



**DEPARTMENT OF CIVIL ENGINEERING**

**MINOR II :CVL864 STRUCTURAL HEALTH MONITORING  
(2019-20)**

**Time allowed:** 30 mins  
**Venue** : Online

**Date** : 24 June 2020  
**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.**

Define “mechanical loss factor”. Derive its relationship with “damping ratio”.

**(5 marks)**

**Question 2.**

Why flexibility method is considered better as compared to the stiffness method?

**(2 marks)**

**Question 3.**

Starting from  $u = (A \sin \kappa x) e^{j\omega t}$  derive the expression for coefficient “A” (Don't need to derive expression for  $Z_a$ )

**(5 marks)**

**Question 4.**

What can you infer from sudden change in “B” curve of a bonded PZT patch from “1” to “2”?

**(3 marks)**

