A local zoo wants to increase its range of food products in the cafe and shop. A children’s snack box is required.

The product must:
- be able to provide a nutritionally balanced lunch for a child
- be easily eaten without additional cutlery.

Follow the instructions given on the four A3 answer sheets to complete the question.

### Built Environment and Construction focus

As part of a project to transform a seafront area, the local council has decided to update existing beach huts.

A product that would enable an adult to cut branches without the use of a ladder or steps is required.

The product must:
- be able to cut small branches up to 2.5 metres from ground level
- be able to be stored easily.

Follow the instructions given on the four A3 answer sheets to complete the question.

### Graphic Products focus

Fancy dress and themed parties are becoming very popular.

A product is required that could be assembled and dissembled to use at a children’s party.

The product must:
- be able to be used on more than one occasion
- be suitable for sale in flat-pack form.

Follow the instructions given on the four A3 answer sheets to complete the question.

### Food Focus

A local zoo wants to increase its range of food products in the cafe and shop.

A children’s snack box is required.

The product must:
- be able to provide a nutritionally balanced lunch for a child
- be easily eaten without additional cutlery.

Follow the instructions given on the four A3 answer sheets to complete the question.

### Engineering focus

It is often difficult to cut branches on tall trees.

A product that would enable an adult to cut branches without the use of a ladder or steps is required.

The product must:
- be able to cut small branches up to 2.5 metres from ground level
- be able to be stored easily.

Follow the instructions given on the four A3 answer sheets to complete the question.

Answer ONE question only.
People can be at risk during very cold weather. A product that will clearly indicate that the temperature has fallen below a safe level in a room is required.

The product must:
- have an audible and/or visual alarm to indicate that the temperature has fallen below the set level.
- have an adjustable temperature setting between 4 and 11 years.

Primary school children need protection from the sun when working or playing outdoors.

A wearable product that could be used to protect primary aged children from the sun is required.

The product must:
- be suitable for a child aged between 4 and 11 years.
- be easy to be applied or used by a single person.

If it is often difficult to transport supplies to people that have been affected by severe weather conditions, such as snow or floods.

A product is required that could be used to transport supplies over short distances.

The product must:
- be able to be pulled or pushed by a single person.
- be easily adaptable for use over different surface conditions.

Children's bedrooms can be small and cramped.

A multi-functional unit for a child's bedroom is required.

The product must:
- be suitable for children aged over 3 years and above.
- be able to be assembled by an adult.

Primary school children need protecting from the sun when working or playing outdoors.

A wearable product that could be used to protect primary aged children from the sun is required.

The product must:
- be suitable for a child aged between 4 and 11 years.
- be easily adaptable for use over different surface conditions.
Give three justified specification points.

- Specification points
- Range of developed ideas
- Final developed outcome
- Communication

Total: 54

All dimensions are in millimetres

Where necessary, calculators may be used.
(b) Ideas with development
- A range of ideas
- Consider manufacturing/construction detail
- Evaluate ideas with reference to specification and volume production

[Total: 33]
<table>
<thead>
<tr>
<th>FOR EXAMINERS USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
</tr>
<tr>
<td>D</td>
</tr>
<tr>
<td>E</td>
</tr>
</tbody>
</table>
(c) Final developed outcome

Sketch a final developed outcome. Justify key design features.  [9]