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ELECTRICAL ENGINEERING (POWER OPTION) LEVEL 6

ENG/OS/PO/CR/03/6

Install Electrical Machines

Nov/Dec 2024

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

PRACTICAL ASSESSMENT

Time: 3 HOURS

INSTRUCTIONS TO CANDIDATE

1. You have been provided with:

i. Vertical wooden Installation board
ii. 3 phase distribution Board
iii. 3 phase AC Induction motor
iv. 415v Contactor and its auxiliary
v. Start/ stop Push buttons
vi. 415V Overload relay
vii. Metallic spacer bar saddles
viii. 20mm steel heavy gauge conduit
ix. 20mm Flexible conduit
x. PVC singles R/B/G (1.5 mm^2) cable
xi. PVC singles R/B/G (2.5 mm^2) cable
xii. Assorted wood screws
xiii. Combination pliers
xiv. Side cutter
xv. Ball pein hammer
xvi. Termination screw driver

xvii. Spirit level
xviii. Tape measure
xix. Multimeter
xx. Bending spring
xxi. Stripping Knife

The figure below shows a layout diagram of a three-phase induction motor in a forward-reverse arrangement. The dimensions are in millimetres. With reference to the layout diagram, perform the following task:

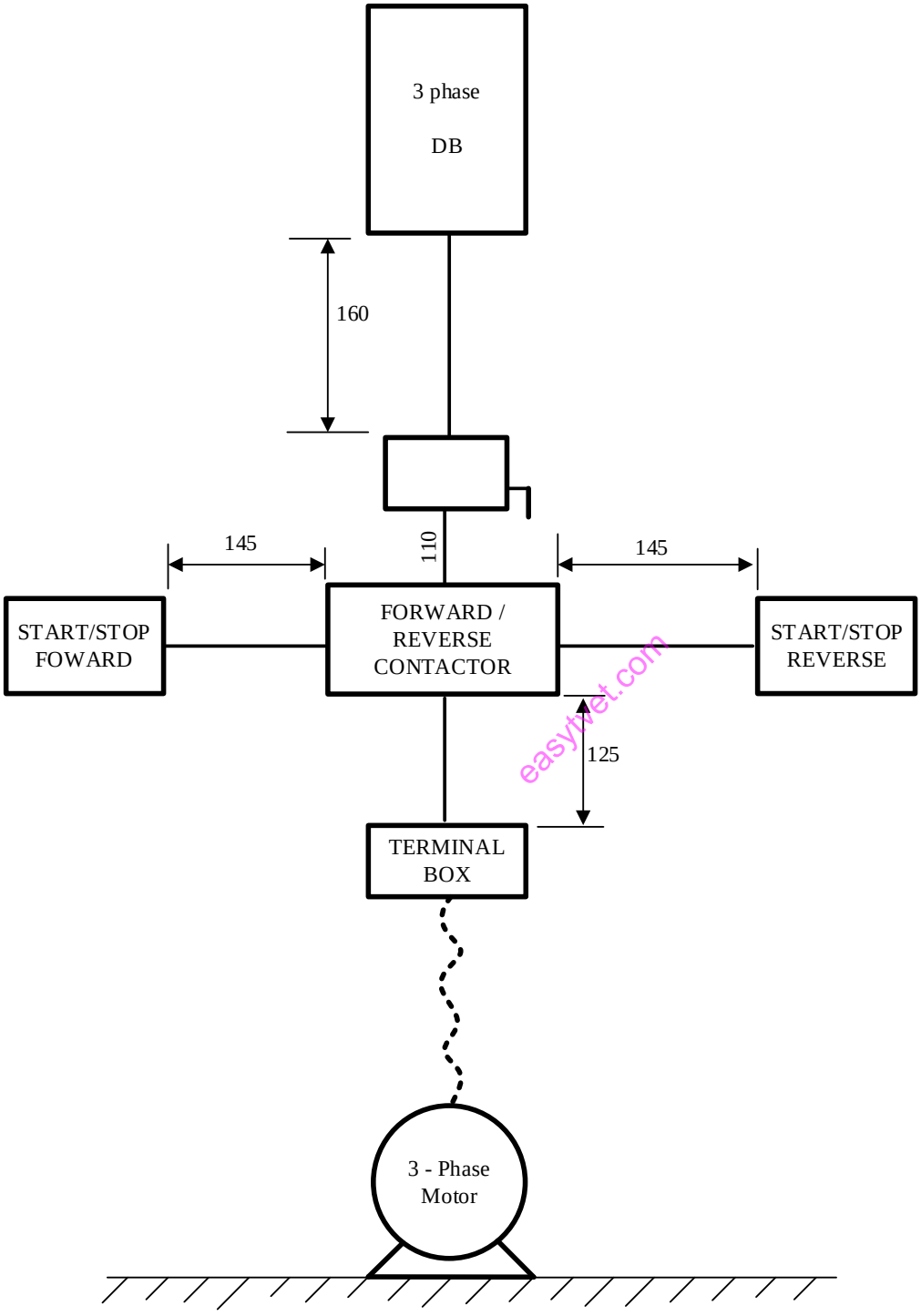

Figure 1

TASK 1: Install the forward-reverse power and control circuit for a 3-phase induction motor

a) Draw power and control wiring diagrams.

b) Mount the motor

c) Wire the circuit as per the diagram.

d) Carry out the following tests:

   i. Polarity

   ii. Continuity

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