

Reg.No. _____



Karunya 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

Code : 14CE3022
Sub. Name : Industrial Structures

Semester : 2016-17 ODD
Duration : 3hrs
Max. marks : 100

ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No.	Sub Div.	Questions	Course Outcome	Marks
1.	a.	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 = -12×10^{-6} per deg C	CO2	20
(OR)				
2.	a.	Explain the loads to be considered and design criteria of steel bunker with sketches.	CO1	20
3.	a.	Discuss the loads to be considered and design procedure of steel silo with sketches.	CO1	20
(OR)				
4.	a.	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.	a.	Write the step by step procedure to be followed for the design of industrial gable frames?	CO2	20
(OR)				
6.	a.	Write the design concepts of steel chimney as per the Indian standard	CO2	20
7.	a.	Explain the structural behaviour and design considerations of nuclear containment structures	CO1	20
(OR)				
8.	a.	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 - 0.82 kN/m^2 weight of railing - 0.3 kN/m^2 weight of ladder and cage - 0.65 kN/m weight of miscellaneous items - 2.5kN Select the suitable configuration of tower and analyse the tower for the given load	CO2	20

		<u>Compulsory:</u>		
9.	a.	Write the design and construction of reciprocating type machine foundation as per Indian standard	CO2	20

ALL THE BEST