University of Pune, Online Examination System, Question Bank
Course

Id	**1**
Question	Even thoughan ac waveform can take any shape the _____ is the most preferable.
A	Square wave
B	Sine wave
C	Triangular wave
D	Rectified wave
Answer	
Marks	
Unit	

Id	**2**
Question	The period of a wave is _____.
A	The same as frequency
B	Time required to complete one cycle
C	Express in amperes
D	None of the above
Answer	B
Marks	1
Unit	4

Id	**3**
Question	The form factor is the ratio of_____.
A	Peak value to the rms value
B	RMS value to average value
C	Average value to rms value
D	None of the above
Answer	B
Marks	1
Unit	4

Id	**4**
Question	The period of a sine wave is 1/50seconds. Its frequency is _____.
A	20 Hz
B	30 Hz
C	40 Hz
D	50 Hz
Answer	D
Marks	1
Unit	4

Id	**5**
Question	In a series resonance, following will occur when,
A	V=VR
B	$X_l=X_C$
C	$V_l=V_C$
D	Z=R
Answer	B
Marks	1
Unit	4

Id	**6**
Question	In a series resonant circuit, the impedance of the circuit is _____.
A	Minimum
B	Maximum
C	Zero
D	None of the above
Answer	A
Marks	1
Unit	4

Id	**7**
Question	Power factor of the following circuit will be unity
A	Inductive
B	Capacitive
C	Resistive
D	Both A and B
Answer	C
Marks	1
Unit	4

Id	**8**
Question	The maximum value of an ac quantity is called as its_____.
A	Amplitude
B	Peak to peak value
C	RMS value
D	None of above
Answer	B
Marks	1
Unit	4

Id	**9**

Question	The capacitive reactance is defined as XC_____.
A	2πfc
B	1/2πfc
C	Wc
D	2πfl
Answer	B
Marks	1
Unit	4

Id	**10**
Question	If voltage across pure resistance is $V=V_m\sin(wt+\pi/6)$ then current flowing through it will be I=_____.
A	$I_M\sin(wt)$
B	$I_M\sin(wt+\pi/6)$
C	$I_M\sin(wt-\pi/6)$
D	$I_M\sin(wt+\pi/2)$
Answer	B
Marks	1
Unit	4

Id	**11**
Question	Average power is purely resistive ac circuit is equal to P=_____.
A	VIsin Φ
B	VIcos Φ
C	VI
D	V_MI_M
Answer	C
Marks	1
Unit	4

Id	**11**
Question	The _____can never store energy.
A	Resistor
B	Inductor
C	Capacitor
D	Energy source
Answer	D
Marks	1
Unit	4

Id	**12**
Question	For a purely inductive ac circuit the ____leads_____ by 90^0

A	Current, voltage
B	Voltage, current
C	Power, current
D	Voltage, power
Answer	B
Marks	1
Unit	4

Id	**13**
Question	The _____is directly proportional to frequency.
A	Capacitive reactance
B	Hysteresis loss
C	Inductive reactance
D	Eddy current loss
Answer	C
Marks	1
Unit	4

Id	**14**
Question	For RL series circuit the current _____the applied voltage by_____.
A	Leads, 0 to 90^0
B	Lags, 0 to 90^0
C	Leads, 90^0
D	Lags,90^0
Answer	B
Marks	1
Unit	4

Id	**15**
Question	The impedance of RC series circuit is given by Z=_____.
A	$R+jX_C$
B	$R-jX_C$
C	$R*jX_C$
D	None of above
Answer	A
Marks	1
Unit	4

Id	**16**
Question	The average power consumed by a pure capacitor is_____.
A	VIsinΦ
B	VI

C	VIcosΦ
D	0
Answer	D
Marks	1
Unit	4

Id	**17**
Question	The RLC series circuit is _____ if $X_L=X_C$.
A	Inductive
B	Capacitive
C	Resistive
D	None of above
Answer	C
Marks	1
Unit	4

Id	**18**
Question	The expression for resonant frequency of series RLC circuit is_____.
A	Fr=2πLC
B	Fr=(1/LC)
C	Fr=(1/2π√LC)
D	Fr=(1/2π)
Answer	C
Marks	1
Unit	4

Id	**19**
Question	The Q-factor can be defined as Q=____ at f=fr.
A	X_L* R
B	X_C* R
C	X_L/R
D	X_L+R
Answer	C
Marks	1
Unit	4

Id	**20**
Question	If R=3Ω is in series with X_L=4Ω. Then the admittance of this circuit is Y=_____s.
A	5
B	25
C	0.2
D	0.04

Answer	D
Marks	1
Unit	4

Id	**21**
Question	The parallel resonant circuit is called as the ____ circuit.
A	Selector
B	Rejecter
C	Voltage amplifier
D	None of above
Answer	B
Marks	1
Unit	4

Id	**22**
Question	The reactive power is also called as _____ power and it expressed in ____.
A	True, VAR
B	Imaginary, VAR
C	Imaginary, VA
D	Real , VA
Answer	B
Marks	1
Unit	4

Id	**23**
Question	All the home appliances operates on _____ Voltage.
A	AC
B	DC
C	AC or DC
D	None of the above
Answer	A
Marks	1
Unit	4

Id	**24**
Question	In the equation V(t) = Vm*Sin(wt), V(t) indicates the _____ Value.
A	RMS
B	Peak
C	Instantaneous
D	Average
Answer	C
Marks	1

Unit	4

Id	**25**
Question	The instantaneous value of voltage at t=t1 is given by,
A	V(t=t1)
B	V(t1)
C	V/t1
D	None of these
Answer	A
Marks	1
Unit	4

Id	**26**
Question	1 Cycle = _____
A	π radian
B	2π radian
C	4π radian
D	180^0
Answer	B
Marks	1
Unit	4

