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1. The conjugate of the complex quantity $(a + jb)$ will be

- a) $-a - jb$
- b) $-a + jb$
- c) $A - jb$
- d) $Ja - b$

Ans: (c)

2. Mass in the MKS unit system is analogous to

- a) Resistance
- b) Voltage
- c) Inductance
- d) Capacitance

Ans: (d)

3. A damped oscillation has the equation $I = 50 e^{-10t} \sin 628 t$. What will be the frequency of a oscillation?

- a) 50 Hz
- b) 75 Hz
- c) 100 Hz
- d) 60 Hz

Ans: (c)

4. In a loss-free R-L-C circuit the transient current is

- a) Sinusoidal
- b) Oscillating
- c) None-oscillating
- d) Square wave

Ans: (a)

5. A 0.5 meter long conductor carrying a current of 2 amperes is placed in a magnetic field having the flux density of 0.05 wb/m^2 . What will be the amount of force experienced by the conductor?

- a) 1 New
- b) 2 New
- c) 0.05 New
- d) 0.5 New

Ans: (c)

6. Two parallel conductors carry the same current in the same direction. What kind of mutual force they will experience?

- a) Repulsion
- b) Attraction
- c) Zero
- d) Either (a) or (b)

Ans: (b)

7. Which of the following statement is correct?

- a) The flow of current in the electric circuit involves discontinuous expenditure of energy.
- b) The flow of current in the electric circuit requires energy for creating the current but not to maintain it.
- c) In the magnetic circuit energy is needed continuously to maintain the flux.
- d) In the magnetic circuit energy is needed for creating the flux initially but not to maintain it.

Ans: (c)

8. If a coil has a resistance of 10 ohms and an inductance of 1 H, what will be the value of current 0.1 second after switching on a 500 V d.c. supply?

- a) 6.32 A
- b) 3.16 A
- c) 3.7 A
- d) 4.0 A

Ans: (b)

9. The r.m.s. value of an alternating current is given by steady (d.c) current which when flowing through a given circuit for given time produces

- a) The same heat as produced by a.c. when flowing through the same circuit
- b) The less heat than produced by a.c. when flowing through the same circuit
- c) The more heat than produced by a.c. when flowing through the same circuit
- d) 14.4 calories

Ans: (a)

10. In case of an unsymmetrical alternating current the average value must always be taken over

- a) The half cycle
- b) The whole cycle
- c) Unsymmetrical part of the waveform
- d) The quarter cycle

Ans: (b)

