



KERALA AGRICULTURAL UNIVERSITY
B.Tech.(Food Engg.) 2015 Admission
V Semester Final Examination-January-2018

Cien.3105

Design of Structures (1+1)

Marks: 50
Time: 2 hours
(10x1=10)

I Fill in the Blanks

- 1 Effective throat thickness in weld joints is -----
- 2 Rankine's Formula holds good for footing depth "D" = -----
- 3 Cover plates are placed in riveted ----- joints.
- 4 Square footing should have Min depth "D" = -----
- 5 Neutral axis is an imaginary line drawn where stresses -----
- 6 The rivet is driven in the members as -----
- 7 The Anchorage value of U-type hook is -----
- 8 Euler's load for both end hinged is ' P_e ' = -----
- 9 Transverse reinforcement is provided at right angle to ----- reinforcement.
- 10 Rivet diameter according to Unwin's formula is-----

II Write Short notes on any FIVE of the following

(5x2=10)

- 1 Reinforcement
- 2 R.C.C.
- 3 Fillet weld
- 4 Neutral axis
- 5 Doubly reinforced beams
- 6 One way slabs
- 7 Grades of concrete

III Answer any FIVE of the following.

(5x4=20)

- 1 Write the steps for Analysis of singly reinforced beams.
- 2 Balanced and unbalanced sections
- 3 Critical section
- 4 Detailed and abstract estimates
- 5 Characteristics of concrete and steel
- 6 Assumptions for the design of RCC structural elements
- 7 What is the difference in restrained slabs and simply supported slabs?

IV Write an essay on any ONE of the following

(1x10=10)

- 1 State the assumptions of the analysis and design of doubly reinforced beams.
- 2 Find the safe load transmitted by the 'Fillet weld' joint as shown fig. 1. If the size of weld is 8.0 mm & safe stress Given for the weld is equal to 110.0 N/mm^2