Id	**27**
Question	The frequency of the AC mains is _____
A	50 Hz
B	25 Hz
C	100 Hz
D	50 sec.
Answer	A
Marks	1
Unit	4

Id	**28**
Question	The frequency of the AC quantity is measured in _____.
A	units/sec
B	cycles-sec
C	cycles/sec
D	Sec/cycles
Answer	C
Marks	1
Unit	4

Id	**29**
Question	The _____ value is also called Amplitude.
A	RMS
B	Peak
C	Average
D	Instantaneous
Answer	B
Marks	1
Unit	4

Id	**30**
Question	The _____ value of the sine wave is 0.707Vm.
A	Average
B	Peak
C	RMS
D	Instantaneous
Answer	B
Marks	1
Unit	4

Id	**31**
Question	The average value of the sinusoidal voltage waveform is_____.
A	0.637 Irms
B	0.707 Irms
C	0.637 Imax
D	0.707 Imax
Answer	C
Marks	1
Unit	4

Id	**32**
Question	The AC voltmeter or ammeter measures the _____ value.
A	Average
B	RMS
C	Peak
D	Instantaneous
Answer	B
Marks	1
Unit	4

Id	**33**

Question	The average value of a symmetrical AC waveform is determined from the _____ of the waveform.
A	Full cycle
B	Half Cycle
C	Full or Half Cycle
D	None of these
Answer	B
Marks	1
Unit	4

Id	**34**
Question	The value of the form factor for the sinusoidal waveform is _____.
A	0.909
B	0.637
C	0.707
D	1.11
Answer	D
Marks	1
Unit	4

Id	**35**
Question	The value of peak factor for a sinusoidal waveform is _____.
A	1
B	0.707
C	1.414
D	0.637
Answer	C
Marks	1
Unit	4

Id	**36**
Question	The correct expression for the form factor is K_p=
A	Imax/Iavg
B	Irms/Iavg
C	Imax/Iavg
D	Ip-p/Irms
Answer	B
Marks	1
Unit	4

Id	**37**
Question	The length of the phasor represents the _____ of the sinusoidal quantity.

A	Amplitude
B	Average value
C	RMS value
D	Instantaneous value
Answer	A
Marks	1
Unit	4

Id	**38**
Question	Form factor is always _____.
A	Greater than 1
B	Less than 1
C	Equal to 1
D	zero
Answer	A
Marks	1
Unit	4

Id	**39**
Question	Complete the following formula, 1 rad = _____ degree.
A	$\pi/180$
B	$180/\pi$
C	$\pi/360$
D	$360/\pi$
Answer	A
Marks	1
Unit	4

Id	**40**
Question	The phasor rotates in _____ direction.
A	Clockwise
B	Anti Clockwise
C	Random
D	None of these
Answer	B
Marks	1
Unit	4

Id	**41**
Question	The projection of phasor on Y axis is _____ value.
A	Peak
B	Instantaneous

C	Average
D	RMS
Answer	B
Marks	1
Unit	4

Id	**42**
Question	The phase angles can take any value between _____ and _____.
A	0, 2π
B	0, π
C	0, 180^0
D	π, 2π
Answer	A
Marks	1
Unit	4

Id	**43**
Question	For the expression V(t)=100sin(100wt+π/4), the phase difference is,
A	π/4 lagging
B	π/4 leading
C	100π leading
D	100π lagging
Answer	B
Marks	1
Unit	4

Id	**44**
Question	A sinusoidal current has peak factor 1.4 and form factor 1.1. If average value of current is 20A. then RMS value of current is _____ A and peak value is _____A
A	22, 30.8
B	30.8, 22
C	18.18, 25.7
D	18, 25
Answer	A
Marks	1
Unit	4

Id	**45**
Question	The _____ between two phasors represents the phase difference between two quantities.
A	Length difference
B	Speed difference
C	Angle Difference

D	None of these
Answer	D
Marks	1
Unit	4

Id	**46**
Question	The phasor represented in rectangular form as i=(20-j34.64)A in its equivalent polar form as,
A	$40<-60^0$A
B	$40<60^0$A
C	$54.54<60^0$A
D	None of these
Answer	A
Marks	1
Unit	4

Id	**47**
Question	An alternating current is given by I = 14.14sin(377t). What is the RMS value?
A	14.14A
B	10 A
C	377 A
D	9 A
Answer	B
Marks	1
Unit	4

Id	**48**
Question	An alternating current is given by I = 14.14 sin (377t), its time period is _____.
A	20 msec
B	16.67 msec
C	2.65 msec
D	5.3 msec
Answer	B
Marks	1
Unit	4

Id	**49**
Question	The AC voltage generator is called as _____.
A	Alternators
B	Induction Generators
C	Alternating Generator
D	None of these

Answer	A
Marks	1
Unit	4

Id	**50**
Question	The _____ value of AC quantity is defined as the value of that quantity at a particular instant of time.
A	DC
B	AC
C	Instantaneous
D	RMS
Answer	C
Marks	1
Unit	4

Id	**51**
Question	An AC quantity (Voltage, Current or Power) is defined as the one which changes its _____ as well as _____ with respect to time.
A	Value, direction
B	Phase, polarity
C	Value, phase
D	None of these
Answer	A
Marks	1
Unit	4

Id	**52**
Question	The repetition consisting of one positive and one identical negative part is called as the _____ of the waveform.
A	Time period
B	One cycle
C	Frequency
D	None of these
Answer	B
Marks	1
Unit	4

Id	**53**
Question	Peak to peak values are most often used when measuring the magnitude on the _____.
A	Voltmeter
B	Cathode ray oscilloscope
C	Digital multimeter

D	None of these
Answer	B
Marks	1
Unit	4

Id	**54**
Question	_____ is the rate of change of wt with respect to time.
A	One cycle
B	Angular velocity
C	Frequency
D	None of these
Answer	B
Marks	1
Unit	4

