

MANIPAL ACADEMY OF HIGHER EDUCATION
FOURTH SEMESTER EXECUTIVE M. ARCH. (ADVANCED DESIGN)
DEGREE EXAMINATION – APRIL 2018

SUBJECT: ARM 702 E – ADVANCED BUILDING SERVICES

Thursday, April 26, 2018

Time: 14:00 – 17:00 Hrs.

Max. Marks: 50

- ✍ Answer any FIVE of the following questions.
- ✍ Support the answers with neat sketches.
- ✍ Mention assumed data (if any).

1. Answer the following:

- 1A. Write short note on building automation.
- 1B. What is a sensor and its role in building automation?
- 1C. What are the different types of sensors?

(4+4+2 = 10 marks)

2. What are the different types of cables and also write their advantages and disadvantages?

(1+9 = 10 marks)

3. For an 7-storeyed residential apartment building, which has 3 units per floor and per floor area is 4500 sq.ft:

- 3A. Calculate the water capacity requirements for over-head tank, sump and fire-fighting.
- 3B. What are the suitable fire-fighting systems that can be employed?

*Also mention the assumed data.

(5+5 = 10 marks)

4. What are the general residential zoning guidelines for air-conditioning?

(10 marks)

5. What are the various lift traffic controls and explain them.

(10 marks)

6. How do you determine the capacity of the transformer including DG for a high-rise residential building (Consider calculations from an individual unit (2BHK) to shared facilities)?

(10 marks)

