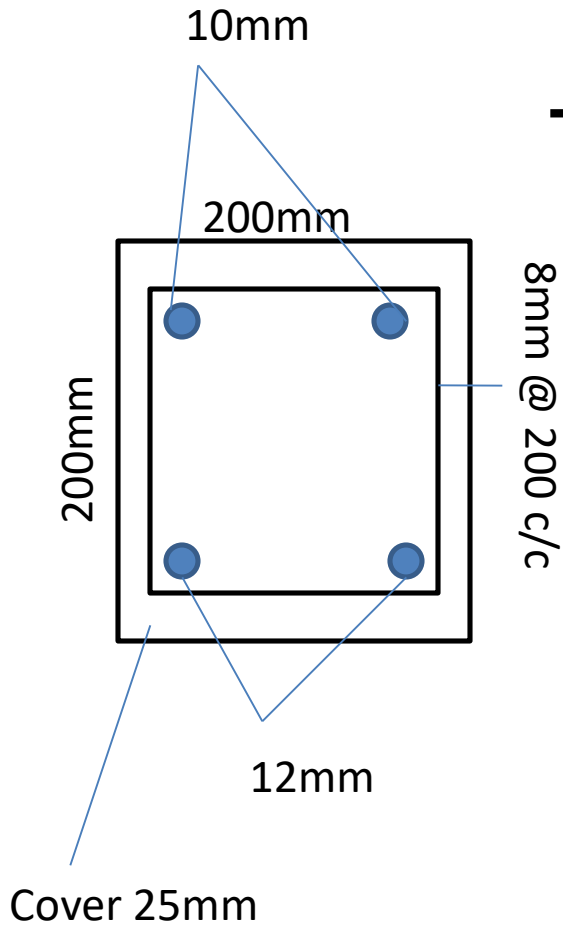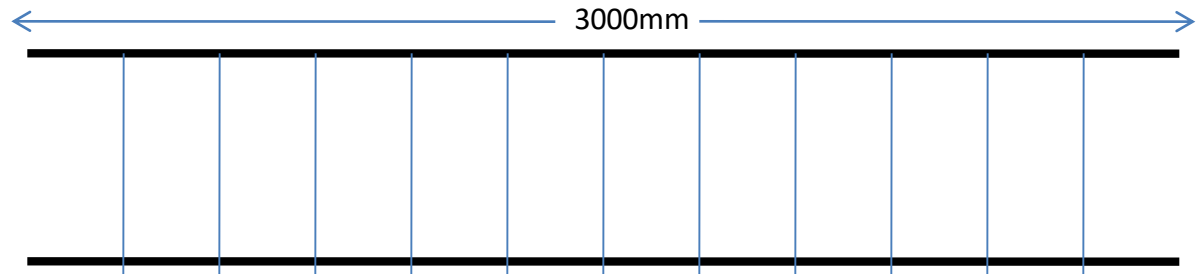# Quantity Survey & Estimation

Lecture 04

BAR BENDING SCHEDULE OF BEAM

PREPARED BY ENGR. IMTIAZ KHAN LECTURER CED ,INU PESH

BBS for RCC Beam
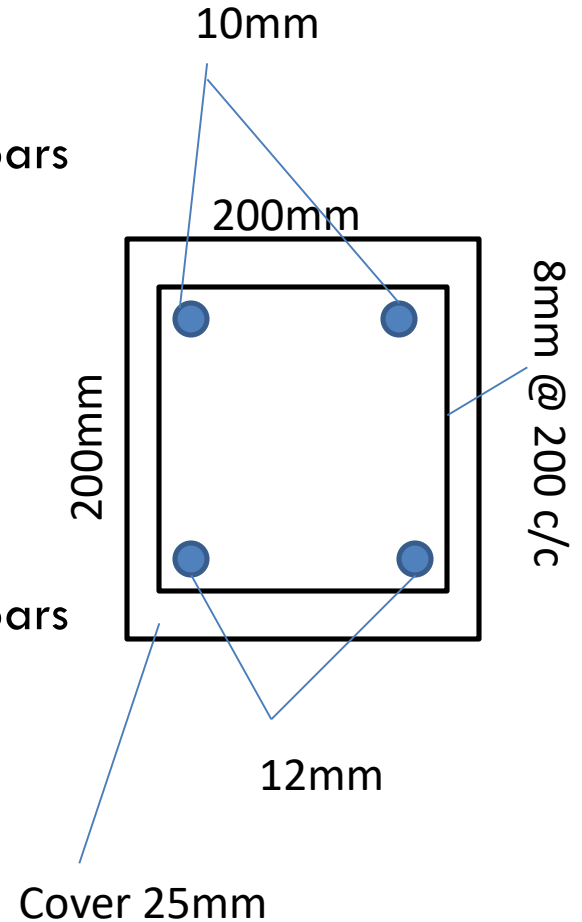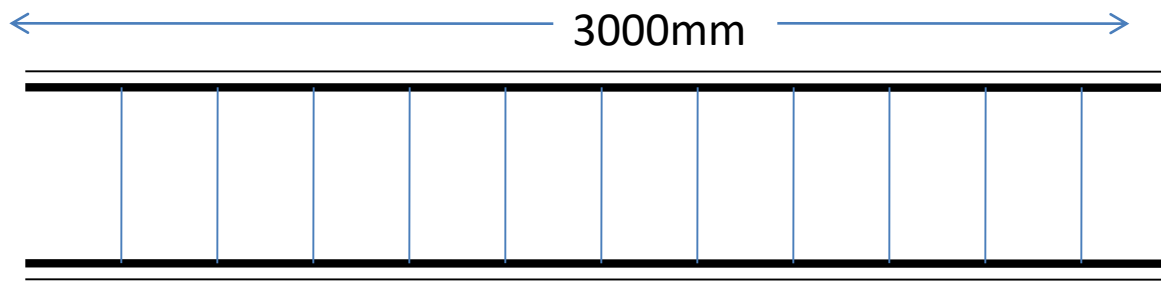
3000mm

