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# MANIPAL ACADEMY OF HIGHER EDUCATION

## FIRST SEMESTER EXECUTIVE M. ARCH. (ADVANCED DESIGN) DEGREE EXAMINATION – NOVEMBER 2018

**SUBJECT: ARM 603 E - ADVANCED STRUCTURAL SYSTEMS AND CONSTRUCTION TECHNIQUES**

Saturday, November 03, 2018

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ Answer any FIVE full questions.

✍ Answer all parts of a question. Give relevant neat sketches wherever necessary.

1A. Explain the concept of Form active structure systems.

1B. Explain any two types of truss systems used for buildings.

(5+5 = 10 marks)

2A. Discuss the types of bracing systems for lateral loads.

2B. Explain the concept of pile foundation in tall structures.

(5+5 = 10 marks)

3. Explain the following terms with respect to seismic design:

3A. Epicenter

3B. Slip and fault

3C. Magnitude

3D. Intensity

(2½ marks × 4 = 10 marks)

4. Explain the contribution of following persons towards development of structural systems through suitable examples.

4A. Santiago Calatrava

4B. Adrian Smith

(5+5 = 10 marks)

5. Explain the principles of pre-fabricated structures. Mention the advantages and disadvantages of the same.

(10 marks)

6. Write short notes on:

6A. Principles of pneumatic structures

6B. Characteristics of Folded plates

(5+5 = 10 marks)

