Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec – 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **16CE2001** | **Duration :** | **3hrs** |
| **Sub. Name :** | **INTELLIGENT BUILDINGS** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Explain the evolution of intelligent buildings? | CO3 | **10** |
| b. | Give an account of major aspects of intelligent buildings? | CO3 | **10** |
| **(OR)** | | | | |
| 2. | a. | Explain the LEED rating system used in Green buildings? | CO3 | **10** |
| b. | Give an account of intelligent building based on performance, services and system? | CO3 | **10** |
| 3. | a. | Explain energy efficiency in HVAC systems? | CO2 | **5** |
|  | b. | Explain the different classifications of air-conditioners? | CO2 | **5** |
|  | c. | With the block diagram explain the power transmission system? | CO3 | **10** |
| **(OR)** | | | | |
| 4. | a. | What is earthing and explain different types of earthing with neat sketches? | CO3 | **10** |
|  | b. | Explain the different types of protective device used for electrical installations? | CO3 | **10** |
| 5. | a. | Name the four stages of development of fire? | CO1 | **5** |
|  | b. | Explain the different steps adopted in fire management in buildings to protect the life safety and property of buildings? | CO3 | **10** |
|  | c. | Explain different types of fire? | CO1 | **5** |
| **(OR)** | | | | |
| 6. | a. | Write notes on: i) Sprinkler heads  ii) Microprocessor based fire alarm systems | CO2 | **10** |
|  | b. | Write notes on the different fire escape elements in buildings? | CO3 | **10** |
| 7. | a. | Give the need for using security sytems in different countries? | CO2 | **5** |
|  | b. | Explain the intelligent and non intelligent readers? | CO1 | **5** |
|  | c. | With the help of neat sketch explain access control system? | CO3 | **10** |
| **(OR)** | | | | |
| 8. | a. | Give an account on video surveillance using closed circuit television system? | CO3 | **10** |
|  | b. | Give an account of interior and exterior intrusion sensors? | CO3 | **10** |
|  | | **Compulsory:** |  |  |
| 9. | a. | Write the uses of structural health monitoring systems? | CO3 | **5** |
|  | b. | Explain the microprocessor system hardware with the diagram? | CO3 | **5** |
|  | c. | Explain the architecture of satellite communication? | CO3 | **10** |

ALL THE BEST

* CO1 - The students will be able to understand the concept of intelligent building
* CO2 - Analyze the different HVAC and security systems
* CO3 - Evaluate systems to automate buildings