



MINOR II :CEL836 STRUCTURAL HEALTH MONITORING
(2014-15)

Time allowed: 1 hour
Venue : VI 401

Date : 19 March 2015
Max marks : 15

NOTE: (a) This question paper contains one page only. (b) All questions are compulsory. (c) **Assume any data which you deem is necessary but not supplied.** (d) Draw neat and clear sketches wherever required.

Question 1.

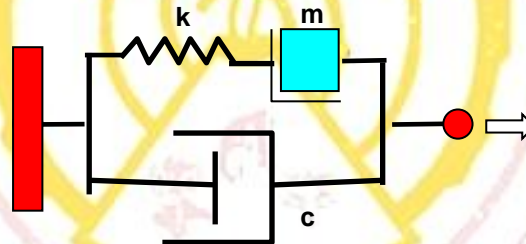
Derive an expression for the mechanical impedance of a PZT patch of length l , width w and thickness h fixed at one end and force being applied on the other end. State all assumptions in the derivation clearly.

(5 marks)

Question 2.

Derive an expression for the resultant mechanical impedance of the system shown below.

(5 marks)



Question 3.

State two similarities and two differences between the EMI technique and the global vibrations technique.

(5 marks)