Id	**55**
Question	Amount of light produced by a lamp or the amount of heat produced by an iron is proportional to the _____.
A	Square of RMS value
B	RMS value
C	Square of average value
D	Average value
Answer	A
Marks	1
Unit	4

Id	**56**
Question	Average value over a full cycle of a symmetrical AC waveform is _____.
A	Twice
B	Zero
C	Arbitrary
D	None of these
Answer	B
Marks	1
Unit	4

Id	**57**
Question	The two AC voltages are said to be _____, if the phase difference between them is zero.
A	In phase
B	Out of phase
C	Lagging

D	In Phase opposition
Answer	A
Marks	1
Unit	4

Id	**58**
Question	Peak to peak value of the sinusoidal waveform is _____.
A	2*Vpeak
B	2*Vrms
C	2*Vavg
D	Vpeak/2
Answer	A
Marks	1
Unit	4

Id	**59**
Question	An alternating voltage is represented by V= 25sin(200πt) then its form factor is _____.
A	1.0
B	1.1098
C	2.0
D	None of these
Answer	B
Marks	1
Unit	4

Id	**60**
Question	Mathematical expression of the voltage supplied for the domestic purpose of 230V is
A	326sin(313*t)
B	325.27sin(314*t)
C	300sin(300*t)
D	230sin(314*t)
Answer	B
Marks	1
Unit	4

Id	**61**
Question	Mathematical expression of instantaneous current with maximum value of 20A and frequency of 50 Hz is, i=_____
A	10sin(50πt)
B	10sin(100πt)
C	20sin(100πt)

D	20sin(50πt)
Answer	C
Marks	1
Unit	4

Id	**62**
Question	For i=35.36*sin(100πt), find the rms and average value of current.
A	12A,14A
B	14.14,12.6A
C	12.6A, 14.14A
D	None of these
Answer	B
Marks	1
Unit	4

Id	**63**
Question	As i = 35.36*sin(100πt), find the value of the current at the time t = 0.0025sec.
A	20A
B	25A
C	30A
D	None of these
Answer	B
Marks	1
Unit	4

Id	**64**
Question	As i = 35.36*sin(100πt), find the value of time at which i=14.14A
A	1.3 msec
B	2 msec
C	1 msec
D	None of these
Answer	A
Marks	1
Unit	4

Id	**65**
Question	The lamp load is an example of _____ load.
A	Purely resistive
B	Purely inductive
C	Purely capacitive
D	None of these
Answer	A

Marks	1
Unit	4

Id	**66**
Question	A 100Ωresistance is carrying a sinusoidal current given by 3cos(wt), then the RMS value of voltage across it is _____ volts.
A	300
B	33.33
C	212.13
D	None of these
Answer	C
Marks	1
Unit	4

Id	**67**
Question	The average power consumed by _____ is zero.
A	Pure resistance
B	Pure inductor
C	Impure Inductor
D	None of these
Answer	B
Marks	1
Unit	4

Id	**68**
Question	The _____ power is equal to (V*I) volt-amp.
A	Apparent
B	Real
C	Reactive
D	None of these
Answer	A
Marks	1
Unit	4

Id	**69**
Question	The power factor is equal to cosϕ = _____ where p=real power, Q=Reactive power, S= Apperent power
A	P/Q
B	P/S
C	Q/S
D	Q/P
Answer	B

Marks	1
Unit	4

Id	**70**
Question	Low power factor is the result of _____ loads.
A	Resistive
B	Inductive
C	Capacitive
D	None of these
Answer	B
Marks	1
Unit	4

Id	**71**
Question	_____ power factor indicates that very small portion of power is being utilized.
A	Zero
B	Low
C	High
D	None.
Answer	B
Marks	1
Unit	4

Id	**72**
Question	The phase angle between the voltage and current for a purely resistive load is _____.
A	90^0
B	0^0
C	-90^0
D	180^0
Answer	B
Marks	1
Unit	4

Id	**73**
Question	The capacitive reactance is defined as the opposition provided by the capacitor to _____.
A	DC voltage
B	AC voltage
C	DC current
D	AC current.
Answer	D
Marks	1

Unit	4

Id	**74**
Question	If the voltage across a pure resistance is V=Vm*sin(wt + π/6) then the current flowing through it will be i=_____.
A	Im*sin(wt)
B	Im*sin(wt +π/6)
C	Im*sin(wt +π/2)
D	Im*sin(wt +π/3)
Answer	B
Marks	1
Unit	4

Id	**75**
Question	If the instantaneous values of voltage and current are v=300sin(wt) and i=3sin(wt) then the average power consumed by the circuit is P = _____
A	900 W
B	900 $\sin^2$wt
C	450
D	636.4 W
Answer	C
Marks	1
Unit	4

Id	**76**
Question	For a purely inductive circuit if the source voltage is V= Vm*sin(wt) then the equation of the current is given by,
A	Im*sin(wt)
B	Im*sin(wt +π/2)
C	Im*sin(wt - π/2)
D	Im*sin(wt - π)
Answer	C
Marks	1
Unit	4

Id	**77**
Question	The inductive reactance for DC is _____.
A	Zero
B	Infinite
C	In between zero and infinite
D	None
Answer	A
Marks	1
Unit	4

Id	**78**
Question	Impedance of a purely inductive circuit is expressed in polar form as, Z=_____Ω
A	$X_l<-90^0$
B	$X_l<-0^0$
C	$X_l<90^0$
D	$X_l<180^0$
Answer	C
Marks	1
Unit	4

Id	**79**
Question	The capacitive reactance X_C_____ with _____ in frequency.
A	Increases, decreases
B	Decreases, Decreases
C	Increases, increases
D	Remains constant.
Answer	A
Marks	1
Unit	4

Id	**80**
Question	The phase angle for an RL series circuit is given by,
A	$\sin^{-1}(X_l/R)$
B	$\cos^{-1}(X_l/R)$
C	$\tan^{-1}(X_l/R)$
D	$\tan^{-1}(R/X_l)$
Answer	C
Marks	1
Unit	4

