



EXAMINATION: AUTHORISATION B

September 2021

Practical Test

Time Allowed - 1½Hr

Name & Surname _____

Index No. _____

(In Block letters)

A 415 V 50 Hz 3-phase 5 kW induction motor is used to drive a goods lift between two floors. The motor starter is installed in a panel located about 5 m away from the motor. Each floor control panel has an emergency stop button together with two other buttons labelled UP and DOWN respectively.

Each floor has a limit switch to stop the lift when this arrives at its destination. Refer to the schematic layout shown in Figure 1.

Question (Refer to Note below):

- a) State the type of starter required for this application.
- b) Draw the MAIN POWER circuit for this application.
- c) Draw the control circuit for the above application.

Note:

1. *All diagrams must be neat, clear and fully labelled.*
2. *The control panel must have the necessary protective devices to protect the motor.*
3. *For safety reason the control circuit is to be supplied from a 415/24 V AC step down transformer.*
4. *Indication lamps are required on each floor. It is also important to include the direction the lift is travelling on the control panel.*

This practical test and the oral examination will comprise a total of 100 marks.

PLEASE WRITE YOUR ANSWERS AND DRAWINGS HERE

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