



Report on multiple-choice Question Paper

Paper: 7730-001 Novice Radio Amateurs Examination

Examination date: 13 March 2000

Syllabus Topic or Objective	Number of items	Comments on performance of candidates
1 Receivers and receiving techniques	5	Questions in this section were generally well answered. Many candidates, however, were unsure about how a c.w. signal would sound on a receiver that was switched to the A.M. position.
2 Components, applications and units	3	Two out of the three questions were badly answered. Firstly, almost half the candidates thought that a transformer, rather than a rectifier diode, converted alternating current to direct current. In a circuit where a current of 2A was flowing through two 5Ω resistors connected in series. Almost a third of the candidates thought the applied voltage would be 10V, instead of 20V.
3 Measurements	4	Very well answered. Candidates obtained good scores in the questions on measurements.
4 Propagation and antennas	5	There was some confusion about the purpose of an a.t.u. used to match an antenna to a transmitter. The other questions were very well answered.
5 Transmitters and transmitting techniques	10	Six of the questions on transmitters and techniques were well answered. In a question on an s.s.b. transmitter, 34% of the candidates thought that the sideband filter, rather than the balanced modulator, removed the carrier. When mixing frequencies of 5MHz and 9MHz together, only 36% of the candidates understood that extra frequencies are produced both by adding and subtracting the two frequencies. 28% of the candidates thought that interference caused to radio receivers, computers, audio systems and telephones was called TVI (Television Interference), rather than RFI (Radio Frequency Interference).

Syllabus Topic or Objective	Number of items	Comments on performance of candidates
<p>continued</p> <p>5 Transmitters and transmitting techniques 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>When diagnosing interference in the form of many brief white specks all over a TV screen, 37% of candidates thought that the interference was likely to be caused by a nearby transmitter. Only half the candidates recognised it as interference typically caused by an electric drill.</p> <p>All the questions on operating techniques were very well answered.</p> <p>Well answered by most candidates.</p> <p>Nearly all candidates recognised the PL259 plug.</p> <p>Both the questions on safety were very well answered.</p> <p>Candidates were well acquainted with the conditions required to operate a novice station. There was a little misunderstanding on the interpretation of Clause 4(3) of Booklet BR68a/N, which refers to the reduction of the level of the field strength to a degree satisfactory to the Secretary of State when undue interference is being caused.</p>
<p>General comments on the paper</p>	<p>The detailed item analysis shows that candidates were generally very well prepared for the March examination. There were 146 candidates for the examination and 132 (90.4%) were successful.</p> <p>The above report emphasises a few topics to which greater attention could perhaps be made during courses. In particular, there could be advantage in showing the effects of interference caused by electric drills and domestic electrical appliances and in attempting to receive various types of transmission with the mode switch set incorrectly.</p> <p>The next Novice Radio Amateurs Examination is scheduled for Monday, 5 June 2000. The City and Guilds examination fee is £12.80</p>	