10mm

200mm

200mm

8mm @ 200 c/c

12mm

Cover 25mm
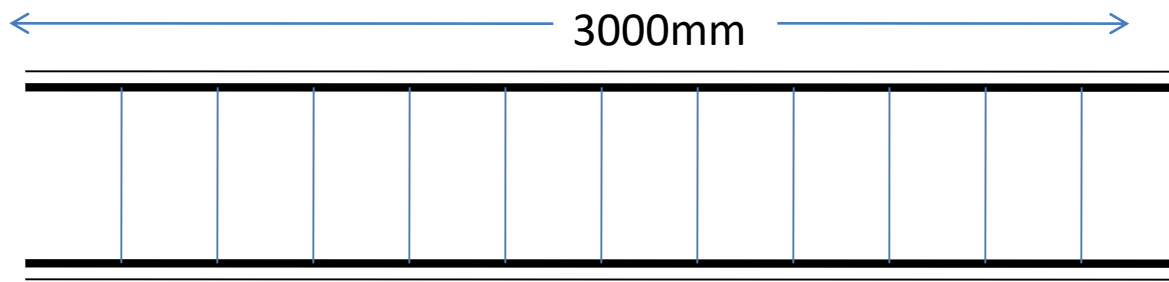
3000mm

Step 01 (length of bar 12mm bottom bars)

Length of steel 12mm = (length of beam – cover) x No of bars

= (3000 – 2(25)) x 2

= **5900mm 0r 5.9m**

10mm

200mm

8mm @ 200 c/c

200mm

Step 02 (length of bar 10mm top bars)

Length of steel 10mm = (length of beam – cover) x No of bars

= 3000 – 2(25)) x 2

= **5900mm 0r 5.9m**

12mm

Cover 25mm

- **Step 03 (weight of bar 12mm bottom bars)**

$$= (d^2/162) \times L$$
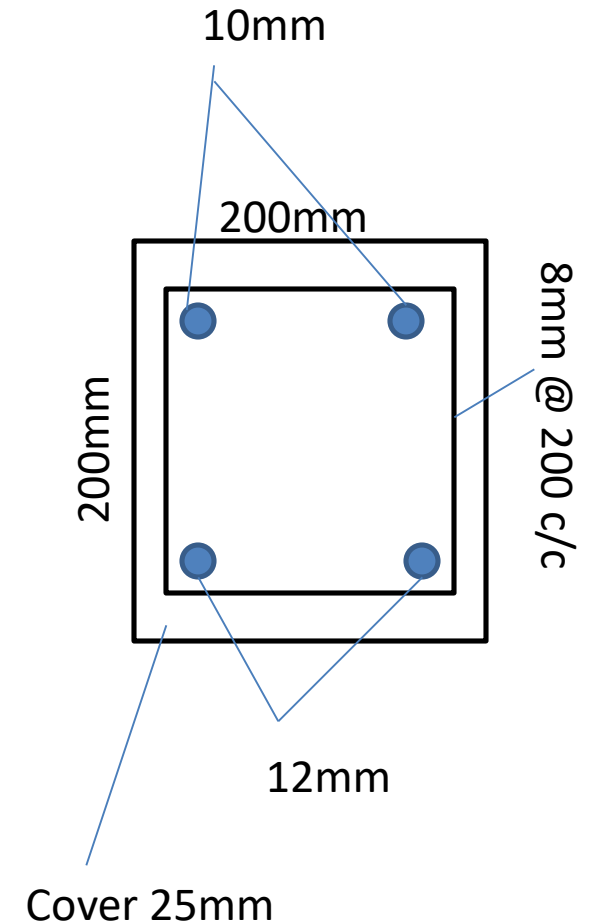
$$= (12^2/162) \times 5.9 = \textbf{5.24 kg}$$

