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 – April/May– 2017**

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| **Code :** | **14CE2033** | **Duration :** | **3hrs** |
| **Sub. Name :** | **BUILDING SERVICES** | **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. | *“Building bye laws are integral part of planned development of any town.”* Explain in detail. | CO1 | 5 |
| b. | Define the following  i) Plinth area.  ii) Carpet area.  iii) Floor Area Ratio- FAR. | CO1 | 6 |
| c. | List the factors that affect per capita demand of water. | CO1 | 4 |
| d. | Name the various methods of water distribution. Give neat sketches of each one. | CO1 | 5 |
| (OR) | | | | |
| 2. | a. | Elaborate the role of rainwater harvesting in meeting water demands of growing population. | CO1 | 5 |
| b. | Explain the following  i) Building services.  ii) Set back distance. | CO1 | 5 |
| c. | Discuss about the objectives of municipal building bye laws. | CO1 | 6 |
| d. | Give the comparison between direct and indirect water supply systems. | CO1 | 4 |
| 3. | a. | What is earthing? Explain different methods of earthing with neat sketches. | CO3 | 4 |
|  | b. | Define the following  i) Anerobic digestion.  ii) Sewerage.  iii) Traps in sanitary plumbing.  iv) Soil Pipe. | CO3 | 6 |
|  | c. | Differentiate conservancy and water carriage system of sanitation highlighting the merits and demerits of each. | CO3 | 5 |
|  | d. | Describe the working of septic tanks. Explain with neat sketches. | CO3 | 5 |
| (OR) | | | | |
| 4. | a. | Discuss about underground and over head power transmission systems citing the advantages and disadvantages of each. | CO3 | 5 |
|  | b. | Enumerate transformers and switch gears? Briefly explain their utility. | CO3 | 5 |
|  | c. | Describe different techniques used in buildings for noise control. | CO1 | 6 |
|  | d. | Define the following  i) Reverberation.  ii) Lightning protective systems. | CO1 | 4 |
| 5. | a. | Define the term ventilation. Differentiate between natural and artificial ventilation. | CO2 | 5 |
|  | b. | Explain about different fire safety measures. | CO1 | 5 |
|  | c. | Describe in detail about the power transmission to buildings with the help of a schematic diagram. | CO3 | 6 |
|  | d. | Describe the different types of lifts used in buildings. | CO1 | 4 |
| (OR) | | | | |
| 6. | a. | Name any five factors affecting the choice of wiring systems. | CO3 | 5 |
|  | b. | List the requirements of a good sewer joint? | CO3 | 5 |
|  | c. | “Illuminance required depends on the type of activity and area.” Substantiate this statement. Explain with sketches. | CO1 | 10 |
| 7. | a. | State the requirements of fire exit as per NBC of India? | CO1 | 10 |
|  | b. | Describe in detail about the major aspects of Intelligent buildings. | CO1 | 10 |
| (OR) | | | | |
| 8. | a. | List the functions of ventilation systems in buildings. | CO2 | 5 |
|  | b. | Explain about the different factors which affects the camera selection in a CCTV system. | CO3 | 5 |
|  | c. | Classify sprinklers based on water distribution and arrangements. | CO3 | 10 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Define green buildings? Elaborate on energy efficiency technologies adopted in green buildings. | CO1 | 5 |
|  | b. | Give an account of IGBC rating system. | CO1 | 5 |
|  | c. | Discuss in detail about Structural Health Monitoring. | CO1 | 10 |

ALL THE BEST