



Report on multiple-choice Question Paper

Paper: 7730-001 Novice Radio Amateurs Examination

Examination date: 13 September 1999

Syllabus Topic or Objective	Number of items	Comments on performance of candidates
1 Receivers and receiving techniques	5	The questions on receivers were generally very well answered. There were a few candidates who were unclear about the main purpose of the detector stage.
2 Components, applications and units	3	All questions in this section were very well answered by nearly all candidates.
3 Measurements	4	The questions on the use of a multimeter were well answered, but some candidates again had difficulty in two questions that involved the calculation of transmitter power input. In one question, 32% of the candidates thought that a voltage of 6V and a current of 2A equated to a power of 3W, instead of 12W. In practice, these candidates could find themselves running far more power than that for which they are licensed. In another question about the type of meter to use in the 12V supply to a 6W power amplifier, 62% of the candidates were unable to determine that, among the choices given, a 0-1A ammeter would be the one to use.
4 Propagation and antennas	5	There was a lot of confusion in a question that showed ground wave, skip distance and total hop on a diagram; only half of the candidates were able to identify the ground wave. The other questions in this section were very well answered.
5 Transmitters and transmitting techniques	10	<p>Most questions were well answered, but there are two that require specific comment.</p> <p>In a block diagram of a simple c.w. transmitter, 56% of the candidates were unable to identify the p.a. stage, 29% of them thinking that it was an a.f. amplifier.</p> <p>The concept of bandwidth was not well understood. One third of the candidates thought that a 1980kHz double sideband carrier, modulated with a 1kHz tone, would have a bandwidth of 1981kHz. The correct answer is 2kHz.</p>

Syllabus Topic or Objective	Number of items	Comments on performance of candidates
<p>continued</p> <p>6 Operating techniques</p> <p>7 Station layout</p> <p>8 Construction</p> <p>9 Safety</p> <p>10 Licensing conditions</p>	<p>6</p> <p>1</p> <p>1</p> <p>2</p> <p>8</p>	<p>Five of the questions in this section were very well answered, but one question on the use of a narrow bandwidth filter when receiving Morse code caused some difficulty with 70% of the candidates. Many thought that its purpose was to stabilise the pitch rather than to reduce the strength of other signals on adjacent frequencies.</p> <p>Well answered. Candidates knew what position in the station a key click filter should be fitted.</p> <p>96% of candidates were conscious of the need to wear eye protection when using a drill.</p> <p>The other questions on safety were quite well answered, although of the 65 candidates, there are still 15 of them who would have wired up a 13A mains plug incorrectly.</p> <p>All the questions on the licensing conditions were very well answered, none of them requiring specific comment.</p>
<p>General comments on the paper</p>	<p>Candidates were generally very well prepared for the examination. Following moderation of the paper from the detailed item analysis, the overall performance of the candidates was the highest ever achieved. Successful candidates and their tutors are to be congratulated on their good results.</p> <p>There were only 65 candidates and all answer papers were returned on time thus enabling a full analysis of the results of all candidates to be made. 59 candidates (90.8%) were successful.</p> <p>The next examination in this subject will be held on Monday, 13 December 1999.</p>	