

MANIPAL ACADEMY OF HIGHER EDUCATION

SEVENTH SEMESTER B. ARCH. DEGREE EXAMINATION – NOVEMBER 2019

SUBJECT: ARC-14-409.4 – ADVANCED STRUCTURES (2014 SCHEME)
ARC 409 – STRUCTURES VII (2010 SCHEME)

Tuesday, November 12, 2019

Time: 14:00 – 17:00 Hrs.

Max. Marks : 50

- ✍ Answer any FULL FIVE questions.
✍ Answer all parts of a question.

1A. Discuss the types of cable structures used in construction with the advantages and materials used for the same.

1B. Explain salient features of any cable structure example in architecture.

(6+4 = 10 marks)

2A. Explain advantages and applications of membrane structures in construction. Discuss any two forms of membrane structures.

2B. Give an inspiring architectural example for tensegrity and explain salient points.

((2+4)+4 = 10 marks)

3. Discuss Pneumatic Structures in detail with reference to following points:

3A. Types

3B. Advantages

3C. Disadvantages

3D. Materials

3E. Practical Application

(2 marks × 5 = 10 marks)

4A. What is breakwater? With neat sketches discuss different types of breakwaters. List the various forces considered in design of breakwater.

4B. Discuss salient features of complimentary structures used in marine construction.

((1+4+1)+4 = 10 marks)

5A. What are composite structures? Explain characteristics of composite structures with an example.

5B. Explain properties, advantages and disadvantages of foam concrete and fibre reinforced concrete.

((1+4)+5 = 10 marks)