CRITERION E

*Prototypes need to be modified in order to make them suitable for* ***commercial production*** *with materials and components chosen, which are compatible with the manufacturing process and design specification.*

(i)*justifies the choice of materials and components appropriate for commercial production*

* Materials and components are identified and selected according to the requirements of making the product commercially viable.
	+ Explain your choice and which material is most appropriate.
	+ Valid reasons for your choice is needed.
	+ These need to be justified with regards to properties (physical, mechanical and aesthetic), cost, supply, ease of (chosen) manufacture, and so on.
* Components considering assemblies and sub-assemblies.

This should be on approximately two A4 pages or the equivalent.

(ii)*justifies the choice of manufacturing techniques appropriate for commercial production*

* [Manufacturing techniques](http://engineershandbook.com/MfgMethods/) are identified and selected according to the requirements of making the product commercially viable.
* Justified and valid reasons for your choice is needed.
	+ Why did you choose one manufacturing technique over another.
	+ ie Injection moulding for ABS (match the technique with the material and its properties), also, it is cost effective for volume production
* These need to be justified with regards to properties (physical, mechanical and aesthetic), cost, supply, ease of manufacture, assembly, quality control and so on.
* [Scale of production](http://www.ruthtrumpold.id.au/destech/?s=scale+of+production) and [productions runs](http://www.businessdictionary.com/definition/production-run.html) need to be considered and parked with appropriate manufacturing techniques.

This should be on approximately two A4 pages or the equivalent.(iii) *explains design modifications to the solution required for commercial manufacture.The detailed design should be modified in order to be compatible with the manufacturing techniques for commercial production and the design specification.Improvements should be presented in the form of revised specifications, annotated drawings/ photographs, or CAD.*

* Explain how the solution would be modified for commercial production.
	+ This could include drawing angles for a mould, modifying assembly,  some redesign to accommodate components, interior of a product to accommodate electronics and so on

This should be on approximately two A4 pages or the equivalent.