Id	**81**
Question	The _____ triangle is derived from _____ triangle by dividing each side by _____.
A	Voltage, impedance, voltage
B	Impedance, voltage, voltage
C	Impedance, voltage, current
D	Voltage, impedance, current
Answer	C
Marks	1
Unit	4

Id	**82**
Question	The relation between the resistance R and the impedance Z is given by,
A	$Z=R*\cos\phi$
B	$Z=R*\sin\phi$
C	$R=Z*\cos\phi$
D	$R=Z*\sin\phi$
Answer	C
Marks	1
Unit	4

Id	**83**
Question	The relation between the resistance $X_L$and the impedance Z is given by,
A	$X_L=Z*\cos\phi$
B	$X_L=Z*\sin\phi$
C	$Z= X_L*\cos\phi$
D	$Z= X_L*\sin\phi$
Answer	B
Marks	1
Unit	4

Id	**84**
Question	For an RL series circuit, the average power consumed by circuit is equal to average power consumed by _____.
A	R
B	L
C	Source
D	R-L
Answer	A
Marks	1
Unit	4

Id	**85**
Question	Power factor of a purely inductive circuit is _____.
A	Zero
B	One
C	Infinite
D	0<PF<1
Answer	A
Marks	1
Unit	4

Id	**86**
Question	Reactive power _____ with increase in power factor.
A	Increases
B	Decreases
C	Remains constant
D	First increases then decreases
Answer	A
Marks	1
Unit	4

Id	**87**
Question	The electrical component used for power factor improvement is _____.
A	Resistor
B	Inductor
C	Capacitor
D	R-L
Answer	C
Marks	1
Unit	4

Id	**88**
Question	If R=10Ωand Z=20Ωthen the value of L at f=50Hz is _____.
A	0.0318 H
B	0.318 H
C	0.00318 H
D	0.0055 H
Answer	D
Marks	1
Unit	4

Id	**89**
Question	If R is increased from 5Ωto 20Ωthen power factor of the resistive circuit will _____.
A	Increases four times
B	Decreases four times
C	Increases marginally
D	Remains constant
Answer	A
Marks	1
Unit	4

Id	**90**
Question	The impedance of the series RC circuit in polar form is given by Z=_____.
A	$\|X\|<\phi$
B	$\|Z\|<-\phi$
C	$\|Z\|<\phi$
D	None of these
Answer	B
Marks	1
Unit	4

Id	**91**
Question	In RC series circuit the phase angle between voltage and current is _____.
A	0^0
B	90^0
C	$0^0$to 90^0
D	$90^0$to 180^0
Answer	C
Marks	1
Unit	4

Id	**92**
Question	For an RLC series circuit the supply voltage and current are in phase if _____.
A	$X_L<X_C$
B	$X_L>X_C$
C	$X_L=X_C$
D	$X_L\neq X_C$
Answer	C
Marks	1
Unit	4

Id	**93**
Question	The Q factor of RLC series circuit is also known as _____.
A	Figure of efficiency
B	Figure of merit
C	Figure of excellence
D	Both A and B
Answer	B
Marks	1
Unit	4

Id	**94**

Question	The resonance in parallel LCR circuit is also known as _____.
A	Series resonance
B	Anti resonance
C	Shunt resonance
D	Anti shunt resonance
Answer	B
Marks	1
Unit	4

Id	**95**
Question	The Q factor is defined as the ratio of energy _____ per cycle to the energy _____ per cycle.
A	Saved, lost
B	Lost, stored
C	Stored, lost
D	Saved, stored
Answer	C
Marks	1
Unit	4

Id	**96**
Question	For $0<f<f_r$, the RLC series circuit is _____ and the phase angle is _____.
A	Resistive, zero
B	Capacitive, between $-90^0$to 0^0
C	Inductive, between $0^0$to 90^0
D	None of these
Answer	B
Marks	1
Unit	4

Id	**97**
Question	The voltage across L and C in series RLC circuit is _____.
A	V/Q
B	Q/V
C	Q*1
D	Fr*V
Answer	B
Marks	1
Unit	4

Id	**98**
Question	The increase in the value of Q increases _____ of the resonant circuit.

A	Bandwidth
B	Impedance
C	Selectivity
D	None
Answer	C
Marks	1
Unit	4

Id	**99**
Question	If the two impedances $Z_1<Q_1$ and $Z_2<Q_2$ are multiplied then the phase angle corresponding to their multiplication is _____.
A	Q_1-Q_2
B	Q_1+Q_2
C	Q_1*Q_2
D	Q_1/Q_2
Answer	B
Marks	1
Unit	4

Id	**100**
Question	If cosϕ=1 this means that,
A	Input = output
B	$P_{in}=P_{out}$
C	The circuit is purely resistive.
D	The angle between the voltage and current is 90^0.
Answer	C
Marks	1
Unit	4

Id	**101**
Question	A sine wave has a frequency of 50 Hz. Its angular frequency is _____ radian/second.
A	100π
B	50π
C	25π
D	10π
Answer	A
Marks	1
Unit	4

Id	**102**
Question	A heater is rated as 230 V, 10 kW, A.C. The value 230 V refers to
A	average voltage

B	Peak voltage
C	RMS voltage
D	None of these
Answer	C
Marks	1
Unit	4

Id	**103**
Question	The peak value of a sine wave is 200 V. Its average value is
A	127.4 V
B	141.4 V
C	282.8 V
D	200 V
Answer	A
Marks	1
Unit	4

Id	**104**
Question	Two waves of the same frequency have opposite phase when the phase angle between them is _____.
A	360^0
B	180^0
C	90^0
D	0^0
Answer	B
Marks	1
Unit	4

