

MANIPAL UNIVERSITY

EIGHTH SEMESTER B. ARCH. DEGREE EXAMINATION –MAY 2017

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

Monday, May 08, 2017

Time: 14:00 – 17:00 Hrs.

Max. Marks: 50

✍ Answer any FIVE full questions.

✍ Illustrate with neat sketches and examples wherever required.

1. Discuss the term “Cities in the Sky”. What were the technical and structural innovations which permitted the construction of such iconic designs?

(10 marks)

- 2A. What are the various lateral forces acting on a tall building?

- 2B. With sketches explain various structural systems which can be utilised to counteract such forces.

(5+5 = 10 marks)

3. Write briefly about each of the following;

3A. Diagrid system

3B. Refuge floors

3C. Green walls

3D. Sky Lobbies

(2½ marks × 4 = 10 marks)

4. Efficient core design in tall buildings plays a vital role in successful sky scrapers. Discuss the various factors which should be considered while designing the core in tall buildings.

(10 marks)

- 5A. Explain what is meant by sustainable design for a tall building.

- 5B. Give an example with sketches of a recent “Green” skyscraper.

(5+5 = 10 marks)

6. Explain in detail about the psychological effects of living in high rise residences.

(10 marks)

