



# LGS GROUP OF COLLEGES

A PROJECT OF LAHORE GRAMMAR SCHOOL

Sheet # \_\_\_\_\_

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Subject: Physics Test No. \_\_\_\_\_ Date: \_\_\_\_\_

A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	Marks Obtained
1				6				11				16				
2				7				12				17				
3				8				13				18				
4				9				14				19				
5				10				15				20				

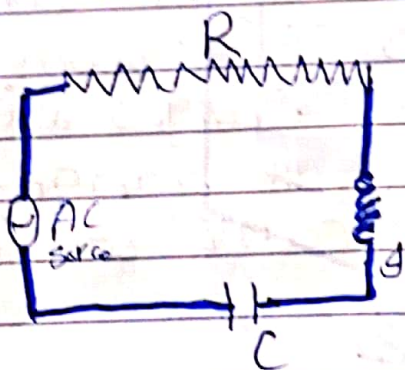
Q/A:-

~ 1 B ~

The frequency response of a response capacitor is very different than that of inductor, where subjected to a source.

$$X_c = \frac{1}{2\pi fC}$$

~ 2 B ~



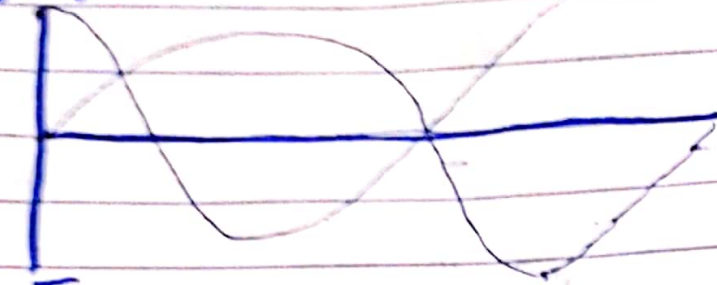
The frequency on RLC circuit at which  $X_L = X_C$  is called resonance.

At resonance frequency, the current  $i$  and voltage is 1.

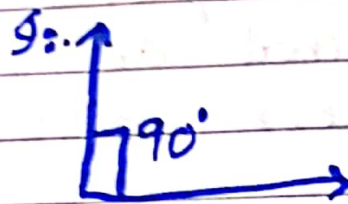
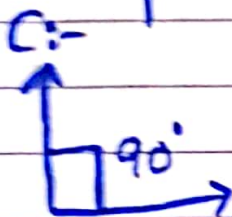
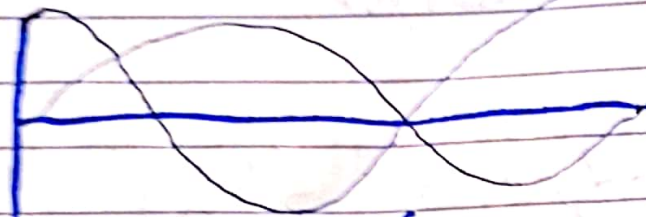


3

Capacitor:-



INDUCTOR:-



4

The transmission range for amplitude modulation A.M. is  $10^6 \text{ Hz}$  to  $10^8 \text{ Hz}$ .

Both of these ranges lie before visible spectrum range. It means that we can't see it.

5

INFORMATION:-

- (1) It is actual content.
- (2) It is of low-frequency.
- (3) It is the message like voice.
- (4) Eg:- when a person speaks.



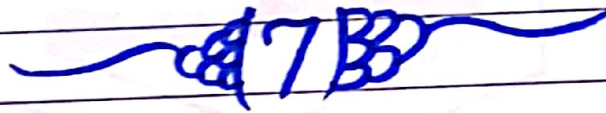


## Carrier:-

- ① → It is wave that is used to carry information on it.
- ② → It is of high-frequency.
- ③ → It is the medium of transfer info.
- ④ → Exeg:- sinusoidal.



A chok coil is basically a coil of thick copper wire wound closely in large no. of turns on a soft iron laminated core. It has small resistance and high inductance. So, very less power is dissipated in it.



## Solve:-

$$Z = \sqrt{(R)^2 + (\frac{1}{C})^2}$$

$$\text{So, } Z = \sqrt{100 + 51.84} = 2 = \sqrt{120.32} \Omega$$

To find  $I_{rms}$

$$I_{rms} = V_{rms} / Z$$

$$I_{rms} = 19.048 \text{ A}$$

To Find:-

$$P = 19.048 \times 240 \times 100 (35.75^\circ)$$

$$P = 4675.2 \times (0.815)$$

$$P = 3794.4 \text{ W}$$