Id	**105**
Question	The power consumed in a circuit element will be least when the phase difference between the current and voltage is _____.
A	180^0
B	90^0
C	60^0
D	0^0
Answer	B
Marks	1
Unit	4

Id	**106**
Question	For a frequency of 200 Hz, the time period will be _____.
A	0.05 sec

B	0.005 sec
C	0.5 sec
D	0.0005 sec
Answer	B
Marks	1
Unit	4

Id	**107**
Question	In a series resonant circuit, the impedance of the circuit is _____.
A	Minimum
B	Maximum
C	Zero
D	None of these
Answer	A
Marks	1
Unit	4

Id	**108**
Question	Pure inductive circuit _____.
A	consumes some power on average
B	does not take power at all from a line
C	takes power from the line during some part of the cycle and then returns back to it during other part of the cycle.
D	None of these
Answer	C
Marks	1
Unit	4

Id	**109**
Question	Inductive reactance of a coil Varies directly with _____.
A	Frequency
B	No. of Turns
C	Permeance
D	None of these
Answer	A
Marks	1
Unit	4

Id	**110**
Question	All the rules and laws of D.C. circuit also apply to A.C. circuit containing _____.
A	capacitance only
B	inductance only

C	resistance only
D	None of these
Answer	C
Marks	1
Unit	4

Id	**111**
Question	In a highly capacitive circuit the _____.
A	apparent power is equal to the actual power
B	reactive power is more than the apparent power
C	reactive power is more than the actual power
D	actual power is more than its reactive power
Answer	C
Marks	1
Unit	4

Id	**112**
Question	The r.m.s. value of alternating current is given by steady (D.C.) current which when flowing through a given circuit for a given time produces _____.
A	the more heat than produced by A.C. when flowing through the same circuit
B	the same heat as produced by A.C. when flowing through the same circuit
C	the less heat than produced by A.C. flowing through the same circuit
D	none of the above
Answer	B
Marks	1
Unit	4

Id	**113**
Question	The power factor at resonance in R-L- C parallel circuit is _____.
A	zero
B	0.8 Lagging
C	0.08 Leading
D	Unity
Answer	D
Marks	1
Unit	4

Id	**114**
Question	In a pure resistive circuit _____.
A	current lags behind the voltage by 90°
B	voltage lags behind the current by 90°
C	Voltage and current are in phase

D	None of these
Answer	C
Marks	1
Unit	4

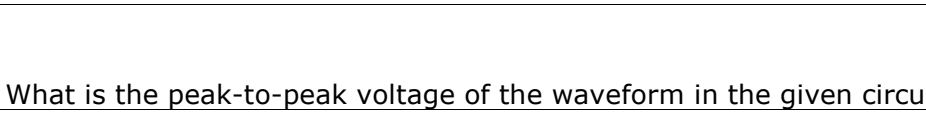
Id	**115**
Question	In any A.C. circuit always _____.
A	apparent power is more than actual power
B	reactive power is more than apparent power
C	actual power is more than reactive power
D	reactive power is more than actual power
Answer	A
Marks	1
Unit	4

Id	**116**
Question	Which of the following circuit component opposes the change in the circuit voltage ?
A	Inductor
B	Capacitor
C	Resistor
D	Conductance
Answer	C
Marks	1
Unit	4

Id	**117**
Question	Power factor of electric bulb is _____.
A	Zero
B	Lagging
C	Leading
D	Unity
Answer	D
Marks	1
Unit	4

Id	**118**
Question	Power factor of electric bulb is _____.
A	Zero
B	Lagging
C	Leading
D	Unity
Answer	D

Marks	1
Unit	4

Id	**119**
Question	 What is the peak-to-peak voltage of the waveform in the given circuit?
A	2 V
B	4 V
C	6 V
D	8 V
Answer	D
Marks	1
Unit	4

Id	**119**
Question	In R-L-C series resonant circuit magnitude of resonance frequency can be changed by changing the value of
A	R
B	L only
C	C only
D	L or C
Answer	D
Marks	1
Unit	4

Id	**120**
Question	If a sinusoidal wave has frequency of 50 Hz with 30 A r.m.s. current which of the following equation represents this wave ?
A	42.42 sin(314t)
B	60 sin (25t)
C	30 sin(50t)
D	84.84 sin(25t)
Answer	A
Marks	1
Unit	4

Id	**121**
Question	If a sinusoidal wave has frequency of 50 Hz with 30 A r.m.s. current which of the following equation represents this wave ?
A	42.42 sin(314t)
B	60 sin (25t)

C	30 sin(50t)
D	84.84 sin(25t)
Answer	A
Marks	1
Unit	4

Id	**122**
Question	The input of an A.C. circuit having power factor of 0.8 lagging is 40 kVA The power drawn by the circuit is
A	12kW
B	22kW
C	32kW
D	64kW
Answer	C
Marks	1
Unit	4

Id	**123**
Question	In an AC. circuit, a low value of kVAR compared with kW indicates
A	low efficiency
B	high power factor
C	unity power factor
D	maximum load current
Answer	B
Marks	1
Unit	4

Id	**124**
Question	The ratio of active power to apparent power is known as _____ factor.
A	Demand
B	Load
C	Power
D	Form
Answer	C
Marks	1
Unit	4

Id	**125**
Question	The apparent power drawn by an A.C. circuit is 10 kVA and active power is 8 kW. The reactive power in the _____.
A	4 KVAR
B	6 KVAR

C	8 KVAR
D	16 KVAR
Answer	B
Marks	1
Unit	4

Id	**126**
Question	The purpose of a parallel circuit resonance is to magnify _____.
A	Current
B	Voltage
C	Power
D	Frequency
Answer	A
Marks	1
Unit	4

Id	**127**
Question	The purpose of a parallel circuit resonance is to magnify _____.
A	Current
B	Voltage
C	Power
D	Frequency
Answer	A
Marks	1
Unit	4

