Department of Electrical Engineering

Steady state AC analysis

BEEG-1001 Session:2020-21 Objective Questions
Basic Electrical Engineering odd Semester Module I

1. In a DC Circuit, frequency would be_____

A. Equal As in AC Circuits

B. High

C. Extremely High

D. Zero

Answer
Option : D

2. In a DC Circuit, Inductive reactance would be 0 because

A. frequency is zero

B. frequency is High

C. frequency is Extremely High

D. frequency is Equal As in AC Circuits

Answer
Option : A

3. The peak to the peak value of a sine wave is
a. Equal to the maximum or phase value of sine wave
b. Twice the maximum or phase value of sine wave
c. Half of the maximum or phase value of sine wave
d. Four times the maximum or phase value of sine wave

Answer
Option : B

4. RMS voltage of a pure sine wave is....

A. Vm/{root (0.5)} B. Vm/ (2) C. Vm/{root (4)} D. Vm/{root (2)}

Answer

Option : D

5. In case of Inductive circuit, Frequency is _____Proportional to the inductance (L) or inductive reactance (XL).

A. Inversely
B. Directly
C. No Effect
D. Any of A and B

Answer
Option : B

6. In case of Capacitive circuit, Frequency is _____Proportional to the Capacitance (C) or Capacitive reactance (X_C).

A. Inversely

B. Directly
C. No Effect
D. Any of A and B

Answer
Option : A

7. The relationship between Impedance (Z) and Admittance(Y) is _____ ?

A. Z=1+Y

B. Z=1/Y
C. Z=1-Y
D. $Z=Y^2$

Answer
Option : B

8. The average value of a sinusoidal alternating signal is ————

A. Equal to the maximum value
B. 0.637 times the maximum value

C. Half of the maximum value
D. None of the above

Answer
Option : B

9. Find the average value of a sinusoidal alternating signal for a full cycle.

A. Zero
B. Maximum
C. Finite Value
D. Infinite

Answer
Option : A

10. When the resistor and Inductor are combined in one circuit, there will be a value of power consumed that is dependent on the:

A. resistive load, in the circuit
B. inductive load, in the circuit
C. components in which Voltage and current are in-phase
D.size of the inductive reactance

Answer
Option : A, C

11. The equation of an alternating current is i=100sin628t. Determine its amplitude and frequency.

Answer

100A, 100Hz

12. In a sine wave AC circuit with 100 ohms resistance and with 100 ohms inductive reactance, phase angle equals to.....

A. 90 degree
B. 80 degree
C. 45 degree
D.30 degree

Answer

45 degree

13. power Factor (Cos (theta)) =_____?

A. kW/kVA
B. R/Z
C. X/Z
D. The Cosine of the angle between current and voltage

Answer
Option : A, B, D

14. A function that repeats itself after fixed intervals is said to be:
(a) a phasor (b) harmonic

(c) periodic (d) reactive

Answer
Option : c

15. If $v1 = 30 \sin(\omega t + 10^\circ)$ and $v2 = 20 \sin(\omega t + 50^\circ)$, which of these statements are true?
(a) $v1$ leads $v2$ (b) $v2$ leads $v1$
(c) $v2$ lags $v1$ (d) $v1$ lags $v2$
(e) $v1$ and $v2$ are in phase
Answer
Option : b, d

16. The voltage across an inductor leads the current through it by 90◦.
(a) True (b) False

Answer
Option : a

17. The imaginary part of impedance is called:
(a) resistance (b) admittance
(c) susceptance (d) conductance
(e) reactance

Answer
Option : e
18. A series *RC* circuit has *VR* = 12 V and *VC* = 5 V.
The supply voltage is:
(a) −7 V (b) 7 V (c) 13 V (d) 17 V

Answer
Option : c

19. The average power absorbed by an inductor is zero.
(a) True (b) False
Option : a

20. Reactive power is measured in:
(a) watts (b) VA
(c) VAR (d) none of these

Option : c
21. Power triangle is plotted among……and……..
A. P, Q and S B. active power, reactive power and total volt-ampere
C. active power, reactive power and instantaneous power D. None of these
Ans:A, B