

**MANIPAL ACADEMY OF HIGHER EDUCATION**  
**FIRST SEMESTER EXECUTIVE M. ARCH. (ADVANCED DESIGN)**  
**DEGREE EXAMINATION – JAN/FEB 2018**

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

Monday, January 29, 2018

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

- ✍ Answer any FIVE full questions.
- ✍ Answer all parts of a question.
- ✍ Support your answers with neat sketches wherever necessary.

1. Explain significance of seismic zones. Explain salient features of seismic resistant building design.

(10 marks)

2A. Explain the application of pre-fabricated structure in construction.

2B. Explain the advantages and disadvantages of the precast construction.

(5+5 = 10 marks)

3. Discuss the types and characteristics of membrane structure with neat sketches.

(10 marks)

4A. Explain with neat sketches the type of foundation preferred in multi-storied buildings.

4B. Explain the concept of pneumatic structures with neat sketches.

(5+5 = 10 marks)

5. Explain the structural mechanism and various configuration for the folded plate structures.

(10 marks)

6. Write short notes on:

6A. Effect of Wind load and Seismic forces in the design of tall structures.

6B. Significance of shape and size of a building in the design of tall structures.

(5+5 = 10 marks)