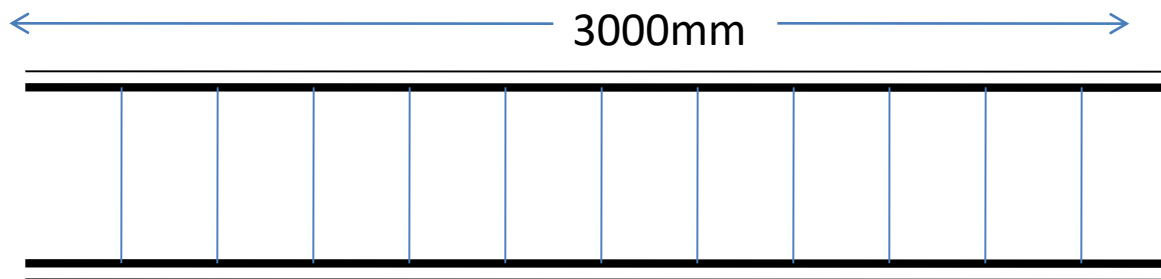- **Step 04 (weight of bar 10mm top bars)**

$$= (d^2/162) \times L$$

$$= (10^2/162) \times 5.9 = \textbf{3.4 kg}$$

10mm

200mm

200mm
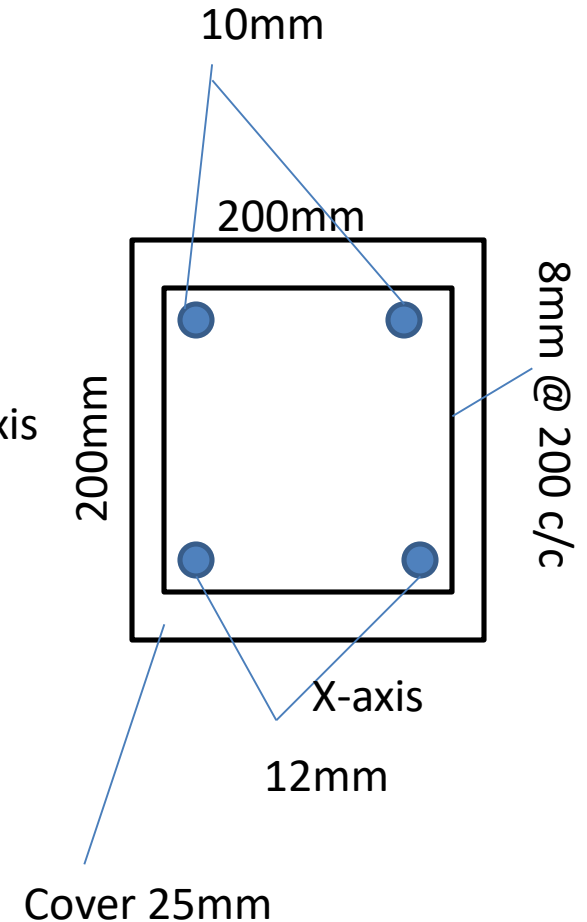
8mm @ 200 c/c

12mm

Cover 25mm

3000mm

FOR STIRRUPS

- **Step 05 (No of stirrups)**

(Length of beam /spacing) + 1

= (3000 / 200) +1

= **16 No's**

- **Step 06 (cutting length of stirrup)**

(2 (x)) + (2(Y)) + hook(10d) - bend(2d if 90 degree)

= (2 x 142) + (2 x 142) + (2x10x8) - (5x2x8)

