

Seat No: _____

Enrollment No: _____

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
M.Tech Winter 2019 - 20 Examination

Semester: 1
Subject Code: 203209134
Subject Name: Structural Health Monitoring

Date: 19/12/2019
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 short note on SHM Mechanisms. **(05)**
B) Define Structural Health Monitoring and state its applications for structural engineering. **(05)**
C) Explain principle and procedure of magnetic particle inspection in brief. **(05)**
- Q.2** Answer the following questions. (Each five mark) **(15)**
A) Differentiate between Static Tests and Dynamic Field Tests.
B) Write short note on static response measurement.
C) Explain the different types of sensors used in SHM.
- Q.3** A) Enlist & explain the different factors affecting the health of structures. **(07)**
B) Write a note on structural audit and explain its application with suitable example. **(08)**

OR

- B) Explain the technique of Liquid Penetrant Inspection giving example of most commonly used penetrant. **(08)**
- Q.4** A) Explain the method of Pulse-Echo and state the term ultrasonic imaging. **(07)**
- OR**
- A) Explain electromagnetic testing along with its application of ET? **(07)**
B) What are the different types of NDT techniques? Explain any one in detail. **(08)**