

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

Chief Examiner's report – **June 2017**



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City & Guilds

1 Giltspur Street

London EC1A 9DD

T +44 (0)844 543 0000

F +44 (0)20 7294 2413

www.cityandguilds.com

centresupport@cityandguilds.com

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1 Introduction

The purpose of this document is to provide centres with feedback on the performance of candidates in the June 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 June 2017 question paper was found to be in accordance with the scheme requirements.

The number of scripts received for this series was **approximately 170**.

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 identify five checks to be carried out on a surface mounted galvanised steel trunking system once the cables had been installed. Some answers related to a conduit system, which was not part of the question. These responses scored no marks.

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. Not all candidates used the correct titles for tests and test instruments. 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, in the correct sequence, the first three tests to be carried out on a new radial circuit. A surprisingly high number of candidates were unable to do so. Common errors included wrong titles of tests and an incorrect test order. A less common error was reference to a ring final circuit continuity test, even though the question clearly stated a radial circuit. Some answers listed the same test twice, using a different title - "continuity of cpc, $R_1 + R_2$ test". It should be noted that " $R_1 + R_2$ test" is not the correct title of a test.

Another question asked candidates to state five items of information specific to the DNO's supply and equipment that must be made available to the inspector. The answers given by candidates were generally of a good standard.

Inspection

Most candidates provided good answers when asked to identify five checks to be made during an inspection of a surface mounted galvanised steel trunking system. Those candidates who did not read the question carefully lost marks because they gave unrelated information.

Testing

One question related to why BS 7671 requires initial verification tests to be carried out in a specific sequence. Most candidates correctly identified "for safety reasons", but very few answers included reference to the results of one test are reliant on the previous test having been carried out correctly.

Candidates were asked about various aspects of carrying out an earth fault loop impedance test on a single-phase TT system in order to confirm the effectiveness of the earth electrode. Most candidates displayed good knowledge of the topic. The two most common errors were, stating the use of an earth electrode resistance tester and not correctly identifying the terminals, between which, the **test** was to be carried out.

Another question asked candidates to describe, in detail, how a continuity of circuit protective conductors test would be carried out and to determine the $R_1 + R_2$ value of the circuit. Many candidates gave a good description of the test procedure. Common errors included not testing at each point on the circuit, not ensuring that switches were closed when testing at luminaires and not correctly identifying the test instrument.

A significant number of answers included describing, in detail, the isolation procedure for the circuit. This was unnecessary as the scenario clearly stated that this was a new installation. Candidates were not penalised for giving this information but they used up valuable examination time and gained no marks.

When asked questions about carrying out a prospective fault current test on a single-phase installation, many candidates gave incorrect information. Some candidates appeared to be confused between this test and an earth fault loop impedance test. The purpose of the test was not clearly understood by many candidates and knowledge relating to circuit breaker ratings was often vague.

The final question required a test to be carried out on a 30 mA RCD. A large number of answers did not correctly identify the test currents. The maximum permitted disconnection times were often incorrectly stated also. Typical incorrect answers included test currents of 100 mA and 500 mA, and disconnection times of 0.2 s, 0.4 s, 200 ms and 500 ms.

3 National pass rate

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

Exam series	Pass rate (%)	Fail rate (%)
June 2017	69%	31%

Past examination series

Exam series	Pass rate (%)	Fail rate (%)
April 2017	65%	35%
February 2017	69%	31%
December 2016	79%	21%

Published by City & Guilds
1 Giltspur Street
London
EC1A 9DD
T +44 (0)844 543 0000
F +44 (0)20 7294 2413
www.cityandguilds.com

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