



# Rugby School

## Sixth Form Entrance Examination

D & T (Specimen Paper)

Time allowed: 1 hr

Answer all questions.

The marks available are given in the brackets.

Design Task: This is a design task allowing you to show your designing skills and creativity.  
This question should be completed on the A3 paper provided.

Candidates will need:

This question paper;  
2 x A3 Answer sheets;  
Coloured pencils.

**Design Task** You should spend one hour on this question.

Answer the question on the A3 paper provided.

With healthy lifestyles becoming more popular and the increased viewing audience given to cycling since Bradley Wiggins won the Tour De France many people are turning to cycling as a form of exercise. There is, however, a shortage of bicycle storage facilities in many public spaces.

Your task is to design a bicycle storage device that is suitable for use of the teachers at Rugby School.

The product must meet the following criteria:

It must be able to support a range of different types of bicycle;

It must be unobtrusive when not in use;

It must be secure when bicycles are locked to it;

It must be safe;

It must be suit the environment where it is being used;

It must be robust;

It must be easy to maintain;

It must be aesthetically pleasing;

It must be suitable for batch production.

- a) Produce a range of ideas to solve the problem outlined above.

There is a total of 30 marks for this question.

Meeting the requirements	(5 marks)
Range of ideas	(10 marks)
Quality of drawings	(10 marks)
Quality of annotation	(5 marks)

- b) Develop your best solution showing how it will be constructed. Include specific materials and process in your answer and at least three important dimensions. Show how bought in components will be incorporated into your design

There is a total of 30 marks for this question.

Selection of processes	(5 marks)
Selection of materials	(5 marks)
Dimensioning	(5 marks)
Quality of drawing	(10 marks)
Use of appropriate components	(5 marks)