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**MANIPAL ACADEMY OF HIGHER EDUCATION**  
**THIRD SEMESTER B. ARCH. DEGREE EXAMINATION – JANUARY 2020**  
**SUBJECT: ARC-14-207 - BUILDING SERVICES - II**  
**(2014 SCHEME)**

Saturday, January 11, 2020

Time: 14:00 – 17:00 Hrs.

Max. Marks: 50

- ✍ Answer any full FIVE questions.
- ✍ Answer all parts of a question.
- ✍ Draw neat labelled sketches where ever necessary.

- 1A. What is a Luminaire? Explain the different parts of a luminaire with the help of a neat sketch.  
 1B. Briefly explain the different types of lighting schemes with the help of neat sketches.  
((2+3)+5 = 10 marks)

- 2A. Explain briefly the components of an electrical sub-station with relevant sketches.  
 2B. Explain the distribution systems of electricity for large areas with the help of neat sketches.  
(4+6 = 10 marks)

- 3A. Explain briefly any two types of safety systems, installed in a building for electrical protection.  
 3B. Assuming a one bed room house, indicate thereon the electrical layout to show the positions of meter, switches, lights, fans, socket outlets, etc. in each of the rooms.  
(3+7 = 10 marks)

- 4A. Explain the key factors to be considered for designing an efficient lift system.  
 4B. Explain the different type of layout configurations for escalators with neat sketches and justification for its application.  
(5+5 = 10 marks)

- 5A. Explain in detail water based fire sprinkler system with neat sketches.  
 5B. Explain in detail any two types of fire extinguishers.  
(5+5 = 10 marks)

- 6A. Differentiate between Single Phase and Three Phase power supply.  
 6B. Sketch a typical section of lift with plan showing all the dimensions and appropriate labelling.  
(4+6 = 10 marks)

