

Question 1

- a.) Give two points of differences between Forced vibrations and Resonant vibrations. (2)
- b.) (i.) Why are the bells in a temple made big in size ?
(ii.) What do you mean by quality of a sound? (2)
- c.) State the two forces that act on a vibrating body, in damped vibrations. (2)
- d.) The rear view mirror of a motor bike starts vibrating violently at some particular speed.
(i.) Why does this happen?
(ii.) Name and explain the phenomenon taking place.
(iii.) What could be done to minimise the vibrations? (4)

Question 2

- a.) Calculate the potential difference required across a conductor of resistance $25\ \Omega$ to pass a current of 250 mA through it. (2)
- b.) Calculate the current flowing through a wire of resistance $35\ \Omega$ connected to a battery of potential difference 9 V. (2)
- c.) What length of copper wire of specific resistance $1.7 \times 10^{-8}\ \Omega\text{ m}$ and radius 1 mm is required so that its resistance is $2\ \Omega$? (3)
- d.) When a potential difference of 3 volt is applied across the ends of a wire of 5 m in length, a current of 1.2 A flows through it.
Calculate: (i.) the resistance per unit length of the wire
(ii.) the resistance of 2.5 m length of the wire. (3)
