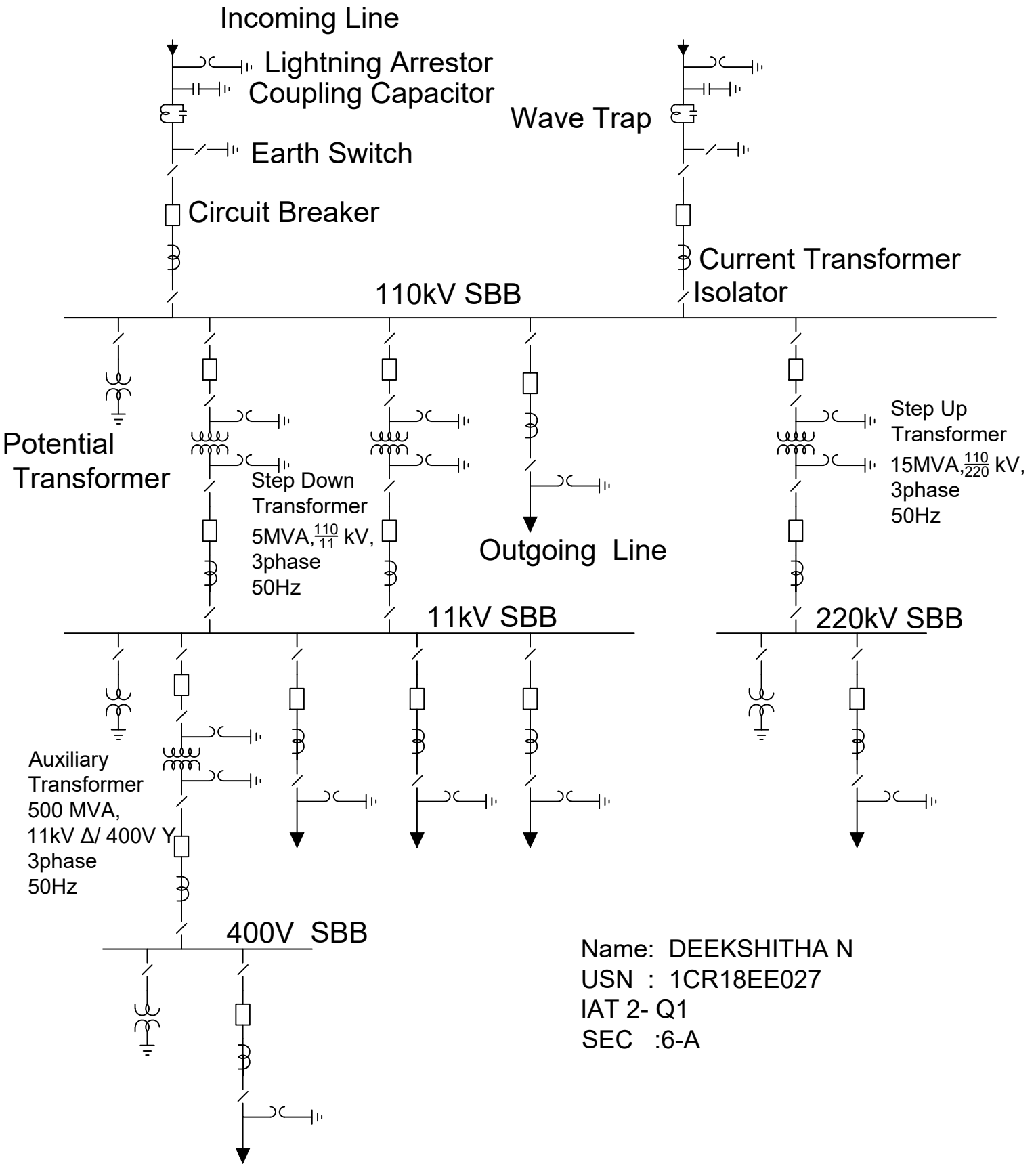


Internal Assessment Test – 2

Sub: Computer Aided Electrical Drawing (Professional Elective)				Sub Code: 18EE643/17EE651		
Date: 22/06/2021	Duration: 90 mins	Max Marks: 50	Sem: 6	Section: A & B		
Answer TWO Complete Questions. Q1 is COMPULSORY . Answer ANY ONE from Q2 and Q3 . Explain your notations explicitly and clearly. Make appropriate assumptions wherever necessary. Use AutoCAD Software for drawing. Good luck!						
				Marks	OBE	
					CO	RBT
<p>Q1. Draw the single line diagram of a generating station having following equipment's:</p> <p>(i) Incoming lines: 110 kV, 50 Hz, 2; (ii) Outgoing lines: 110 kV, 50 Hz, 1; 11 kV, 50 Hz, 3; (iii) Transformers: 5 MVA, 110/11 kV, 3-phase, 2; 15 MVA, 110/220 kV, 3-phase, 1; 500 MVA, 11 kV/400 V, 3-phase, Δ/Y, One Auxiliary Station Transformer; (iv) The station is connected to another substation through the 15 MVA transformer of 110/220 kV. Show the positions of CT, PT, Isolating Switches, Lightning Arrestors, Circuit Breakers.</p>				[20]	CO2	L3
<p>Q2. Draw the elevation right half in section and sectional plan of a 5 KVA, core type, single-phase transformer for the given data - Circumscribing Circle = 80 cm diameter; Height of the Yoke = 65 cm; LV Internal Diameter = 82 cm; LV External Diameter = 95 cm; HV Internal Diameter = 105 cm; HV External Diameter = 125 cm; Window Dimension = 90 cm x 220 cm.</p>				[30]	CO3	L3
OR						
<p>Q3 Draw the Longitudinal (i.e., Elevation) sectional view of a limb of a single-phase transformer with the following details: Diameter of circumscribing circle = 22.6 cm Diameter of LV winding in 2 layers: Inside = 25 cm Outside = 28 cm Height of LV winding = 41.2 cm Diameter of HV winding in 2 layers: Inside = 32 cm Outside = 36.8 cm Height of LV winding = 40 cm</p>				[30]	CO3	L3



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 IAT 2- Q1
 SEC :6-A

Q2.

Elevation right half in section and sectional plan.

