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ASSESSMENT and QUALIFICATIONS ALLIANCE

General Certificate of Education

Applied Science 8771/8773/8776/8779

SC10 Physics of Performance Effects

Report on the Examination

2007 examination - June series

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General Comments – June 2007 Series

The A2 Units – SC07, SC09, SC10, SC12, SC13, SC15 and SC16

The entry for the specification has continued to grow and centres have continued to successfully guide candidates to achieve, this first cohort for the A2 award has generated much high quality work from centres. Due credit should be given to both teachers and students in making every effort to meet the requirements of a new specification, producing portfolios, in many areas, of a commendable standard of content, approach and presentation. Centre administration overall has been good. However a number of centres were very late in sending initial documentation to moderators and in sending off requested samples. A number of centres failed to fully complete candidate record forms, missing candidate names and numbers makes recognition of work very difficult and leads to frustration and the potential for mis-allocation of marks.

Unit 10 – Physics of Performance Effects

Centres have not found this an easy unit to access. There has been a wide range of levels of approach to the Unit. It was pleasing to see that many candidates actually had the opportunity to participate in the design and setting up of a lighting system for a performance, this is ideal, such things as a school play, prom, GCSE music evening or other public or internal performance were all appropriate.

The design of a sound and lighting system was not well presented by many. This ranged from one spotlight and a CD player, through the established system in a small school hall, to a complex system in a main event, none of which was strictly appropriate. The first needed little design, the second required no design and the third was designed by someone else. What is required are reasonable designs using a number of speakers and lights (with appropriate control systems) to work in a particular venue for a performance. The candidate does not have to execute the designs but they have to be appropriate for the venue and performance. The characteristics of the venue are an important factor in the design and should be integrated into candidates' discussions and plans.

Experimental work on sound was carried out; some very good, actually working in the venue, others of an appropriate level in laboratories or outside, all of which is appropriate. It has to be remembered that this is an A2 unit; some work was low level sometimes less than that seen at GCSE level. Good work on light was seen, with many candidates using photographic evidence and some making good use of accurate diagrams, measurements and drawings. Candidate's explanations and calculations made good use of appropriate GCE level resources for background science. Some of the work on coloured lights, filters, reflection and fabrics was not well presented, demonstrating inconclusive experimental work and confusion in the minds of candidates. The links between the experimental work on sound and light and the design in the venue were not always well made. Some centres failed to cover the all the experimental work required by the specification, including determinations of the speed of sound and the relationship between light intensity and distance, both of which are specifically mentioned in the assessment grids.

Some candidates gave very good descriptions of the range of sound and lighting equipment that could be used, making good use of photographs or images from the Internet. Candidates need to appreciate the difference between permitted use of images and photographs and the restrictions on the use of photocopied and downloaded text. Some candidates tended to resort to downloaded text in parts of their descriptions; this should not be allowed by centres.

Most candidates had attended and then evaluated a performance. However many of these were simply accounts of what happened. The candidates clearly need to state what happened but they need to expand this by explaining the outline design of the sound and lighting systems, explain how their use impacted on the performance and also bring into their explanations some of the scientific reasoning behind the effects produced.

Candidates attempted to cost the lighting system of the performance attended. Many made good efforts to do this. Some based this on the number of lights, their power, time used and cost per unit of electricity. Some estimates were appropriate; some were clearly inaccurate, ranging from a few pence to many hundreds of pounds. Some candidates followed the route of purchasing or hiring the equipment use. This approach is not precluded by the specification and many find this aspect interesting, however the specification on page 113 clearly targets the cost of the electricity to run the lighting system rather than the cost of the equipment itself.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the **Results statistics** page of the AQA Website.