

# 2394-302 Level 3 Principles, Practices and Legislation for the Initial Verification of Electrical Installations.

Chief Examiner's report – April 2017



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# 1 Introduction

The purpose of this document is to provide centres with feedback on the performance of candidates in the **April 2017** examination for 2394-302 Principles, Practices and Legislation for the Initial Verification of Electrical Installations.

The Chief Examiner's Report has been reintroduced as a result of feedback from centres, to give them guidance in preparing candidates for the written examination.

## 2 Feedback on candidate performance

### General feedback

The following comments are intended to help students prepare for the examination by having a better understanding of what is expected of them. The feedback within this report would also be valuable to tutors in understanding candidates' difficulties in answering questions and the areas where more guidance is required.

The April 2017 question paper was found to be in accordance with the scheme requirements.

The number of scripts received for this series was approximately 165.

Candidates appeared to have no issues with the format of the paper. They need to be aware that the space left for their answer is intended to be generous and, in almost all cases, is more than enough to record their answer.

Candidates and centres should be mindful that this qualification relates to the initial verification of electrical installations. It was evident from answers provided by some candidates that they confused this process with that required during periodic inspection and testing.

Candidates should keep their responses within the allotted area and any additional sheets should be **stapled to the back** of the answer book. The number of additional attached sheets needs to be recorded in the box on the front cover of the examination paper/candidate response book. These additional sheets should be plain lined paper and not a second answer book. The blank pages at the back of the answer book should **not** be used for candidate responses. These pages are not allocated areas for recording answers. Where it becomes necessary for centres to copy/print additional answer books these should be produced double sided to facilitate correct scanning into the marking software. Paperwork not relating to exam answers should not be included in the answer book.

The answers produced by candidates for this examination series were generally of a good standard.

### Read the Whole Question Carefully

Candidates must read the whole question carefully so as to ascertain what is being asked.

### Terminology

Candidates should remember that the terminology used in BS 7671 and Guidance Note 3 **must** be used when answering questions so as to avoid losing marks.

### Knowledge of BS 7671 and Guidance Note 3

Candidates need to be aware that the questions in this paper are based upon information contained within Guidance Note 3 and BS 7671. Candidates are expected to have a working knowledge of both these publications.

Many candidates demonstrated limited knowledge of additional protection. Most candidates could state the maximum rating of the RCD as being 30mA but gave a variety of test currents and disconnection times. Candidates should be aware that disconnection times for RCDs are given in milli-seconds rather than seconds. The majority of candidates were unable to provide an alternative method of Additional Protection besides the use of RCDs. A variety of incorrect answers were given rather than the correct answer which was the use of supplementary bonding.

## Inspection

This paper included two questions relating to inspection. These were practical questions relating to what would be looked for when inspecting insulation, and when inspecting barriers within an enclosure. It is worrying that many candidates could not provide correct answers. Training providers need to make sure that adequate time is allocated to teaching and discussing the aspects of inspection as covered by the Schedule of Inspections.

## Testing

Questions relating to safe isolation were generally very well answered with most candidates scoring a high percentage of the marks available.

The question relating to testing for correct phase-sequence was incorrectly answered by a sizable number of candidates. Many candidates mixed up phase-sequence with polarity and demonstrated little knowledge of three-phase testing. In turn this meant that they were also unable to correctly state where on the installation the tests would be carried out and which test instrument would be used to carry out these tests.

Another question asked for candidates to calculate the expected measured value of  $R_1+R_2$  for a given circuit. Whilst most candidates made an attempt at providing an answer, many lost marks. Common errors were only calculating  $R_1$  or incorporating a correction factor for operating temperature when the question asked for a measured value at 20°C. Most candidates could correctly calculate the next stage of the question which asked for the  $Z_s$  value.

In the final stage of the question, candidates were asked to determine whether the  $Z_s$  value calculated complied with the given maximum tabulated value from BS 7671. Candidates should be aware that where a question asks them to 'determine' something, this requires that a conclusion is required after evidence is provided. Some candidates gave answers such as 'Complies' without any justification as to how that conclusion had been reached, whilst others did not reach a conclusion and therefore failed to score all the marks available. Many candidates applied the 'Rule of thumb' to the measured value rather than the maximum tabulated value, which is a little worrying as this is part of the practical assessment.

Candidates should bear in mind that questions 4 – 6 of the question paper relate to the scenario and therefore any answers must be tailored rather than being generic if marks are not to be lost. Some candidates dropped marks when answering the question on insulation resistance testing because they failed to pick up on actions to take for the specified circuit but rather gave irrelevant information for the scenario given.

### 3 National pass rate

The national pass rate for the 2394-302 **April 2017** examination is as follows:

<b>Exam series</b>	<b>Pass rate (%)</b>	<b>Fail rate (%)</b>
<b>April 2017</b>	<b>65</b>	<b>35</b>

#### **Past examination series**

<b>Exam series</b>	<b>Pass rate (%)</b>	<b>Fail rate (%)</b>
<b>February 2017</b>	<b>69</b>	<b>31</b>
<b>December 2016</b>	<b>79</b>	<b>21</b>
<b>October 2016</b>	<b>71</b>	<b>29</b>

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