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City & Guilds

OTS 99

Report on multiple-choice Question Paper

Paper: 7730-001 Novice Radio Amateurs Examination

Examination date: 10 December 2001

Syllabus Topic or Objective	Number of items	Comments on performance of candidates
1 Receivers and receiving techniques	5	60% of the candidates did not understand the purpose of the detector stage of a receiver. In a block diagram of a simple superheterodyne receiver, 30% of the candidates incorrectly identified the i.f. amplifier stage as being the r.f. amplifier. The other questions on receivers were very well answered by most of the candidates.
2 Components, applications and units	3	Over a quarter of the candidates thought that the purpose of a transformer was to convert a.c. to d.c., evidently confusing the transformer with the rectifier. Despite a table of the resistor colour code being given on the question paper, 28% of candidates identified a grey-red-green resistor as having a value of 82kΩ rather than 8.2MΩ.
3 Measurements	4	32% of candidates were unable to calculate the input power to a PA stage drawing 2A from a 6V supply. Many candidates divided the voltage by the current.
4 Propagation and antennas	5	Most of the questions in this section were well answered, but fewer than half the candidates answered correctly a question about the length of each half of a half-wave dipole antenna for the 10m band. Many candidates thought that each half would be 5m rather than 2.5m.
5 Transmitters and transmitting techniques	10	Two of the questions on transmitting techniques require comment: A question on the setting of the mode switch on the 28.225 to 28.300 MHz band was not well answered. Despite a copy of the Novice Licence Schedule being attached to the question paper, rather than set their mode switch to the c.w. position, 37% of the candidates chose to use the upper sideband s.s.b. position. Not only were novices licensees not licensed for s.s.b. on this band, but the band falls within the c.w. part of the IARU band plan. A question on mixing two frequencies of 5 MHz and 9 MHz was not well answered, many candidates not realising that both sum and difference frequencies can be produced. continued overleaf

Syllabus Topic or Objective	Number of items	Comments on performance of candidates
continued		
6 Operating techniques	6	All the questions in this section were well answered.
7 Station layout	1	Over 90% of the candidates identified a suitable earthing point for an amateur station.
8 Construction	1	The necessity to use precautions when soldering transistors to printed circuit boards was well understood.
9 Safety	2	Both the questions on safety were well answered.
10 Licensing conditions	8	Nearly all candidates had a very good understanding of the licensing conditions and obtained high scores.
General comments on the paper		Most of the candidates were very well prepared for the December 2001 NRAE. The detailed analysis of each of the questions on the paper shows the overall performance of candidates to be the highest of all NRAE examinations to date. Of the 135 candidates, 128 (94.8%) of them were successful. The next Novice Radio Amateurs Examination is scheduled to take place on Monday, 11 March 2002. The City and Guilds fee for the examination is £14.00. The Schedule attached to the March and June question papers will be that for the Amateur Radio (Intermediate) Licence, issued under the Notice of Variation dated 9 November 2001 and which came into force on 16 November 2001. While the licence has now been renamed the Amateur Radio (Intermediate) Licence (A) or (B), for administrative purposes the qualifying written examination will continued to be called the Novice Radio Amateurs Examination throughout 2002. 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 http://www.g4dmp.co.uk