Id	**128**
Question	Capacitive susceptance is a measure of _____.
A	reactive power in a circuit
B	the extent of neutralisation of reactive power in a circuit
C	a purely capacitive circuit's ability to pass current
D	a purely capacitive circuit's ability to resist the flow of current
Answer	A
Marks	1
Unit	4

Id	**129**
Question	Which of the following statements pertains to resistors only ?
A	can dissipate considerable amount of power
B	can act as energy storage devices
C	connecting them in parallel increases the total value
D	oppose sudden changes in voltage

Answer	A
Marks	1
Unit	4

Id	**130**
Question	Which of the following refers to a parallel circuit ?
A	The current through each element is same.
B	The voltage across element is in proportion to it's resistance value
C	The equivalent resistance is greater than any one of the resistors
D	The current through any one element is less than the source current
Answer	D
Marks	1
Unit	4

Id	**131**
Question	The lamp load is an example of ….....
A	Purely resistive
B	Purely Inductiove
C	R-L sries
D	None
Answer	A
Marks	1
Unit	4

Id	**132**
Question	If R= 3 ohm is in series with X_L = 4ohm. Then admittance of this circuit is Y = _____
A	5S
B	25S
C	5 S/m
D	0.2S
Answer	C
Marks	1
Unit	4

Id	**133**
Question	The exprssion for dynamic impedance of a parallel resonance circuit is_____
A	$Z_D = L/RC$
B	$Z_D = R/LC$
C	$Z_D = C/RL$
D	$Z_D = CRC$
Answer	A
Marks	1
Unit	4

Id	**134**
Question	The current of a parallel resonanct circuit is _____ at f=fr
A	Maximum but not infinite
B	Infinite
C	Zero
D	Minimum but not zero
Answer	D
Marks	1
Unit	4

Id	**135**
Question	The dynamic impedance represents the _____ of the parallel resonanct circuit.
A	Minimum value of impedance
B	Maximum value of impedance
C	RMS value of impedance
D	Avg vakue of impedance
Answer	B
Marks	1
Unit	4

Id	**136**
Question	The exepression for parallel combination of impedance Z1 and Z2 is
A	$(Z_1+Z_2)/ (Z_1*Z_2)$
B	$(Z_1+Z_2)/ (Z_1 -Z_2)$
C	$(Z_1 *Z_2)/ (Z_1 +Z_2)$
D	$(Z_1 *Z_2)/ (Z_1 -Z_2)$
Answer	C
Marks	1
Unit	4

Id	**137**
Question	A pure indutor is equivalent to a _____ for a direct current and voltage
A	Open circuit
B	Short circuit
C	An open switch
D	None of these
Answer	B
Marks	1
Unit	4

Id	**138**
Question	The reactive power is also called ____ power and it is expressed in __
A	True, VAR
B	Imaginary,VAR
C	Imaginary , VA
D	Real , VA
Answer	B
Marks	1
Unit	4

Id	**139**
Question	P.F. is equal to ____

A	S/P
B	Q/P
C	P/S
D	S/Q
Answer	C
Marks	1
Unit	4

Id	**140**
Question	To improve the power factor we have to ____ the angle ϕ
A	Increases
B	Decreases

C	Keep constant
D	None
Answer	B
Marks	1
Unit	4

Id	**141**
Question	The Q factor of a series RLC resonant circuit is defined as the ____ in the circuit at the resonant frequency
A	Voltage magnification
B	Current magnification
C	Power magnification

D	None
Answer	A
Marks	1
Unit	4

Id	**142**
Question	____ of a series resonat circuit is defined as the difference between the frequencies at which the circuit power reduced to ____ of the maximum power.
A	Bandwidth, 50%
B	Q-factor,50%
C	Selectivity,25%
D	Rejectivity,25%
Answer	A

Marks	1
Unit	4

Id	**143**
Question	The effective admittance of a parallel circuit is equal to the____ of the admittance of the individual branches
A	sum
B	Difference
C	product
D	ratio
Answer	A
Marks	1

Unit	4

Id	**144**
Question	In inductive circuit when inductance increases, the circuit current decreases, but the circuit power factor _____ ???
A	Increases
B	Decreases
C	Remains same
D	None
Answer	B
Marks	1
Unit	4

Id	**145**
Question	The current and voltages are 90 degree out of phase then the power will be
A	Infinite
B	Maximum
C	Minmum
D	Zero
Answer	D
Marks	1
Unit	4

Id	**146**
Question	If power factor is 1 it means that
A	Input = output
B	Pin=Pout
C	The circuit is resisstive only
D	The angle between vtg and current is zero
Answer	D
Marks	1
Unit	4

Id	**147**
Question	Power factor = ____
A	Kw/Kva
B	R/Z
C	Cosine of angle between current and voltage
D	All of them
Answer	D
Marks	1
Unit	4

Id	**148**
Question	A sine wave has a frequency of 50Hz . Its angular velocity is ____ rad/sec
A	100 pi
B	50 pi
C	25 pi
D	5 pi
Answer	A
Marks	1
Unit	4

Id	**149**
Question	The reactane offered by a cpacitor to ac of frequency 50Hz is 20 ohm the frequency is increased to 100Hz, reactance become ___
A	2.5 ohm
B	5 ohm
C	10 ohm
D	20 ohm
Answer	C
Marks	1
Unit	4

Id	**150**
Question	If the two waves of the same frequency have opposite phase when the phase angle between them is
A	360 degree
B	180 degree
C	90 degree
D	0 degree
Answer	B
Marks	1
Unit	4

Id	**151**
Question	The heater is rated as 230V,10KW ac the value 230 refers to,
A	Average value
B	Rms value
C	Peak value
D	none
Answer	B
Marks	1
Unit	4

Id	**152**
Question	The phase difference between voltage and current wave through a circuit element is given as 30 degree the essential condition is that
A	Both waves must have same frequency
B	Both waves must have same frequency
C	Both of them
D	none
Answer	A
Marks	1
Unit	4

