

Skill Section

Preface

Participants, instructors and assessors should take note of the conditions as laid down in the Award Handbook.

This programme is for guidance and is not to be taken as a rigid syllabus. To indicate the content appropriate to young people with varying degrees of knowledge and experience, it is arranged under three headings: 'For beginners', 'For those with some knowledge', and 'For the more advanced', and participants are free to select as broad or as restricted an aspect of this skill as they wish, but appropriate social and cultural aspects are to be covered.

The safety requirements in bold below must be followed.

CRAFTS - GENERAL

RADIO (AMATEUR)

Introduction

This activity should include as much practical work as possible, preferably undertaken with others through a group or club. The emphasis should be on real improvement of skill together with an understanding of the social and cultural significance of the activity.

For assessment, each individual is to produce evidence of regular application to the activity over the required period, which may take the form of finished articles, working models, notebook, diagrams, etc.

Instructors should ensure that power for working models and experimental work is provided from batteries or low-voltage units. Those taking part should be fully aware of the dangers involved in the use of power supplies from AC mains, and in high voltage circuits. They should also be conversant with the treatment for electric shock.

For beginners:

Award participants should have:

- 1 Elementary knowledge of DC theory (e.g. Ohm's law, heating effect of current knowledge of simple units).
- 2 Very elementary knowledge of radio principles (e.g. Aerial propagation, amplification).
- 3 Ability to construct a simple working circuit, e.g. battery operated A.F. amplifier; Crystal receiver; Battery-operated Morse Practice oscillator.
- 4 Ability to handle and use properly, the tools normally used in radio construction work.

For those with some knowledge:

Award participants should have:

- 1 Elementary electricity and magnetism.

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- 2 Elementary radio principles (impedance, resonance, etc.)
- 3 Transistor and Integrated Circuit theory and application to circuit.
- 4 Radio receivers, principles and operation of T.R.F. and superheterodyne receptions.
- 5 Low power transmitters.
- 6 Propagation, the nature of radio waves (also wavelengths, velocity and frequency).
- 7 Aerials, commonly used types of receiving and transmitting aerials. Construction and aerial feeders ('lead ins') to above.
- 8 Measurements, use of frequency meters, diagram of typical meter. Artificial aerials, measurements of direct current and voltage and power input to final stage.

For the more advanced:

Award participants should:

- 1 Operate as a licensed Radio Amateur for a period of at least nine months.
- 2 Construct a power supply and an oscilloscope.