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EXAMINATION FOR THE ISSUE OF AUTHORISATION 'B' - LICENCE 'B'

Practical Test **September 2015** **Time Allowed: 1 Hr**

NAME & SURNAME_____ *(in Block letters)*

INDEX NO_____

The electrical load of a small factory consists of the following components:

a. 1 x 60 KW three phase electrode boiler having an efficiency of 85 per cent and unity power factor.

b. 2 x 8 KW three phase motors, 0.8 power factor and 85 per cent efficiency.

c. 60 lighting points.

d. 10 KW of discharge lighting, power factor 0.85.

e. 10 x 32A ring circuits.

f. 4 x 3 KW instantaneous type water heaters.

Assuming a three-phase 400/230 Volts supply,

i. Draw a single line diagram of the main switch-board indicating the current rating of each switch and type of protection.

ii. Calculate the total current demand.

iii. Taking a diversity factor of 70 per cent and allowing for future expansion calculate a suitable size of switch-board and main circuit breaker for the installation.

Show all calculations.

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