

17/05/18 (P)



Reg. No.:			313-11
-100 B 101 .			

## Question Paper Code: 70488

M.E./M.Tech. DEGREE EXAMINATION, APRIL/MAY 2018
Second Semester
Structural Engineering
ST 5203 – EXPERIMENTAL TECHNIQUES
(Regulations 2017)

Time: Three Hours

Maximum: 100 Marks

**Answer ALL questions** 

PART - A

(10×2=20 Marks)

- 1. What is the basic characteristics of strain guage?
- 2. What is a proving ring?
- 3. Define the term harmonic frequency.
- 4. What is a wind Tunnel?
- 5. Brief about Demolition by implosion.
- 6. Define Half cell.
- 7. What are active cracks?
- 8. Define holography.
- 9. What is the necessity for model analysis?
- 10. Define Indirect model study.



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## PART - B



(5×13=65 Marks)

11. a) What is a load cell? Explain the working principle of electronic load cell.
(OR)

- b) With sketches, explain the working principle of pressure gauges.
- 12. a) What is X-Y Plotter? Explain its working principle.

(OR)

- b) Draw block diagram of digital data acquisition systems and explain the operation.
- 13. a) How do you assess damages? Outline the procedures.

(OR)

- b) What are techniques for residual stress measurements? Explain.
- 14. a) With sketches, explain the working principle and limitations of Rebound hammer test.

(OR)

- b) Define pulse echo testing, impact echo testing and impulse radar test.
- 15. a) Explain Scale effects in models.

(OR)

- b) i) Explain the principle of similitude for direct model analysis. (5)
  - ii) What are distorted models? Explain their advantages and disadvantages. (8

PART - C

(1×15=15 Marks)

16. a) Explain in detail about Structural health monitoring of structures.

(OR)

b) Explain in detail about applications of lasers in structural testing.