DESIGN AND TECHNOLOGY

6902/01

Paper 1 Design

October/November 2019

1 hour 15 minutes

Candidates answer on the pre-printed A3 answer sheets

Additional Materials: Standard Drawing Equipment

To be taken together with the optional paper for which you have been entered in one session of 2 hours and 15 minutes.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and candidate name in the spaces on **both** printed Answer Sheets.

Write in dark or blue pen.

You may use a soft pencil for any diagrams, graphs, or rough working.

Do not use staples, paper clips, glue, or correction fluid.

There are three questions in this paper.

Answer one question.

The total of marks for this paper is 50.

At the end of the examination, tie your answer sheets together.

The number of marks is given in brackets [] at the end of each question or part question.

You may use a calculator.

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

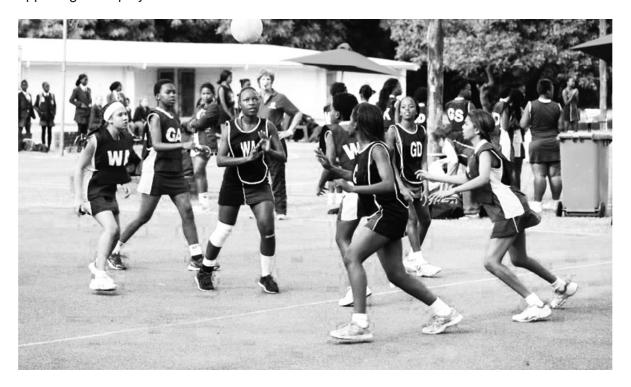
1 Dirty dishes and some kitchen utensils are sometimes left around untidily in kitchens.



Design a unit that could be used to store dirty dishes and other kitchen utensils. It must have four sections for different types of items.

- (a) List four additional points about the function of such a unit that you consider to be important. [4]
- **(b)** Use sketches and notes to show **two** types of joints that might form part of such a unit. [4]
- (c) Develop and sketch three ideas for the 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 your problem. Include construction details and major 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 in the school workshop. [6]

2 Your school netball team will be participating in a tournament and needs souvenirs to be given to the opposing team players.



Design a lightweight souvenir that would act as a desk tidy and include the name of your school.

- (a) List **four** additional points about the function of such a souvenir that you consider to be important. [4]
 - d [4]
- **(b)** Use sketches and notes to show **two** methods by which joints can be made in card and other lightweight materials.
 - . .

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

- [12] [8]
- (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 your problem. Include construction details and major dimensions.
 - [12]

[4]

- (f) Suggest **two** suitable specific materials for your solution and give reasons for your choice.
- (g) Outline a method of producing a prototype of your solution in the school's Graphics room. [6]

3 Volleyball players play the sport whenever they can and use whatever is at hand to support a volleyball net.



Design a detachable and height adjustable pair of posts that can be taken to an open space to support a volleyball net for players to play comfortably.

- (a) List four additional points about the function of such a device that you consider to be important. [4]
- (b) Use sketches and notes to show **two** different attachments that would allow the net to be adjusted for different heights. [4]
- (c) Develop and sketch three ideas for the portable device. [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 your problem. Include construction details and major 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 in the school workshop. [6]