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

1 Sports equipment needs to be stored carefully when not in use.

Design a unit to store four table tennis bats and six table tennis balls.

(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 ways by which a table tennis ball could be held in the unit so that it does not roll around. [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 the 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. [6]
2. People are encouraged to take part in sports to help them keep fit and healthy.

Design a display for use in the entrance to a sports centre that will encourage people to take part in a sport of your choice. The display must include a slogan and some form of moving feature.

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

(b) Use sketches and notes to show two ways by which movement might be achieved on such a display. [4]

(c) Develop and sketch three ideas for the display. [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 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. [6]
3 Golfers need to walk to retrieve the ball when practising putting.

Design a device that could be used to return the ball to the golfer after each successful putt.

(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 ways by which a golf ball could be sent back to the golfer. [4]

(c) Develop and sketch three ideas for the 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 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]