

**MANIPAL ACADEMY OF HIGHER EDUCATION**  
**THIRD SEMESTER EXECUTIVE M. ARCH. (ADVANCED DESIGN)**  
**DEGREE EXAMINATION – NOVEMBER 2018**

**SUBJECT: ARM 703 E – NEWER BUILDING MATERIALS**

Monday, November 05, 2018

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ Answer any FIVE full questions.

✍ Give sketches wherever relevant.

1A. Explain the potential of concrete as a prefabrication material with the modern developments in materials and methods of construction.

1B. Enlist any two major advancements in cement concrete technology and their implications to design and construction.

(5+5 = 10 marks)

2A. Explain how modern wood derivatives overcome limitations of conventional wood.

2B. Explain with examples modern trends in wall construction with new building blocks.

(5+5 = 10 marks)

3A. Explain a brief account of roofing innovations providing examples.

3B. How have energy concerns resulted in innovations in curtain wall construction?

(5+5 = 10 marks)

4A. Use of Glass in buildings have undergone changes with improvement in quality of Glass as well as methods of fixing. Explain.

4B. Explain the new developments regarding use of structural steel.

(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 mean by 'energy and environmental sustainability' of building materials?

6B. Evaluate Reinforced cement concrete for its sustainability characteristics.

(5+5 = 10 marks)