Circumscribing circle = 80 cm dia

Width of the core $a = 71\%$ of circumscribing circle

$$= 0.71 \times 80$$

$$= \underline{56.8 \text{ cm}}$$

Height of the yoke = 65 cm

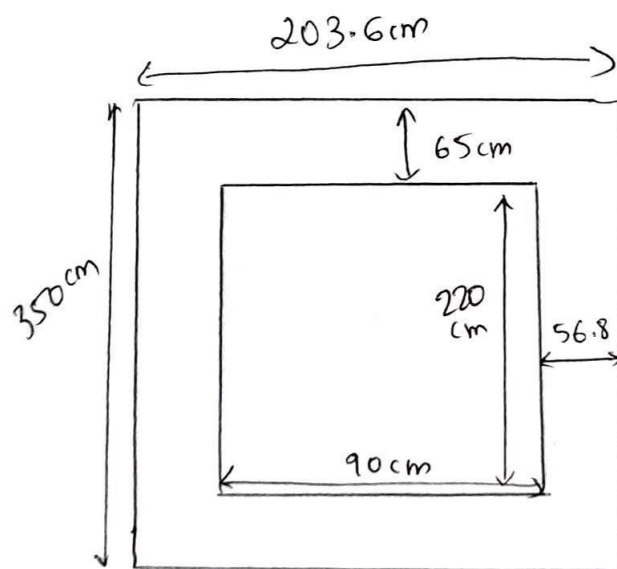
LV internal dia = 82 cm

LV external dia = 95 cm

HV internal dia = 105 cm

HV external dia = 125 cm

Window = 90 cm X 220 cm

