



Report on multiple-choice Question Paper

Paper: 7730-001 Novice Radio Amateurs Examination

Examination date: 10 September 2001

Syllabus Topic or Objective	Number of items	Comments on performance of candidates
1 Receivers and receiving techniques	5	Most of the questions in this section were well answered. In a question about single sideband, 45% of the candidates correctly answered that it was a form of amplitude modulation, but 36% thought that it was frequency modulation.
2 Components, applications and units	3	Several candidates did not recognise the symbol for a filament lamp in a circuit diagram showing it connected to a battery. They thought that the lamp would not light if the battery voltage was reversed.
3 Measurements	4	<p>In a question that asked about the 'safe' range to which an analogue multimeter should be switched when not being used, a third of the candidates chose the Ohms range. This would cause the meter's internal battery to discharge if the test prods accidentally shorted. Such a meter would normally be left switched to a high d.c. voltage range when not in use.</p> <p>A circuit diagram showing a bank of five 250 Ω resistors connected in parallel was not recognised by 40% of candidates to be a dummy load. 17% thought it was an absorption wavemeter and 26%, a filter to reduce harmonic radiation.</p>
4 Propagation and antennas	5	Most questions were well answered, but 38% of candidates thought that the ground plane antenna was horizontally polarised.
5 Transmitters and transmitting techniques	10	<p>Three questions in this section require comment:</p> <p>26% of candidates thought that the carrier was removed by the r.f. oscillator, rather than by the balanced modulator, in an s.s.b. transmitter.</p> <p>A question on the bandwidth of a double sideband amplitude modulated transmitter on 1980 kHz, modulated with 1 kHz, was incorrectly answered by 71% of the candidates. Most of them thought that the bandwidth would be 1981 kHz, rather than 2 kHz.</p> <p>Many candidates did not understand the solution to a question on TV interference, not appreciating that the problem was likely to be due to a design fault in the TV receiver.</p>

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<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>41% of candidates thought that it was the transmitter power, rather than the precise frequency that was <i>not</i> required to be entered in the station log.</p> <p>In a question on sources of information, 29% of the candidates said they would refer to the local office of the Radiocommunications Agency for details about repeaters, in preference to using the current RSGB Yearbook.</p> <p>Quite well answered.</p> <p>The question on the position of components on a printed circuit board was very well answered by most of the candidates.</p> <p>52% of candidates chose to use a single-pole (SPST) switch in the mains supply, instead of a double-pole (DPST) type.</p> <p>Candidates answered correctly most of the questions on the licensing conditions, but the last question, which required reference to the Schedule, was not well answered. 43% of candidates answered that the maximum d.c. input permitted by the Novice Licence was 10W, rather than 16W.</p>
<p>General comments on the paper</p>	<p>Candidates were generally well prepared for the examination.</p> <p>Of the 42 candidates whose answer sheets were included in the detailed analysis of the results, 37 of them (88%) were successful. There were four other candidates whose answer sheets were not available to be included in this report.</p> <p>The next Novice Radio Amateurs Examination is scheduled to take place on Monday, 10 December 2001. The City and Guilds fee for the examination is £14.00. Candidates preparing for the December examination should note that, notwithstanding recent changes, questions on the licensing conditions will be based on Booklet BR68a/N (Rev 7), November 2000. The Schedule from that Booklet will be attached to the question paper for reference during the examination.</p> <p>Reports for the Radio Amateurs Examination (7650) and the Novice Radio Amateurs Examination (7730) are normally available on the Internet about three weeks after the date of each examination at</p> <p style="text-align: center;">http://www.g4dmp.co.uk/</p>	