

UNIVERSITY OF CAMBRIDGE LOCAL EXAMINATIONS SYNDICATE
Joint Examination for the School Certificate
and General Certificate of Education Ordinary Level
DESIGN AND TECHNOLOGY
PAPER 2 Project Theme
MAY/JUNE AND NOVEMBER SESSIONS 2002

6043/2

No additional materials are required.

INSTRUCTIONS TO SUPERVISORS

This project theme should be notified to candidates at the beginning of the first term in the year of the examination.

This question paper consists of 3 printed pages and 1 blank page.

The theme for the project is **MOVEMENT**.

You are to design and make an artefact that incorporates moving parts.

Initially, you should explore and make a brief analysis of a number of situations where movement is the main feature of an artefact.

Movement in artefacts may be achieved in many different ways and may, for example, include the following principles: mechanical; frictional; magnetic; electrical; electronic or combinations of these principles.

You may interpret the theme as widely as you wish. To assist but not restrict your thinking the following actions involving movement are offered:

Reciprocating;

Oscillating;

Rotary;

Linear;

Folding;

Opening/closing;

Raising/lowering;

Leverage.

From your analysis you are to identify a situation for which you are to design and make an artefact which incorporates a movement feature.

There are two parts to the project:

- (i) Design Folio – Part A
- (ii) Design Artefact – Part B

Part A – Design Folio

The folio is to be A3 size maximum format and should consist mainly of illustrations and drawings, supplemented where necessary by the written word. Photographs may be included where helpful. Pages should be numbered and a list of contents, referenced with page numbers, included. The folio should include the following sections in the order given:

- (i) **List of contents**
- (ii) **General analysis of the topic**

Identification and brief analysis of a range of products and/or systems that incorporate a **movement** feature.

(iii) (a) Brief

An identified design task described in general but accurate terms.

(b) Specification

A design specification. Concise itemised requirements to be met by the solution.

(iv) Exploration of ideas

Exploration of a range of ideas for meeting the design specification.

(v) Development of proposed solution

Detailed development of the selected idea, including form, materials and constructions to be used.

(vi) Final design

Drawing(s) showing the complete intended solution.

(vii) Production plan

Identified sequential stages and processes with consideration of some of the more complex tasks to be used in the construction of the solution.

(viii) Evaluation

This will be based mainly on how well the outcome product matches the design requirements as identified in the specification. Other sections of the folio should reveal the ongoing evaluation by the candidate as the design is developed by showing the basis of decisions made.

Part B – Design Artefact

The production of the artefact should involve a range of skills. It can be made of a single material or a range of materials appropriate to the product.

Candidates should avoid large-scale tasks, which might prejudice the quality of the completed artefact.

Notes to Teachers

Support of the candidate by the teacher through advice and guidance is crucial throughout the project but the candidate is to exercise judgements and make personal decisions in the formulation and making of the design. The practical work is to be entirely that of the candidate under normal guidance of the teacher. Counselling will be necessary in helping candidates select a project suitable in scope and demand appropriate to their abilities.

Candidates are to be made familiar with the scheme of assessment as detailed in the syllabus at the onset of the project. The 'Teacher's Guide to Assessment', as detailed in the syllabus, should also be used to inform candidates of the various requirements for the assessment of the work.

BLANK PAGE