

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

Chief Examiner's report – **October 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 October 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 October 2017 question paper was found to be in accordance with the scheme requirements.

The number of scripts received for this series was **approximately 26**.

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.

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

Not reading the whole question carefully

It is important that candidates read each question carefully before constructing their answer. Failure to do so may cost the candidate marks, and in some cases, they will score no marks at all as their answer does not relate to the question being asked.

One question asked the candidate to state the action to be taken by the inspector if a dangerous situation was identified on an **existing** installation, whilst verifying a new circuit. Many candidates failed to note that the dangerous situation was present on the existing installation. As a result the answer offered by candidates was incorrect.

Terminology

The terms "live" and "line" are often used incorrectly. Candidates interchange the two terms when describing test procedures which often results in a loss of marks due to the testing procedure being unclear. The incorrect use of these terms has appeared in every examination since the term "line" was introduced into BS 7671. The terminology used in BS 7671 and Guidance Note 3 **must** be used when answering questions.

Knowledge of BS 7671 and Guidance Note 3

One question required candidates to state two methods that may be used to provide Additional Protection. Many answers correctly identified the application of an RCD, but then failed to state that its sensitivity must be 30 mA or less. Very few answers stated the use of supplementary bonding. Typical incorrect answers included SELV, PELV and Electrical Separation. None of these measures offer Additional Protection.

Another question related to a socket-outlet circuit in an industrial unit that was not protected by an RCD. The question required the candidate to state the three actions necessary for this circuit to comply with BS 7671. Some answers correctly identified the need for a risk assessment to be undertaken, but few answers referred to the need to document the assessment and to attach this to the verification documents. Some answers did refer to the application of a label at the socket-outlets identifying for use with specific items of equipment.

When candidates were asked to state five extraneous conductive parts which need to be checked for the presence of a Main Protective Bonding Conductor, many answers incorrectly identified Exposed Conductive Parts.

Safe Isolation

When asked to state the procedure to be carried out to ensure safe isolation of a three-phase installation, the answers given by most candidates were of a high standard. If the procedures described by other candidates were followed on site, they would have resulted in dangerous situations. This is particularly concerning.

Inspection

Most candidates provided good answers when asked to identify five checks to be made during an inspection of a surface-mounted PVC conduit containment system prior to cables being drawn in.

Candidates' answers to another question relating to inspection of part of an installation were not of a high standard. The question was divided into a number of parts.

The first part asked the candidate to state what type of protection was indicated by the two digits within the IP coding system. Many answers were incorrect.

The next part of the question required the candidate to state the minimum IP code for equipment commonly installed in an installation, as required by BS 7671. Many answers were incorrect.

A further part to the question required the candidate to state five items, specifically relating to consumer units and distribution boards, which need to be recorded following an inspection. Very few answers scored full marks. Some answers related to other items of equipment and accessories.

Testing

Two full questions were concerned with the testing process.

One test related to a test of continuity of cpc for a newly installed radial socket-outlet circuit. Most candidates correctly identified the test instrument, the checks to be made on the instrument before commencing the test and the need to "null" the test leads. The description of the test given by most candidates was incorrect. Most answers involved a single test at the furthest socket-outlet only. This is not an acceptable procedure. It must be confirmed that each socket-outlet has been effectively connected to earth. The final part of this question asked the candidate to state three actions to be taken if an open circuit was identified during the test. Most answers included finding the fault, but few stated correcting the fault and repeating the test.

The candidate was asked to describe how to carry out an earth fault loop impedance test on the radial socket-outlet circuit. The test instrument and the required checks to be made on the test leads prior to carrying out the test were correctly identified by most candidates. The test procedure was not described correctly by most candidates. The final part of the question required the candidate to determine if the test result complied with BS 7671. A significant number of answers were incorrect.

3 National pass rate

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

Exam series	Pass rate (%)	Fail rate (%)
October 2017	50	50

Past examination series

Exam series	Pass rate (%)	Fail rate (%)
August 2017	76	24
June 2017	69	31
April 2017	65	35

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