RSGSML Electrical Engineering Questions and Answers

1. When these numbers are multiplied, (6 × 103) (5 × 105), the result is

A.3 × 108
B.30 × 108
C.300 × 109
D.3,000 × 107

Answer: Option B

2. Resistance is measured in

A.henries
B.ohms
C.hertz
D.watts

Answer: Option B

3. The number 65,000 expressed in scientific notation as a number between 1 and 10 times a power of ten is

A.0.65 × 104
B.6.5 × 104
C.65 × 104
D.650 × 103

Answer: Option B

4. When converting 7,000 nA to microamperes, the result is

A.0.007 µA
B.0.7 µA
C.700 µA
D.7 µA

Answer: Option D

5. The number of kilowatts in 135 milliwatts is

A.1.35 × 10–4 kW

B.135 × 10–3 kW
C.0.0135 kW
D.0.00135 kW

Answer: Option A

6. The number 4.4 × 106 ohms expressed using a metric prefix is

A.4 k
B.4.4 k
C.4 M
D.4.4 M

Answer: Option D

7. The number of microamperes in 2 milliamperes is

A.2 µA
B.20 µA
C.200 µA
D.2,000 µA

Answer: Option D

8. The number of millivolts in 0.06 kilovolts is

A.600 V
B.6,000 mV
C.60,000 mV
D.600,000 mV

Answer: Option C

9. Eighteen thousand watts is the same as

A.18 mW
B.18 MW
C.18 kW
D.18 µW

Answer: Option C

10. The number 3.2 × 10–5 A expressed using a metric prefix is

A.32 μA
B.3.3 μA
C.320 mA
D.3,200 mA

Answer: Option A

11. In the complex plane, the number 14 – j5 is located in the

A.first quadrant
B.second quadrant
C.third quadrant
D.fourth quadrant

Answer: Option D

12. Point +4 on the complex plane is

A.4 units above the origin on the j axis
B.4 units below the origin on the j axis
C.4 units right of the origin on the real axis
D.4 units left of the origin on the real axis

Answer: Option C

13. A 470 resistor and a 0.2 F capacitor are in parallel across a 2.5 kHz ac source. The admittance, Y, in rectangular form, is

A.212
B.2.12 mS + j3.14 mS
C.3.14 mS + j2.12 mS
D.318.3

Answer: Option B

14. A positive angle of 30° is equivalent to a negative angle of

A.–30°
B.–330°
C.–60°
D.–180°

Answer: Option B

15. In a series RC circuit, 12 V(rms) is measured across the resistor and 15 V(rms) is measured across the capacitor. The rms source voltage is

A.3 V
B.27 V
C.19.2 V
D.1.9 V

Answer: Option C

16. A 6 kHz sinusoidal voltage is applied to a series RC circuit. The frequency of the voltage across the resistor is

A.0 Hz
B.12 kHz
C.6 kHz
D.18 kHz

Answer: Option C

17. The voltages in Problem 4 are measured at a certain frequency. To make the capacitor voltage greater than the resistor voltage, the frequency

A.must be increased
B.must be decreased
C.is held constant
D.has no effect

Answer: Option B

18. In the complex plane, the number 4 + j3 is located in the

A.first quadrant
B.second quadrant
C.third quadrant
D.fourth quadrant

Answer: Option A

19. When the frequency of the source voltage decreases, the impedance of a parallel RC circuit

A.increases
B.decreases
C.does not change
D.decreases to zero

Answer: Option A

20. A 47 resistor and a capacitor with a capacitive reactance of 120 are in series across an ac source. What is the circuit impedance, Z?

A.129
B.12.9
C.167
D.73

Answer: Option A