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 :** | **14CE3022** | **Duration :** | **3hrs** |
| **Sub. Name :** | Industrial Structures | **Max. marks :** | **100** |

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

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. |  | Design a chimney using M30 concrete and Fe415 steel for the following requirements.  Diameter of chimney - 6m (external)  Diameter of chimney - 5.5m (internal)  Air gap - 100mm  Thickness of fire brick lining - 125mm  Temperature difference - 80deg  Coefficient of thermal expansion = -12x10-6 per deg C | CO2 | 20 |
| (OR) | | | | |
| 2. |  | Explain the loads to be considered and design criteria of steel bunker with sketches. | CO1 | 20 |
| 3. |  | Discuss the loads to be considered and design procedure of steel silo with sketches. | CO1 | 20 |
| (OR) | | | | |
| 4. |  | Design the RCC floor for the following data  Moment - 250kNm @ mid span  Moment - 300kNm @ support  Shear - 200kN  Grade of concrete - M30  Fe 415 steel | CO2 | 20 |
| 5. |  | Write the step by step procedure to be followed for the design of industrial gable frames. | CO2 | 20 |
| (OR) | | | | |
| 6. |  | Write the design concepts of steel chimney as per the Indian standard. | CO2 | 20 |
| 7. |  | Explain the structural behaviour and design considerations of nuclear containment structures. | CO1 | 20 |
| (OR) | | | | |
| 8. |  | A 60m height microwave antenna lattice tower is to be built near Coimbatore, the following are the design data  diameter of hemispherical disc - 3m  width of the tower at top - 3.5m  Weight of antenna and fixtures - 9kN  Weight of platform - 0.82kN/m2  weight of railing - 0.3kN/m2  weight of ladder and cage - 0.65kN/m  weight of miscellaneous items - 2.5kN  Select the suitable configuration of tower and analyse the tower for the given load. | CO2 | 20 |
|  | | **Compulsory:** |  |  |
| 9. |  | Write the design and construction of reciprocating type machine foundation as per Indian standard | CO2 | 20 |

ALL THE BEST