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

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**End Semester Examination – Nov/Dec – 2018**

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| **Code :** | **17CE2037** | **Duration :** | **3hrs** |
| **Sub. Name :** | **INTELLIGENT BUILDINGS** | **Max. marks :** | **100** |

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

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | *“Intelligent buildings are buildings of future”*. Validate the statement with an example of any existing intelligent building. Give the economical aspects of intelligent buildings. | 14 | CO1, CO4 |
| b. | Explain the three dimensions of building intelligence. | 6 | CO1 |
| (OR) | | | | |
| 2. | a. | Discuss about Intelligent Building Management Systems (IBMS). List the benefits and subsystems of IBMS. | 10 | CO3, CO4 |
| b. | Discuss in detail the basic concepts of intelligent buildings. List the advantages of intelligent buildings. | 10 | CO1 |
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| 3. | a. | List the advantages of green buildings. Discuss on economics of green buildings. How does green building design vary from conventional building design? | 12 | CO1 |
| b. | Elaborate on smart materials. Detail about use of smart materials in construction. | 8 | CO2 |
| (OR) | | | | |
| 4. | a. | Differentiate CAV and VAV systems of air conditioning. | 8 | CO5 |
| b. | Explain the working of an air conditioner with a neat sketch. | 8 | CO6 |
| c. | List the different types of air conditioning systems. | 4 | CO5 |
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| 5. | a. | What is daylight factor (DF)? Give the significance of DF in selecting artificial lighting systems. | 6 | CO1 |
| b. | Define intelligent lighting. Elaborate the methods of intelligent lighting. List the advantages of intelligent lighting. | 8 | CO5 |
| c. | Explain different types of lighting. | 6 | CO5 |
| (OR) | | | | |
| 6. | a. | Enumerate on fire safety management in buildings. | 12 | CO5 |
| b. | Prepare a neat sketch explain the different types of earthing. | 8 | CO4 |
|  |  |  |  |  |
| 7. | a. | Construct a neat sketch and explain digital CCTV systems. | 10 | CO6 |
| b. | Enumerate on structural health monitoring for intelligent buildings. | 10 | CO6 |
| (OR) | | | | |
| 8. | a. | Write an account of security control system in intelligent buildings. | 10 | CO6 |
| b. | Explain on various intrusion detection systems used in intelligent building? | 10 | CO6 |
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|  | | **Compulsory**: |  |  |
| 9. | a. | Give an account of satellite communication. | 12 | CO3, CO4 |
| b. | Explain the three basic components of fiber optic communication system. | 8 | CO2, CO3 |