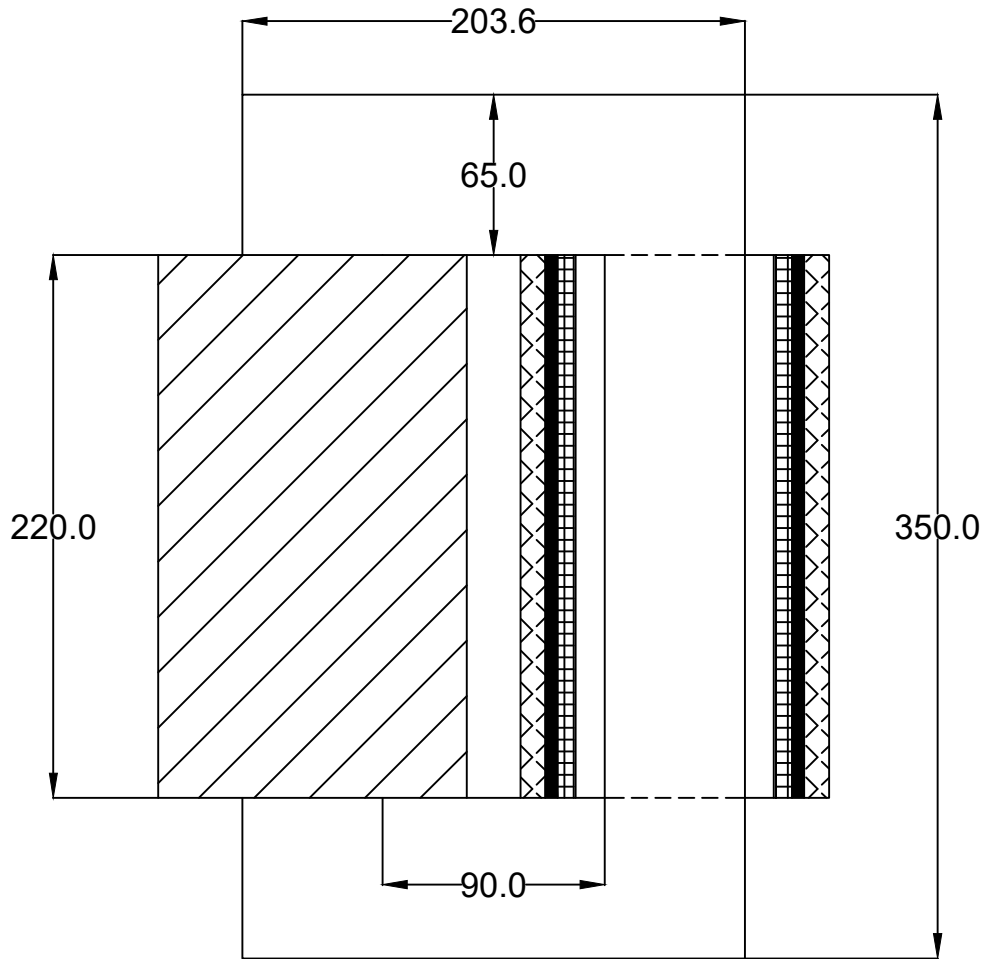


$$\text{Total height of core} = 220 + 65 + 65$$

$$= \underline{350 \text{ cm}}$$

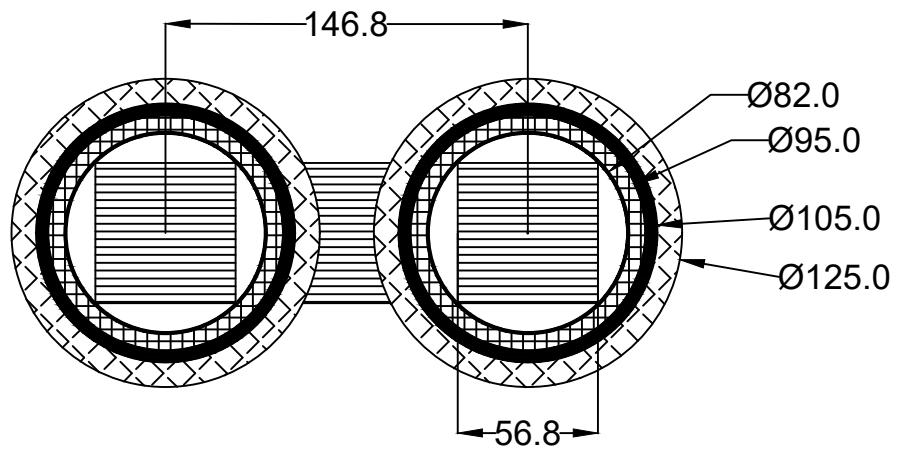
$$\text{Width} = 90 + 56.8 + 56.8$$

$$= \underline{203.6 \text{ cm}}$$



ELEVATION RIGHT HALF
IN SECTION

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 SEC :6-A



SECTIONAL PLAN