

## MANIPAL UNIVERSITY

THIRD SEMESTER EXECUTIVE M. ARCH. (ADVANCED DESIGN)  
DEGREE EXAMINATION – DECEMBER 2015

SUBJECT: ARM 703 E – NEWER BUILDING MATERIALS

Monday, December 07, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

- ✍ Answer any FIVE full questions.  
✍ Give sketches wherever relevant.

- 1A. Explain the potentials and limitations of concrete as a material for prefabrication.  
1B. Explain the advancements in the strength and durability aspects of concrete construction.  
(5+5 = 10 marks)
- 2A. What all changes have happened to the conventional usage of timber in building construction with modern wood derivatives as substitutes?  
2B. Describe any four substitutes to conventional stone/brick wall building materials and explain their characteristics.  
(5+5 = 10 marks)
- 3A. Explain any four new material developments in roof construction.  
3B. Explain the trajectory of development of curtain walls by marking some mile-stone features.  
(5+5 = 10 marks)
- 4A. What are the major issues concerned with use of Glass in buildings?  
4B. Describe the changes that structural steel have undergone from mild steel to high strength steel and stainless steel as structural material.  
(5+5 = 10 marks)
- 5A. Describe the modern materials and features of development in the design of windows and doors.  
5B. Explain modern pavement materials and methods.  
(5+5 = 10 marks)
- 6A. What do you understand by the term 'sustainable building-material'?  
6B. How do you evaluate sustainability of steel as a construction material?  
(5+5 = 10 marks)

