CMR
INSTITUTE OF
TECHNOLOGY

Internal Assesment Test – 2

Sub: Computer Aided Electrical Drawing (Professional Elective)				Sub Code: 18EE643 – Paper1
Date: 11/06/2022	Duration: 90 mins	Max Marks: 50	Sem: 6	Section: A

Answer BOTH the Questions. Explain your notations explicitly and clearly. Make appropriate assumptions wherever necessary. Use **AutoCAD Software** for drawing. Good luck!

	Marks	OBE	
		CO	RBT
Q1. Draw the single line diagram of a generating station having following equipment's: (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, and Circuit Breakers.	[20]	CO2	L3
Q2. Draw the developed winding diagram of the armature of the DC machine with the following data. Number of poles = 4; Number of slots = 12; Type of winding: Simplex wave.	[30]	CO1	L3

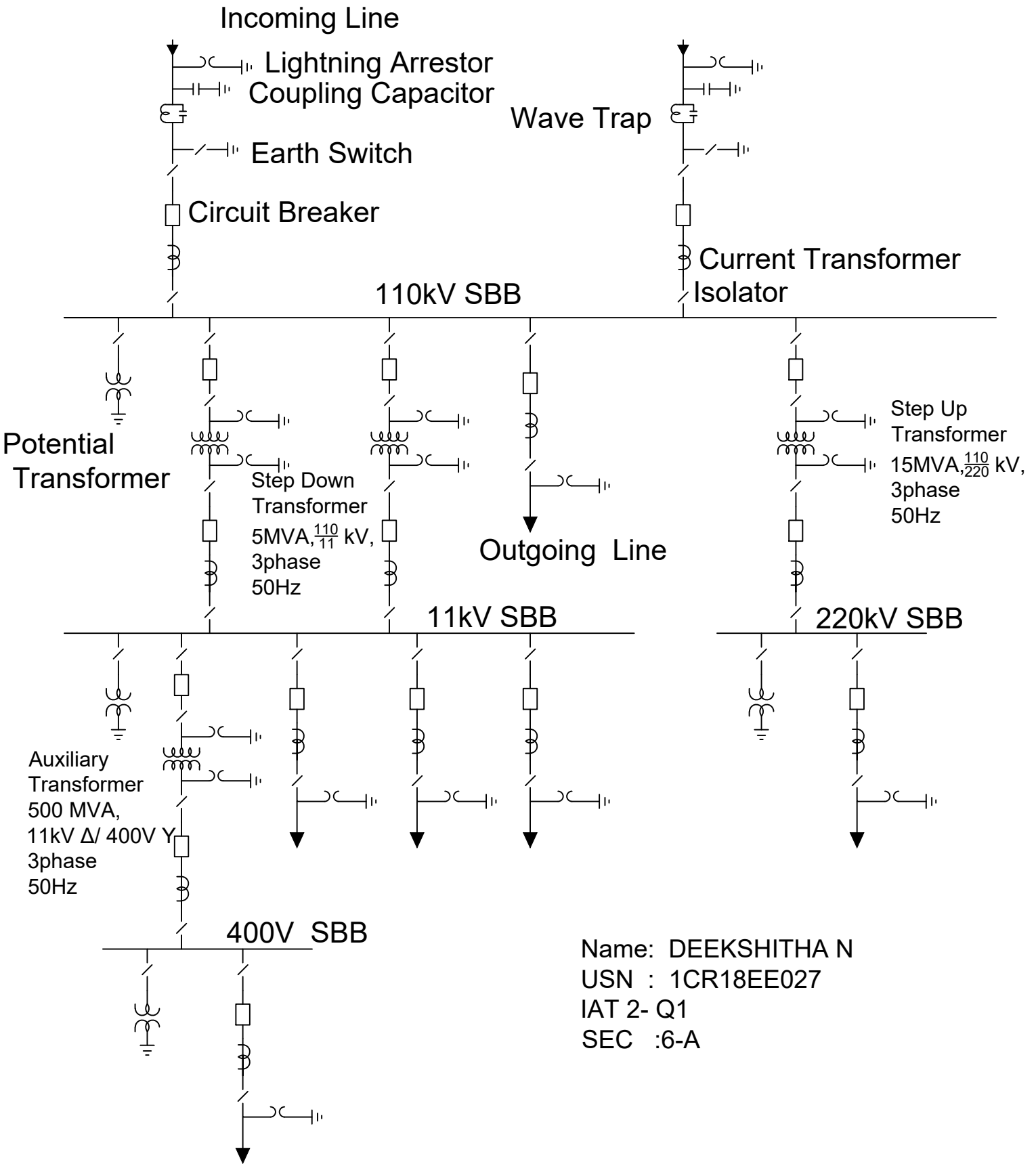**CI**   **CCI**   **HOD**

Incoming Line

Lightning Arrestor
