OSCILLATIONS

***General Instructions*:** Answer all the questions. If you are unable to answer any question, go through the page number that is given against that particular question in the text book. You can find the answer**.**

Test Paper-III

MAX MARKS: 15 **TIME: 30Mts**

1	Draw the graph showing the variation of kinetic energy, potential energy and total energy as a function of time and displacement	P346	2
2	A 5kg collar is attached to a spring of spring constant 500 Nm^{-1}. It slides without friction over a horizontal rod. The collar is displaced from its equilibrium position by 10.0cm and released. Calculate (a) The period of oscillation (b) The maximum speed and (c) Maximum acceleration of the collar.	P348	3
3	Show that the oscillations of a simple pendulum are simple harmonic in nature.	P349	3
4	What is the length of a simple pendulum, which ticks seconds?	P350	2
5	What are damped oscillations? What happens to the energy of the system in case of damped oscillations? What is the cause for damped oscillations?	P350	2
6	What is meant by Resonance? Explain briefly with examples.	P354	2
7	What are forced oscillations?	P352	1