= 284 + 284 + 160 – 80

= **648mm or 0.648m**

10mm

200mm

8mm @ 200 c/c

Y-axis

200mm

X-axis

12mm

Cover 25mm

3000mm
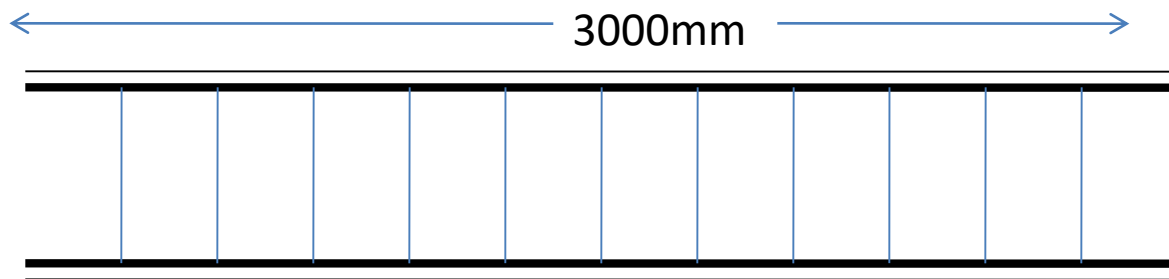
FOR STIRRUPS

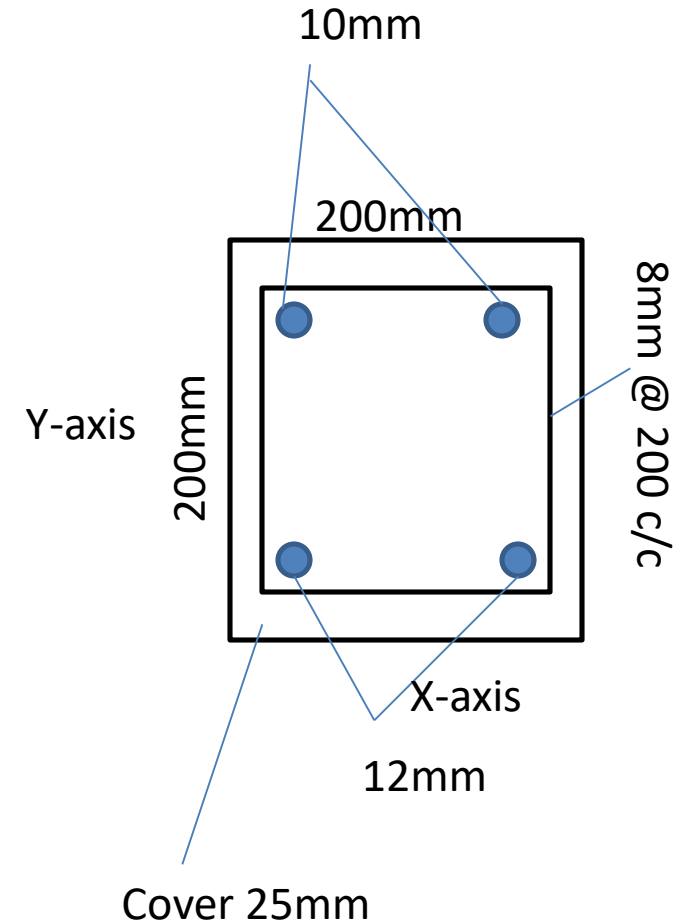- **Step 07 (total length of stirrups)**

Cutting length x No of stirrups

$= 0.648 \times 16 =$ **10.368m**

- **Step 08 (weight of stirrups)**

$= (d^2/162) \times L$

$= (8^2/162) \times 10.368$

$=$ **4.1 kg**

10mm

200mm

Y-axis

200mm

8mm @ 200 c/c

X-axis

12mm

Cover 25mm

BBS for RCC Beam

Sr.No	Type of bar	Diameter (mm)	No.s	Length (meter)	Total length (meter)	Unit weight (kg)	Total weight	Notes
				2% to 5% wastage shall be added				
Total							kg	

Cutting length for circular stirrups

Circular Column:

Dia Of Column $= 600mm$

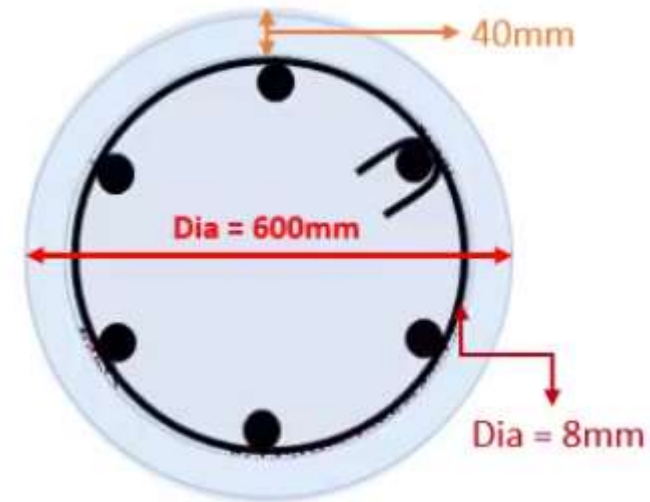Dia Of Stirrup c/c $= 600 - (2 \times 40) - (4 + 4) = 512mm$

Parameter Of Stirrup $= \pi d = 3.142 \times 512 = 1608.704mm$

Hook Length $= 10\,D = 10 \times 8 = 80 \times 2 = 160mm$

Cutting Length Of Stirrup $=$ Parameter Of Stirrup + Hook L

$= 1608.704 + 160$

$= 1768.704\ mm\ /\ 1000 = 1.768m$

40mm

Dia = 600mm

Dia = 8mm

THE END