



Reg. No. 

--	--	--	--	--	--	--	--	--	--

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 **ALL** questions.
- Missing data may be suitably assumed.

- 1A. Explain Dry pipe and Wet Pipe Sprinkler systems. Also mention their advantages and disadvantages. (5+3+2)
- 1B. Explain the Facility management used in the Intelligent Buildings.
- 1C. Give the important features of Building Management System for Alarm Routing. (5+3+2)
- 2A. Explain the functions of each layer in OSI reference model.
- 2B. Explain the application of wireless technologies in BAS.
- 2C. Describe Energy Management functions in BAS. (5+3+2)
- 3A. Describe Query – Response cycle in Modbus communication protocol.
- 3B. Explain how interoperability is achieved in BAS.
- 3C. Explain the typical benefits of Dimming fluorescent lamps in commercial lighting systems. (5+3+2)
- 4A. With technical specifications, explain the DMX512-A lighting control protocol.
- 4B. Describe the technologies and options employed for energy-effective lighting control.
- 4C. Explain the significance of different fields of error frame in CAN bus. (5+3+2)
- 5A. Explain the functions of different types of card readers. Also describe Wiegand protocol
- 5B. Describe the functions of i) Heat detectors and ii) Ionization detectors.
- 5C. Describe any four benefits of sprinklers in BAS. (5+3+2)
- 6A. Describe all the processes involved in full air-conditioning.
- 6B. Explain dual duct variable air volume HVAC system.
- 6C. What are the advantages of using Internet technologies in the development of BAS. (5+3+2)