

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
M.Tech., Winter 2018 - 19 Examination

Semester: 1**Subject Code: 03209130****Subject Name: Structural Health Monitoring****Date: 13/12/2018****Time: 10:30 am to 1:00 pm****Total Marks: 60****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1** A) Write a note on active and passive structural health monitoring. **(05)**
B) Explain in detail about Piezoelectric transducers. **(05)**
C) Write a note on types of static and dynamic testing. **(05)**

Q.2 Answer the following questions. (Attempt any three) (Each five mark) **(15)**

- A) What are the challenges in Implementation of SHM?
- B) Write a note on Structural Health Monitoring versus Non Destructive Evaluation.
- C) What is NDE? What are the uses of NDE methods and when are they used?
- D) Explain in detail about MPI.

- Q.3** A) Explain in detail about Radiography with its disadvantages. **(07)**
B) Explain Ultrasonic Pulse Velocity test with diagram. **(08)**

OR

- B) Explain in detail LPI along with its disadvantages. **(08)**

- Q.4** A) Write a note on SHM and Biomimetics **(07)**

OR

- A) Explain Eddy Current Testing with neat sketch along with its advantages and disadvantages. **(07)**

- B) Justify the statement "Structural Health Monitoring as a way of making materials and structures Smart." **(08)**