Reg. No. : | | | | | | | | | | |

Question Paper Code: 98178

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2022

One credit

Civil Engineering

19UCE878 - BAR BENDING AND DUCTILE DETAILING

(Regulations 2019)

(Common to All Branches)

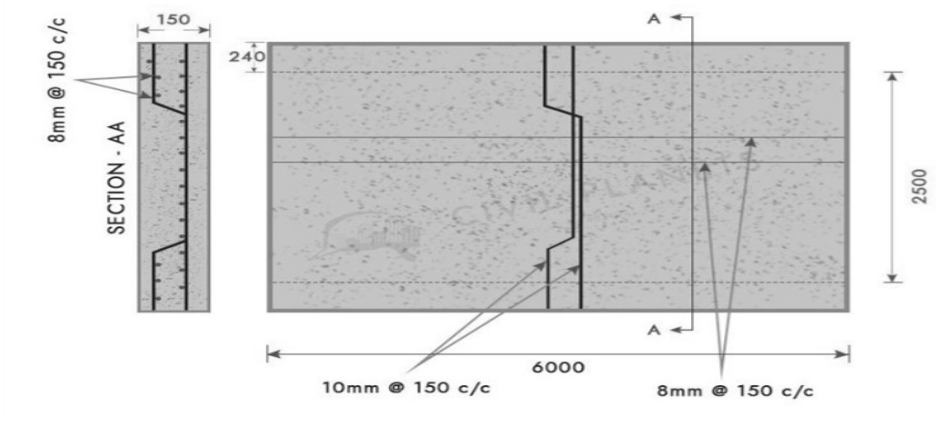
(SP 34 and IS 13920 Codes Are Permitted)

Duration: 1.30 minutes Maximum: 50 Marks

Answer ALL Questions

PART A - (2 x 25 = 50 Marks)

1. (a) Prepare a Bar Bending Schedule for a One way Slab as shown below CO1- App (25)



From the Drawing - Slab Size = 6000 x 2500 x 150 mm

10 mm dia Main Bars @ 150 mm c/c

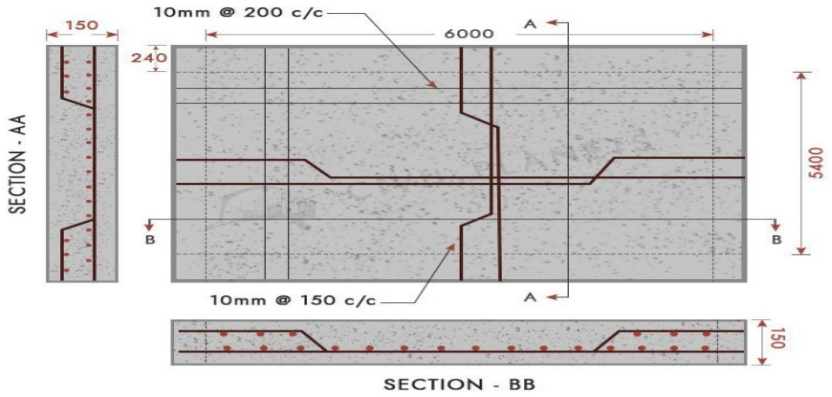
8 mm dia Distribution Bars @ 150 mm c/c

Slab thickness is 150 mm

Top Extra Bars - 8 mm @ 150 mm c/c

Or

(b) Prepare a Bar Bending Schedule for a Two way Slab as shown below CO1- App (25)



From the Drawing Slab Size = 6000 x 5400 x 150 mm

10 mm dia Main Bars @ 150 mm c/c along shorter direction

10 mm dia Main Bars @ 200 mm c/c along longer direction

Development Length Ld = 40d

Top Extra Bars - 8 mm @ 150 mm c/c both direction

2. (a) Illustrate a typical detail for a beam framing into column from one side or two sides and also explain such an arrangement will ensure a ductile junction and provide adequate anchorage of beam reinforcement into columns. CO2- App (25)

Or

(b) Illustrate the typical arrangement of bars in combined footing. CO2- App (25)