

MANIPAL UNIVERSITY

EIGHTH SEMESTER B. ARCH. DEGREE EXAMINATION –MAY 2016

SUBJECT: ELECTIVE I - TALL BUILDINGS (ARC-406.1)

Friday, May 27, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ Answer any FIVE full questions.

✍ Illustrate with neat sketches and examples wherever required.

1. Explain with sketches the following structural systems used in Tall Buildings. Support your answer with relevant sketches of a building which incorporate the following in their design.

a) Trussed Tubes b) Bundled Tubes

(5+5 = 10 marks)

2. With suitable sketches trace the evolution of tall buildings and the developments which led to the present day skyscraper.

(10 marks)

3. Post 9/11 the design and construction of tall buildings has been revolutionised to resist any natural or man-made calamities. Explain with relevant sketches.

(10 marks)

- 4A. What are the kinds of lateral forces acting on a tall building?

- 4B. With sketches explain how these forces can be resisted by structural systems.

(5+5 = 10 marks)

5. Explain about the various psychological factors which can effect people dwelling in tall buildings.

(10 marks)

6. Write briefly about each of the following:

6A. Diagrid system

6B. Passive dampers

6C. Shear walls

6D. Express elevators

(2½ marks × 4 = 10 marks)