Coupling Capacitor

Wave Trap

Earth Switch

Circuit Breaker

Current Transformer
Isolator

110kV SBB

Potential
Transformer

Step Down
Transformer
5MVA, $\frac{110}{11}$ kV,
3phase
50Hz

Step Up
Transformer
15MVA, $\frac{110}{220}$ kV,
3phase
50Hz

Outgoing Line

11kV SBB

220kV SBB

Auxiliary
Transformer
500 MVA,
11kV Δ/ 400V Y
3phase
50Hz

400V SBB

Name: DEEKSHITHA N
USN : 1CR18EE027
IAT 2- Q1
SEC   :6-A

DoR of motor

winding diagram

19 21

18 20 22

2 1 | 4 3 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 2   4

N   **S**   **N**   **S**
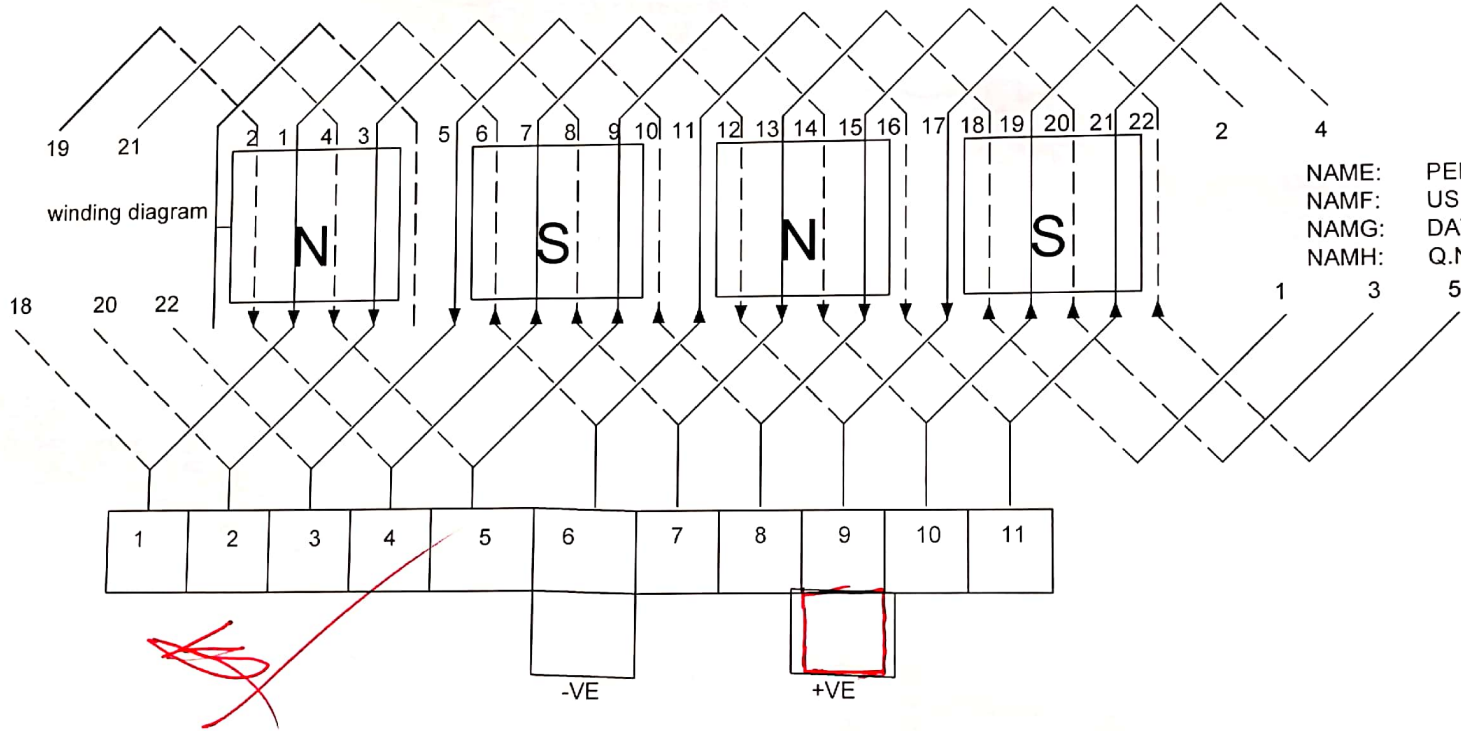
NAME: PEERZADA WAJAHAT
NAMF: USN:1CR19EE059
NAMG: DATE 11/06/22
NAMH: Q.No:2

1   3   5

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

-VE

+VE

sequence
diagram

| 1 | 6 | 11 | 21 | 4 | 9 | 14 | 19 | 2 | 7 | 12 | 17 | 22 | 5 | 10 | 15 | 20 | 3 | 8 | 13 | 18 |

-VE   +VE