NATIONAL INSTITUTE OF TECHNOLOGY

Department of Physics

B. Tech. Minor II Examination, 2015

Semester I
Physics

Max. Marks: 20 Time 1 hour

Note: Attempt all, questions carry equal marks

1. Set up the equation of motion of a damped harmonic oscillator. Define mean life time and relaxation time in concern with damped harmonic motions. What do you mean by power dissipation in damped harmonic oscillator. Write the relation between power dissipation and relaxation time.

2. What do you mean by forced oscillations? Write the condition for amplitude resonance? A series LCR circuit has L= 1 mh, C= 0.1 μF and R=10 ohm. Calculate the resonant frequency of the circuit. What is the separation between the two half power frequencies and hence the sharpness?

Scanned by CamScanner