Id	**153**
Question	Poor power factor
A	Reduces load handling capacity of electrical system
B	Results in more power losses in the electrical system
C	Overloads aternator transformer and distribution lines
D	All of them
Answer	D
Marks	1
Unit	4

Id	**154**
Question	In ac circuit always _____
A	Apparent power is more than actual power
B	Reactive power is more than apparent power
C	Actual power is more than reactive power
D	Reactive power is more than actual power
Answer	A
Marks	1
Unit	4

Id	**155**
Question	In RLC series resonant circuit mgnitude of resonace frequency can be changed by changing the value of
A	R only
B	L only
C	C only
D	L or C
Answer	D
Marks	1
Unit	4

Id	**156**
Question	If a sinusoidal wave has frequency of 50Hz with 30rms current which of the following equation represents this wave_____.
A	42.42 sin314t
B	60 sin25t
C	30 sin50t
D	84.84 sin25t
Answer	A
Marks	1
Unit	4

Id	**157**
Question	The input of an ac circuit having power factor of 0.8 lagging is 40Kva, the power drawn by the circuit is
A	12 kW
B	22 kW
C	32 kW
D	64 kW
Answer	C
Marks	1
Unit	4

Id	**158**
Question	The phaors for which of the following pair are 180 degree out of phase for $V_{L,}$Vc and V_R
A	Vc and V_R
B	$V_L$and V_R
C	$V_{L,}$Vc
D	none
Answer	C
Marks	1
Unit	4

Id	**159**
Question	The power factor of dc circuit is always
A	Lagging
B	Leading
C	Unity
D	zero
Answer	C
Marks	1
Unit	4

Id	**160**
Question	Ohm is the unit of
A	Inductive reactance
B	Impedance
C	Resistance
D	All of them
Answer	D
Marks	1
Unit	4

Id	**161**
Question	A current is said to be direct when it changes its
A	Direction
B	Magnitude
C	Both magnitude and direction
D	None of these
Answer	D
Marks	1
Unit	4

Id	**162**
Question	A current is said to be alternating when it changes its
A	Direction
B	Magnitude
C	Both magnitude and direction
D	None of these
Answer	C
Marks	1
Unit	4

Id	**163**
Question	A series circuit consists of R = 20Ω, L = 20 mH, and ac supply 60V with f = 100 Hz.

	The current in R is
A	2.54 A
B	1.27 A
C	5.08 A
D	10.16 A
Answer	A
Marks	1
Unit	4

Id	**164**
Question	A 100 mH inductor is connected across a supply fo 50V AC. For which of the following frequency the circuit will have least rms current ?
A	100 kHz

B	10 kHz
C	1 kHz
D	0.1 kHz
Answer	A
Marks	1
Unit	4

Id	**165**
Question	Most practical alternators generate electricity from
A	a coil rotating within a magnetic field
B	a magnetic field rotating around fixed windings
C	a permanent magnet rotating within a varying electromagnetic field
D	none of the above
Answer	B

Marks	1
Unit	4

Id	**166**
Question	A series circuit consists of R = 20Ω, L = 20 mH, and ac supply 60V with f = 100 Hz. The current in R isA half-cycle average voltage of 12 V is equal to what rms voltage?
A	13.33 V
B	8.48 V
C	18.84 V
D	7.64 V
Answer	A
Marks	1
Unit	4

Id	**167**
Question	A series circuit consists of R = 20Ω, L = 20 mH, and ac supply 60V with f = 100 Hz. The current in R isA half-cycle average voltage of 12 V is equal to what rms voltage?The effective value of a sine wave is equal to
A	0.707 of peak voltage
B	0.636 of peak voltage
C	sin 45° of peak voltage
D	both 0.707 of peak voltage and sin 45° of peak voltage
Answer	D
Marks	1
Unit	4

Id	**168**
Question	Calculate the angular frequency w of a signal that has a cyclic frequency *f* of 20 Hz.
A	3.18 rad/sec
B	31.8 rad/sec
C	126 rad/sec
D	168 rad/sec
Answer	C
Marks	1
Unit	4

Id	**169**
Question	Which one of the following statements is correct in relation to alternating waveforms?
A	In a capacitor, the current leads the voltage.
B	In an inductor, the current leads the voltage.
C	In a capacitor, the voltage leads the current.
D	In an inductor the voltage lags the current.
Answer	A
Marks	1
Unit	4

Id	**170**
Question	Calculate the reactance of an inductor of 15 mH at a frequency of 50 Hz.
A	0.9 ohms
B	2.7 ohms
C	5.7 ohms
D	6.3 ohms
Answer	C
Marks	1
Unit	4

Id	**171**
Question	The diagram below shows a phasor representation of the voltage *V* across a combination of a resistor and an inductor. Calculate the magnitude and phase of the voltage *V*.
A	The magnitude is 168 V and the phase angle is 54 deg
B	The magnitude is 186 V and the phase angle is 54 deg
C	The magnitude is 168 V and the phase angle is 36 deg
D	The magnitude is 186 V and the phase angle is 36 deg
Answer	C

Marks	1
Unit	4

Id	**172**
Question	The form factor of a 220V, 50 Hz A.C. wave form is
A	1.11
B	1.5
C	1.6
D	2.1
Answer	A
Marks	1
Unit	4

Id	**173**
Question	The power factor of the ac circuit lies between _____.
A	0 to 1
B	-1 to 0
C	-1 to 1
D	None of these
Answer	A
Marks	1
Unit	4

Id	**174**
Question	The form factor of dc supply voltage is always
A	Zero
B	0.5
C	Unity
D	infinite
Answer	A
Marks	1
Unit	4

Id	**175**
Question	The effects due to electric current are
A	Heating effect
B	Magnetic effect
C	Both Magnetic and Heating
D	None of these
Answer	C
Marks	1
Unit	4

