G_{LMAX}$ $= 1/(1-|S_{12}|^2)G_{LMAX}$ $= 1/(1-|$

$= 1/(1-|S_{21}|^2)G_{LMAX}$ $= 1/(1-|S_{21}|^2)G_{LMAX}$ $= 1/(1-|S_{21}|^2)G_{LMAX}$ $= 1/(1-|S_{21}|^2)G_{LMAX}$ $= 1/(1-|S_{21}|^2)G_{LMAX}$ $= 1/(1-|$

${}_{MAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}/G_{Lgl} = G_{LMAX}$

$/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_{LMAXgl} = G_L/G_L$

$G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_{0gl} = G_L/G_0$

${}_{AXgl} = G_L G_{LMAXgl} = G_L G_{LMAXgl} = G_L G_{LMAXgl} = G_L G_{LMAXgl} = G_L G_{LMAXgl} = G_L G_{LMAXgl} = G_L G_{LMAXgl} = G_L G_{LMAX}$

$R_L > 0$

$R_L \neq 0$

$R_L = 0$

$R_L < 0$

$| \Gamma_S | > 1, | \Gamma_L | < 1 | \Gamma_S | > 1, | \Gamma_L | < 1 | \Gamma_S | > 1, | \Gamma_L | < 1 | \Gamma_S | > 1, | \Gamma_L | < 1 | \Gamma_S | > 1, | \Gamma_L | < 1 | \Gamma_S | > 1, | \Gamma_L$

$| \Gamma_S | < 1, | \Gamma_L | < 1 | \Gamma_S | < 1, | \Gamma_L | < 1 | \Gamma_S | < 1, | \Gamma_L | < 1 | \Gamma_S | < 1, | \Gamma_L | < 1 | \Gamma_S | < 1, | \Gamma_L | < 1 | \Gamma_S | < 1, | \Gamma_L$

$| \Gamma_S | > 1, | \Gamma_L | > 1 | \Gamma_S | > 1, | \Gamma_L | > 1 | \Gamma_S | > 1, | \Gamma_L | > 1 | \Gamma_S | > 1, | \Gamma_L | > 1 | \Gamma_S | > 1, | \Gamma_L | > 1 | \Gamma_S | > 1, | \Gamma_L$

$| \Gamma_S | < 1, | \Gamma_L | > 1 | \Gamma_S | < 1, | \Gamma_L | > 1 | \Gamma_S | < 1, | \Gamma_L | > 1 | \Gamma_S | < 1, | \Gamma_L | > 1 | \Gamma_S | < 1, | \Gamma_L | > 1 | \Gamma_S | < 1, | \Gamma_L$

$R_L > 0 R_s < 0, R_L > 0$

$R_L > 0 R_s > 0, R_L > 0$

$R_L < 0 R_s < 0, R_L < 0$

$R_L < 0$

$|S_{22}|^2)G_{LMAX}$ = 1/(1-$|S_{22}|^2)G_{LMAX}$ = 1/(1-$|S_{22}|^2)G_{LMAX}$ = 1/(1-$|S_{22}|^2)G_{LMAX}$ = 1/(1-$|S_{22}|^2)G_{LMAX}$ = 1/(1-$|S_{22}|^2)G_L$

$|S_{11}|^2)G_{LMAX}$ = 1/(1-$|S_{11}|^2)G_{LMAX}$ = 1/(1-$|S_{11}|^2)G_{LMAX}$ = 1/(1-$|S_{11}|^2)G_{LMAX}$ = 1/(1-$|S_{11}|^2)G_{LMAX}$ = 1/(1-$|S_{11}|^2)G_L$

$|S_{12}|^2)G_{LMAX}$ = 1/(1-$|S_{12}|^2)G_{LMAX}$ = 1/(1-$|S_{12}|^2)G_{LMAX}$ = 1/(1-$|S_{12}|^2)G_{LMAX}$ = 1/(1-$|S_{12}|^2)G_{LMAX}$ = 1/(1-$|S_{12}|^2)G_L$

$|S_{21}|^2)G_{LMAX}$ = 1/(1-$|S_{21}|^2)G_{LMAX}$ = 1/(1-$|S_{21}|^2)G_{LMAX}$ = 1/(1-$|S_{21}|^2)G_{LMAX}$ = 1/(1-$|S_{21}|^2)G_{LMAX}$ = 1/(1-$|S_{21}|^2)G_L$

$/G_{Lgl} = G_{LMAX}/G_L$

$_{MAXgl} = G_L/G_{LMAX}$

$| < 1| \Gamma_S | > 1, | \Gamma_L | < 1| \Gamma_S | > 1, | \Gamma_L | < 1$

$| < 1| \Gamma_S | < 1, | \Gamma_L | < 1| \Gamma_S | < 1, | \Gamma_L | < 1$

$| > 1| \Gamma_S | > 1, | \Gamma_L | > 1| \Gamma_S | > 1, | \Gamma_L | > 1$

$| > 1| \Gamma_S | < 1, | \Gamma_L | > 1| \Gamma_S | < 1, | \Gamma_L | > 1$

$_{MAX} = 1/(1-|S_{22}|^2)G_{LMAX} = 1/(1-|S_{22}|^2)G_{LMAX} = 1/(1-|S_{22}|^2)G_{LMAX} = 1/(1-|S_{22}|^2)G_{LMAX} = 1/(1-|S_{22}|^2)$

$_{MAX} = 1/(1-|S_{11}|^2)G_{LMAX} = 1/(1-|S_{11}|^2)G_{LMAX} = 1/(1-|S_{11}|^2)G_{LMAX} = 1/(1-|S_{11}|^2)$

$_{MAX} = 1/(1-|S_{12}|^2)G_{LMAX} = 1/(1-|S_{12}|^2)G_{LMAX} = 1/(1-|S_{12}|^2)G_{LMAX} = 1/(1-|S_{12}|^2)$

$_{MAX} = 1/(1-|S_{21}|^2)G_{LMAX} = 1/(1-|S_{21}|^2)G_{LMAX} = 1/(1-|S_{21}|^2)G_{LMAX} = 1/(1-|S_{21}|^2)$