

**071306T4EEN**

**ELECTRICAL ENGINEERING (POWER OPTION) LEVEL 6**

**ENG/OS/PO/CR/03/6**

**Install Electrical Machine**

**July/August 2025**



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION  
COUNCIL (TVET CDACC)**

**PRACTICAL ASSESSMENT**

**Time: 3 HOURS**

**INSTRUCTIONS TO CANDIDATE:**

1. Figure 1 shows a layout diagram of a three-phase induction motor connected in star-delta. The dimensions are in millimeters. You are required to perform the following tasks:

**TASK 1:** Draw power and control wiring diagrams

**TASK 2:** Mount and wire the circuit as per the wiring diagram

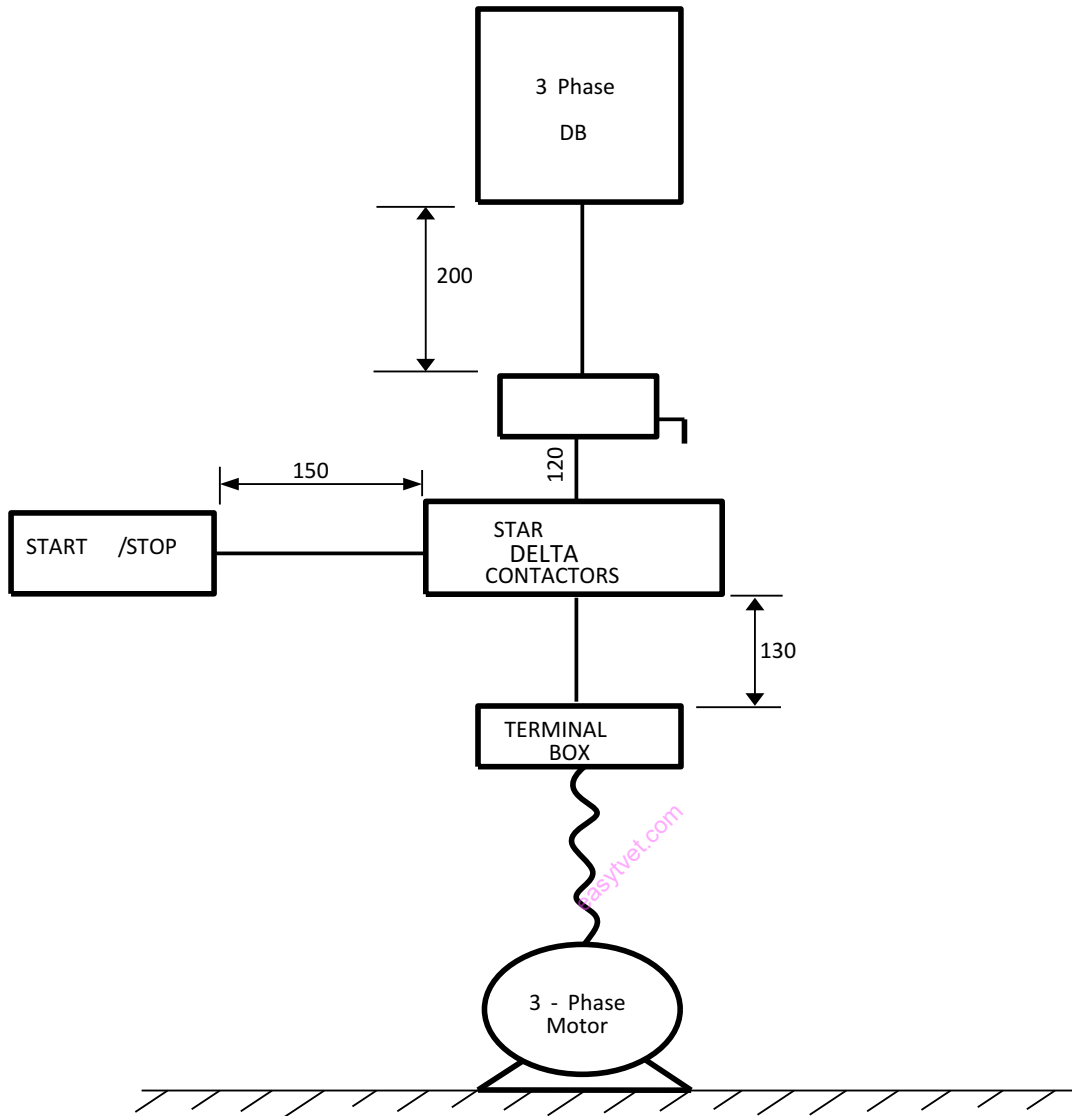
**TASK 3:** Carry out the following tests

- i. Polarity
- ii. Continuity

**TASK 4:** Power the circuit for operation.

2. You have been provided with the following resources for the practical tasks:

| <b>Item</b>                             | <b>Specification</b>                      |      |
|---|---|------|
| i. 3-phase Induction Motor              | 415 V, 50 Hz                              |      |
| ii. Contactor                           | 3-pole, 415 V AC Coil,                    |      |
| iii. Auxiliary contactor                | 415v                                      |      |
| iv. Timer (On-delay)                    | 0–10 sec, 415 V AC                        |      |
| v. Thermal Overload Relay               | Range 7–10 A                              |      |
| vi. Triple pole                         |   |      |
| vii. Push Button (Start & Stop)         | NO & NC contacts                          |      |
| viii. PVC singles R/B/G cable           | 2.5 mm <sup>2</sup> and 4 mm <sup>2</sup> |      |
| ix. Tools (Screwdriver, pliers, etc)    | General Electrical toolkit                |      |
| x. PPE (Gloves, Goggles, Boots)         | Safety compliance                         |      |
| xi. Cable clips                         | AS per the wire size                      |      |
| xii. Vertical wooden Installation board | 1m by 1m                                  |      |
| xiii. Isolator                          | 3 phase                                   | xiv. |



**Figure 1**