GCE Design and Technology Resistant Materials (A2)
Exemplar Commentary 1
Title: Portable Outdoor artist's Easel
Unit: 6RM04

A Research & analysis P2-6	The student has presented an analysis of the brief in the form of a spider diagram and although it is barely readable it is of use in guiding future research. A brief client interview and a summary of the discussion are useful in clarifying some design needs. 'Similar product analysis' is carried out appropriately and the student has explored materials, processes and mechanisms involved in their construction, which will be of direct help when designing. Other useful research focuses on human dimensions, canvas sizes, car boot size and geographical context to determine levels of necessary corrosion resistance. Research is focused and selective and is based on the design needs identified. (Mark Range 3-4)
B Product specification P7	The specification presented offers points that are realistic measurable and justified. Statements are guided by research which included client preferences. Sustainability is mentioned, but briefly. There is a lack of technical input, regarding important features such as requirements for folding and adjustment for portability and fitting a range of users. (Mark Range 4-6)
C Design P8-12	A good range of ideas is presented by the student and these are realistic, workable and detailed, and focus on specification points. Excellent annotation accompanies each design idea to suggest appropriate materials and processes that could be used when manufacturing the product. Objective client feedback is recorded for each idea and the student considers relevant sustainability issues. Mechanical details and fixtures and fittings are explored and the technical information reflects the student's good knowledge and understanding of RMT. (Mark Range 7-10)
C Review P13	The student has objectively evaluated each design idea and has included commentary from the client, which adds to the objectivity. Realistic and appropriate sustainability issues are raised which focus on design and resources. (Mark Range 3-4)
C Develop P14-32	In this excellent section, the student continues to make design changes to move the design on and to refine the selected initial idea into a high quality final design proposal. Developmental sketches are supported by technical information and client feedback that is influential in achieving a final design proposal. Modelling of a door hinge is used to resolve a potential problem in construction and CAD is used expertly to visualise the prototype product and in particular the hinge arrangement. An exhaustive range of formal working drawings is also presented. (Mark Range 7-10)

C Communicate P14-32	A range of communication techniques including ICT has been used with accuracy and precision to convey comprehensive information that would allow a skilled practitioner to manufacture the designed product. Technical information is presented on working drawings and other information is present on development pages and in the plan for production. (Mark Range 4-6)
D Planning P35-41	This very comprehensive section contains all necessary information to achieve maximum marks in this section. Planning covers both one-off and commercial production, which is not necessary. The student has produced much more evidence than is required to achieve maximum marks. (Mark Range 4-6)
E Making: use of tools and equipment P42-44	Photographic evidence shows the student using a range of processes, tools and equipment with high levels of skill and precision. Welding, mould production, vacuum forming, screw-threading and various hand processes are evidenced (Mark Range 7-9)
E Making: Quality P45 & next page	A series of photographic images illustrate the high quality outcome of the manufactured product. It is complete and fully functioning and fully matches the final design proposal. There is no justification for the selection of materials or processes in this section, but on pages 18 and 47, the student describes why the selected materials were appropriate. A little more information regarding materials and process selection would have resulted in maximum marks. (Range Mark 11-16)
E Making: complexity/level of demand P42-45 & next	The task in producing the product was complex and challenging, requiring a wide range of skills. The student has demonstrated precision and accuracy in meeting the challenging task set. (Mark Range 7-9)
F Testing & evaluation P46-48	Field trials to test the product have been used and testing has been carried out against points of specification. Objective comments from the student and the client are recorded. A life cycle assessment of the product is shown. No future modifications are suggested as a result of testing. (Mark Range 7-10)