

# Leaving Certificate Technology

## Consultative Document

### Draft Sample Thematic Brief – Higher Level

#### **Theme: Energy Conservation**

*Fossil fuels provide approximately 95% of the world's total energy demands. However, at the current rate of use there may be severe shortages in the next 10 – 15 years. This may render our current lifestyles unsustainable.*

With reference to the above theme, design and make a device that will assist in the conservation of energy. The device must incorporate a mechanical and/or electronic system.

#### **Suggested candidate instructions issued on the project examination paper.**

1. Each project must consist of a design folder and an artefact.
2. The solution presented must be the candidate's own individual work. The design folder should include a record of all stages of the candidate's work from analysis to realisation.
3. The project must be completed in school under the supervision of the Technology teacher.
4. The solution presented should display a combination of the knowledge and skills developed through the candidate's study of the core and chosen optional modules.
5. The candidate must indicate the chosen optional modules on the table of contents page in the design folder.
6. The solution presented should take account of ergonomics and safety requirements.
7. All important operating features must be clearly visible and easily accessible without dismantling.
8. Where specialised equipment is required to operate the final solution, this must be set up by the candidate with clear instructions for the examiner regarding operation.
9. Multimedia presentations, where submitted, must be of **maximum 3** minutes duration and must be set up ready for viewing.
10. The project must be completed by 13<sup>th</sup> February 2009

## Proposed sections for the marking scheme

### Design Folder

1. Analysis of thematic brief
  2. Project management
  3. Research, investigation & specifications of brief
  4. Design ideas & selection of optimum solution
  5. Sketches & drawings for manufacture
  6. Production planning
  7. Product realisation
  8. Evaluation & critical reflection on manufacture
  9. Environmental impact
  10. Presentation & ICT
- 50%

### Artefact

1. Product meets theme & specification
  2. Creativity
  3. Production skills
  4. Quality & finish of artefact
  5. Presentation of the finished artefact
- 50%

## Draft Assessment Criteria

<b>Design Folder</b>			
<i>No.</i>	<i>Heading</i>	<i>Description</i>	<i>Marks</i>
1	Analysis of thematic brief	Evidence of research of the broader context of the theme. Specification of chosen parameters.	10
2	Project management	Analysis of available resources, time and budget constraints. Proposed timeframe.	5
3	Research, investigation & specifications of brief	Further research into chosen area. Analysis of existing solutions. A statement outlining the candidate's final brief and related specifications.	15
4	Design ideas & selection of optimum solution	Annotated sketches & drawings outlining three possible solutions. Optimum solution identified & justified.	15
5	Sketches & drawings for manufacture	Detailed annotated sketches & drawings including all elements/aspects of solution; circuit diagrams/ flowcharts/ models/prototypes/dimensions/scale/assembly details.	15
6	Production planning	Materials & component lists, scheduling, work breakdown structure, network diagrams, Gantt charts, critical path diagrams, costing.	10
7	Product realisation	Sequence of manufacture including photographic evidence.	5
8	Evaluation & critical reflection on manufacture	Testing against chosen brief. Evaluation of final artefact. Comparison of planned schedules and actual schedules. Suggested modifications with justification.	10
9	Environmental impact	Demonstration of environmental awareness during design & realisation. Analysis of materials used in manufacture. Suitability for recycling.	10
10	Presentation & ICT	Correct sequence of presentation, Quality of material presented. ICT skills in production of folder.	5

Total marks for the design folder: 100

<b>Artefact</b>			
<i>Number</i>	<i>Heading</i>	<i>Description</i>	<i>Marks</i>
1	Artefact meets theme & specification	Solution presented meets the thematic brief and specifications as identified by the candidate.	20
2	Creativity	Creativity in design, aesthetics & ergonomics; Creativity in use of materials.	20
3	Production skills	Processing of materials; Assembly of materials and components; Factor of difficulty.	20
4	Quality & finish of artefact	Functionality; Artefact well finished; Limited use of commercial components. Due regard for health & safety.	20
5	Presentation of the finished artefact	Project well presented. Parts well integrated and labelled where appropriate.	20

Total marks for the artefact: 100