

Name:		Roll No.		Subject	Physics
Test Type	MCQs, Short & Long question	Class	12	Date	
Chapter	16 Power Dissipation to End	Unit	16	Time	

Q. No. 1 Tick the best option

22

- Electromagnetic waves do not transport:
 - Energy
 - Momentum
 - Charge
 - Information
- In what frequency, 1 H inductance offers same impedance as 1 μF capacitor.
 - 50 Hz
 - 159 Hz
 - 512 Hz
 - 1590 Hz
- Electron vibrating 94,000 times each second will produce radio wave of frequency:
 - 94 Hz
 - 940 Hz
 - 940 KHz
 - 94 KHz
- The unit of $1/\sqrt{LC}$ is:
 - Second
 - Farad
 - Henry
 - Hertz
- In R-L-C series circuit, the energy is dissipated at resonance:
 - R only
 - R and L
 - R and C
 - R, L and C
- When 10 V is applied to A.C circuit with current of 10 mA, impedance will be:
 - 100 Ω
 - 10 k Ω
 - 1 k Ω
 - 0.1 k Ω
- Power factor is equal to:
 - $\sin \theta$
 - $\tan \theta$
 - $\cos \theta$
 - $\cos^{-1} \theta$
- In R-L-C series resonance circuit, at resonance frequency, impedance Z is:
 - $\sqrt{R^2 + X_L^2}$
 - R
 - $\sqrt{R^2 + X_C^2}$
 - X_L
- In three phase A.C supply, voltage between lines and ground is about:
 - 220V
 - 230 V
 - 400 V
 - 430 V
- In R-L-C series circuit, the current at resonance frequency:
 - Minimum
 - Maximum
 - Zero
 - Infinite
- In a resonance circuit of frequency 10^6 Hz with inductor of 5 mH, the capacitance will be:
 - 5.09 pF
 - 8.16 pF
 - 3.3 pF
 - 10.1 pF
- Infrared radiations have frequency of the range of:
 - 10^{14}
 - 10^{15}
 - 10^{16}
 - 10^{22}
- 100 μF capacitor is connected to an AC voltage of 24V and frequency 50 Hz. The reactance of the capacitor is:
 - 31.8 Ω
 - 30.8 Ω
 - 34.8 Ω
 - 40 Ω
- Speed of all electromagnetic waves in vacuum is:
 - $\sqrt{\mu/\epsilon}$
 - $\sqrt{\mu_0 \epsilon_0}$
 - $\frac{\mu}{\sqrt{\mu_0 \epsilon_0}}$
 - $\frac{1}{\sqrt{\mu_0 \epsilon_0}}$
- In Parallel resonance circuit power factor is:
 - One
 - Zero
 - Infinite
 - 90
- Which type of radio waves is affected less by electrical interference?
 - A.M
 - F.M
 - Both of these
 - None
- In three phase A.C supply, phase difference between any two lines is about:
 - 90°
 - 120°
 - 180°
 - 360°
- Metal detector works with help of:
 - RC circuit
 - RL circuit
 - LC circuit
 - None
- Which consume small power?
 - Inductor
 - Resistor
 - Motor
 - All of these
- At resonance, parallel resonance circuit will.....the maximum current.
 - Accept
 - Reject
 - Regulate
 - None of these
- The range of A.M transmission frequencies is from:
 - 540 kHz to 1600 kHz
 - 88 kHz to 108 kHz
 - 88 MHz to 108 MHz
 - 540 MHz to 1600 MHz
- Which one is in the order of increasing frequency?
 - X-rays, Radio waves, Infrared
 - UV rays, visible light, radio waves
 - X-rays, visible light, Gamma rays
 - UV rays, X-rays, Gamma rays

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Q. No. 2 Write the short answer of these following question

6 x 2 = 12

- 1) What is Choke? Give its uses.
- 2) What is the principle of metal detector?
- 3) What are the properties of the series resonance circuit?
- 4) In a R-L circuit, will the current lag or lead the voltage? Illustrate your answer by a vector diagram.
- 5) How does doubling the frequency affect the reactance of: (i) an inductor (ii) a capacitor
- 6) What is meant by A.M and F.M?

Q. No. 3 Long question

- A. Describe the principle of generation, transmission and reception of Electromagnetic waves?
- B. A 10 mH, 20 Ω coil is connected across 240 V and $\frac{180}{\pi}$ Hz source. How much power does it dissipate?

PARHOZONE

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