Answer one question only on the A3 pre-printed answer sheets provided.

Hotels provide drink making items for guests to use in a hotel bedroom.

Design a portable unit that will organise the drink making items.

(a) List four additional points about the function of such a portable unit that you consider to be important. [4]

(b) Use sketches and notes to show two methods of protecting the portable unit against water damage. [4]

(c) Develop and sketch three ideas for the portable unit. [12]

(d) Evaluate your ideas and justify why you have chosen one idea to develop more fully. [8]

(e) Draw, using a method of your own choice, a full solution to the problem. Include construction details and important dimensions. [12]

(f) Suggest two suitable specific materials for your solution and give reasons for your choice. [4]

(g) Outline a method used to manufacture one part of your solution. [6]
Guided walks are offered by some hotels.

Design a promotional unit that attracts attention to the guided walks on offer. The unit should arrive at the hotel in flat-pack form, ready to be assembled by the hotel staff.

(a) List four additional points about the function of such a promotional unit that you consider to be important.

(b) Use sketches and notes to show two different methods that could be used to attract the attention of hotel guests.

(c) Develop and sketch three ideas for the promotional unit.

(d) Evaluate your ideas and justify why you have chosen one idea to develop more fully.

(e) Draw, using a method of your own choice, a full solution to the problem. Include construction details and important dimensions.

(f) Suggest two suitable specific materials for your solution and give reasons for your choice.

(g) Outline a method used to manufacture one part of your solution.
3 Hotel staff need to move heavy cases when guests arrive.

Design a mobile device which will allow up to three cases to be moved up steps, at the same time, by one person.

(a) List four additional points about the function of such a device that you consider to be important.

(b) Use sketches and notes to show two different mechanisms which could lift heavy objects.

(c) Develop and sketch three ideas for the device.

(d) Evaluate your ideas and justify why you have chosen one idea to develop more fully.

(e) Draw, using a method of your own choice, a full solution to the problem. Include construction details and important dimensions.

(f) Suggest two suitable specific materials for your solution and give reasons for your choice.

(g) Outline a method used to manufacture one part of your solution.