Id	**175**
Question	When a.c. flows through a resistance, then
A	current leads voltage
B	current lags voltage
C	Both current and voltage are in phase
D	Both current and voltage are in phase opposition.
Answer	C
Marks	1
Unit	4

Id	**176**
Question	In a.c. circuits, the a.c. meters measure
A	RMS value
B	Peak value
C	Average value
D	None of these
Answer	A
Marks	1
Unit	4

Id	**177**
Question	A capacitor
A	offers easy path to a.c. but blocks d.c.
B	offers easy path to d.c. but blocks a.c.
C	offers easy path to both a.c. and d.c.
D	None of these
Answer	A
Marks	1
Unit	4

Id	**178**
Question	The unit of inductive susceptance is
A	Henry
B	Siemens
C	Milli-henry
D	Ohms
Answer	B
Marks	1
Unit	4

Id	**179**
Question	Wattless current is possible, only in
A	resistive circuit
B	Non resistive circuit
C	LR curcuit
D	LCR circuit
Answer	B
Marks	1
Unit	4

Id	**180**
Question	Power factor for a pure inductor is
A	Zero
B	Unity
C	0.8 leading
D	0.8 Lagging
Answer	A
Marks	1
Unit	4

Id	**181**
Question	Which statement about the inductance is incorrect?
A	The inductance of a coil can be increased by adding few more turns to the coil
B	The inductive reactance varies directly as the frequency of the applied voltage
C	Inductive reactance varies inversly as the frequency of the applied voltage
D	An inductance does not oppose direct currents
Answer	C
Marks	1
Unit	4

Id	**182**
Question	The inductance of a coil can be increased by
A	increasing core length
B	decreasing the number of turns
C	decreasing the diameter of the core
D	decreasing the diameter of the former
Answer	D
Marks	1
Unit	4

Id	**183**
Question	Which of the following waves has the highest value of peak factor ?
A	Square wave
B	Sine wave
C	Half wave rectified sine wave
D	Triangular wave
Answer	C
Marks	1
Unit	4

Id	**184**
Question	The frequency of domestic power supply in India is
A	200 Hz
B	100 Hz
C	60 Hz
D	50 Hz
Answer	D
Marks	1
Unit	4

Id	**185**
Question	The r.m.s. value of pure cosine function is
A	0.5 of peak value
B	0.707 of peak value
C	same as peak value
D	zero
Answer	B
Marks	1
Unit	4

Id	**186**
Question	Ohm is unit of all of the following except
A	inductive reactance
B	capacitive reactance
C	resistance
D	capacitance
Answer	D
Marks	1
Unit	4

Id	**187**
Question	The phasors for which of the following pair are 180° out of phase for V_L, $V_C$and V_R
A	Vc and V_R
B	$V_L$and V_R
C	Vc and V_L
D	none of the above
Answer	C
Marks	1
Unit	4

Id	**188**
Question	The frequency of an alternating current is
A	the speed with which the alternator runs
B	the number of cycles generated in one minute
C	the number of waves passing through a point in one second
D	the number of electrons passing through a point in one second
Answer	C
Marks	1
Unit	4

Id	**189**
Question	A pure capacitor connected across an A.C. voltage consumed 50 W. This is due to
A	the capacitive reactance in ohms
B	the current flowing in capacitor
C	the size of the capacitor being quite big
D	the statement is incorrect
Answer	D
Marks	1
Unit	4

Id	**190**
Question	The power factor of a D.C. circuit is always

A	less than unity
B	unity
C	greater than unity
D	zero
Answer	A
Marks	1
Unit	4

Id	**191**
Question	The product of apparent power and cosine of the phase angle between circuit

	voltage and current is
A	true power
B	reactive power
C	volt-ampere
D	instantaneous power
Answer	A
Marks	1
Unit	4

Id	**192**
Question	The equation of 50 Hz current sine wave having r.m.s. value of 60 A is
A	60 sin25t
B	60 sin50t
C	84.84 sin314t
D	42.42 sin314t

Answer	C
Marks	1
Unit	4

Id	**193**
Question	In a pure inductive circuit if the supply frequency is reduced to 1/2, the current will
A	be reduced by half
B	be doubled
C	be four times as high
D	be reduced to one fourth
Answer	B
Marks	1

Unit	4

Id	**194**
Question	When an alternating current passes through an ohmic resistance the electrical power converted into heat is
A	apparent power
B	true power
C	reactive power
D	none of the above
Answer	B
Marks	1
Unit	4

Id	**195**
Question	In a pure capacitive circuit if the supply frequency is reduced to 1/2, the current will
A	be reduced by half
B	be doubled
C	be four times as high
D	be reduced to one fourth
Answer	A
Marks	1
Unit	4

Id	**196**
Question	Which of the following statements pertains to resistors only ?
A	can act as energy storage devices
B	can dissipate considerable amount of power
C	oppose sudden changes in voltage
D	connecting them in parallel increases the total value
Answer	B
Marks	1
Unit	4

Id	**197**
Question	Capacitive susceptance is a measure of
A	reactive power in a circuit
B	the extent of neutralisation of reactive power in a circuit
C	a purely capacitive circuit's ability to pass current
D	a purely capacitive circuit's ability to resist the flow of current
Answer	C
Marks	1
Unit	4

Id	**198**
Question	At _____ frequencies the parallel R-L circuit behaves as purely resistive.
A	low
B	very low
C	high
D	very high
Answer	D
Marks	1
Unit	4

Id	**199**
Question	In a sine wave the slope is constant
A	between 0° and 90°
B	between 90° and 180°
C	between 180° and 270
D	no where
Answer	D
Marks	1
Unit	4

Id	**200**
Question	The power is measured in terms of decibels in case of
A	electronic equipment
B	transformers
C	current transformers
D	auto transformers
Answer	A
Marks	1
Unit	4