DEPARTMENT OF CIVIL ENGINEERING

MINOR II :CEL836 STRUCTURAL HEALTH MONITORING
(2013-14)

Time allowed: 1hour   **Date** : 20 March 2014
Venue   : SAL (V 216)   **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.

(a) State assumptions in Linag's 1D impedance model.

(b) Derive the expression for admittance of the PZT patch coupled to a structure represented by a mechanical impedance Z, shown in Fig. 1.

(c) Explain, on basis of the derived equation, how the EMI technique is able to detect any damage in the structure.

(3+10+2 = 15 **marks**)