Reg. No.										

MANIPAL UNIVERSITY

SIXTH SEMESTER B. ARCH. DEGREE EXAMINATION – MAY 2016

SUBJECT: ARC-310/ARC 306 - STRUCTURES VI
(2010 & 2007 SCHEME)

Monday, May 16, 2016

Time: 14:00-17:00 Hrs. Max. Marks: 50

- **Answer any FIVE full questions.**
- **Support your answer with neat sketches wherever appropriate.**

1A. Explain the propagation of seismic waves.

1B. Explain the various factors which contribute to the strength of soil.

(5+5 = 10 marks)

2A. Discuss briefly the relevance of seismic zoning. Comment on seismic zones relevant to Indian subcontinent.

2B. Briefly comment upon the term "Inertia forces" in buildings. Explain how you would manage the same.

(5+5 = 10 marks)

3A. Write a explanatory note on shear walls.

3B. Discuss detailing issues for RCC framed buildings.

(5+5 = 10 marks)

4A. Explain how you would incorporate strength, stiffness and ductility in masonry structure.

4B. Comment upon the guidelines for provision of openings in masonry buildings towards defining adequate seismic resistance.

(5+5 = 10 marks)

5A. Discuss the issues for design and detailing of RCC isolated footing.

5B. Discuss in detail the concept of "base isolation and seismic damping".

(5+5 = 10 marks)

6. **Write short note on:**

6A. Centre of mass and centre of stiffness

6B. Triangular textural classification chart

6C. Ritcher and MMI scale

6D. Steel as structural material for seismic resistant building

(2½ marks × 4 = 10 marks)