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MANIPAL INSTITUTE OF TECHNOLOGY
Manipal University



SIXTH SEMESTER B.TECH (E & C) DEGREE END SEMESTER EXAMINATION
MAY/JUNE 2016
SUBJECT: BUILDING AUTOMATION SYSTEM (ECE - 338)

TIME: 3 HOURS

MAX. MARKS: 50

Instructions to candidates

- Answer any **FIVE FULL** questions.
- Missing data may be suitably assumed.

- 1A. With relevant block diagram, describe the working of all-air air-conditioning system.
1B. What are the concerns to be considered while choosing actuators? Explain different types of actuators.
1C. Describe the advantages of Wet pipe sprinkler system.
(5+3+2)
- 2A. Describe the working of CSMA/CD media access protocol with flow chart.
2B. Describe the functions of i) Air-sampling smoke detectors and ii) Flame detectors.
2C. Explain the typical benefits of Dimming fluorescent lamps in commercial lighting systems.
(5+3+2)
- 3A. With relevant diagrams, describe analog and digital lighting control systems.
3B. What are the design objectives to have dedicated air-conditioning system in Hospital operating room?
3C. Give the important features of Building Management System for Alarm Routing.
(5+3+2)
- 4A. Explain the message structure of Modbus communication protocol.
4B. What are the benefits of Green Buildings? Explain them.
4C. What are the advantages of having convergence networks in BAS.
(5+3+2)
- 5A. Explain an IP surveillance system employing analog and digital cameras.
5B. Explain the different types of LAN topologies and also give their advantages.
5C. Give the services-based definition for Intelligent Building and also mention some of the key issues.
(5+3+2)
- 6A. Describe the technology systems and evolution of intelligent buildings in detail.
6B. Explain the use of Internet technologies at management level in BAS.
6C. What are the advantages of Variable Air Volume system over Constant Air Volume HVAC systems?
(5+3+2)