

Instructions:

1. Read and answer all the questions carefully.
2. Take note of the mark allocation before answering the questions.
3. Sketches and drawings to be done in pencil.

Good luck!**Question 1:** Multiple Choice. Choose the correct letter to match the sentence. e.g. 1.1-E

1.1 The design process involves the following stages:

- A) Investigate, draw, make, communicate, test
- B) Investigate, design, make, evaluate and communicate
- C) Investigate, design, make and evaluate
- D) Investigate, develop, make and communicate

1.2 What lines are used to show a complete drawing?

- A) Centre Lines
- B) Construction lines
- C) Outlines
- D) Dashed lines

1.3 What motion is movement along a straight line in one direction?

- A) Linear motion
- B) Reciprocating motion
- C) Oscillating motion
- D) Rotary motion

1.4 The state of being steady and unlikely to change, fall or move is...

- A) Stability
- B) Rigidity
- C) Strength
- D) None of the above

1.5 Which of these is an example of a specification that would be included in a design brief?

- A) You have three hours for the task.
- B) The crane must include a pulley and crank mechanism.
- C) Take care when working with a drill.
- D) Work as part of a team.

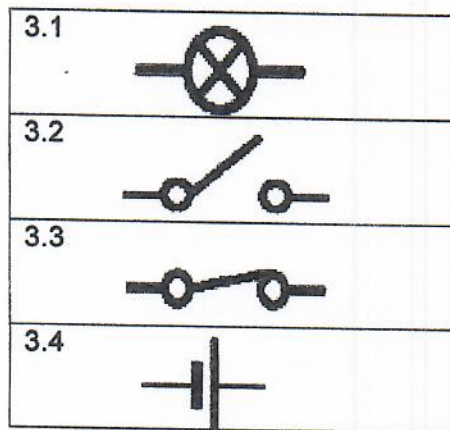
(5)

Question 2: Write one word to describe each of the following statements.

- 2.1 Can be hammered or pressed into something.
- 2.2 Ends of a magnet, where the magnetic force is the strongest.
- 2.3 The energy that flows through an electrical circuit.
- 2.4 Mainly composed of iron and are magnetic
- 2.5 The electrical parts of a circuit.

(5)

Question 3: Identify the following symbols.



(4)

Question 4: Give the definition for the following:

- 4.1 Refugees
- 4.2 Natural structure
- 4.3 Jaws-of-life
- 4.4 Design brief

(4)

Question 5: Name the purpose of the following structures as well as the type of structures.

5.1



5.2



(2)

Question 6: Read the scenario below and answer the questions that follow.

You are a designer. Mr Hopgood needs a storing device for the CD's and DVD's he uses in the computer room. The disks need to be stored safely and protected from getting scratched or damaged. The box must be easily reached but Mr Hopgood has no space on his work surface. Design and make a model of a container to keep the CD's and DVD's neat and safe. The container must:

- **Protect the CD's and DVD's**
- **Be neat and safe to use**
- **Have compartments for four CD's and four DVD's**
- **Be attractive**
- **Not too expensive to make**

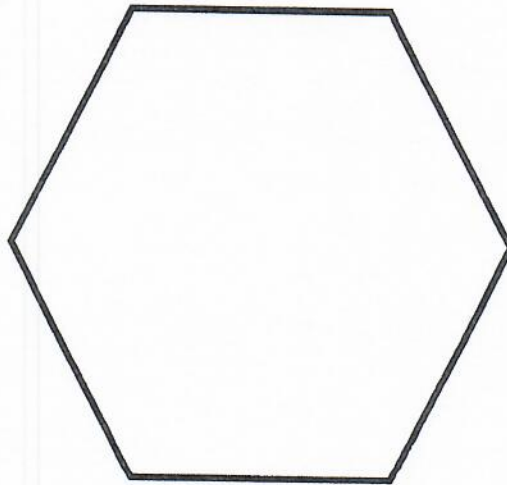
- 6.1 Write a design brief for the product. (1)
6.2 List two constraints. (2)
6.3 List two specifications. (2)
6.4 List two tools and two materials you could use in the making of this product. (2)
6.5 What would you work on AFTER having completed your rough sketches in the design process? (1)
6.6 Write two sentences that could be used as an evaluation of your product. (2)

Question 7: Read the text below on the crisis in Syria. Answer the questions that follow.

- Nearly 12 million Syrians have been forced away from their homes by the ongoing fighting; half are children.
- At least 7.6 million have been displaced within Syria, and more than 4 million have fled as refugees in neighbouring countries.
- Increasing numbers of refugees are making dangerous attempts to reach Europe. About 51 percent of them are from Syria, the UN Refugee Agency says.

- 7.1 What does UN in the UN Refugee Agency represent? (1)
7.2 What does it mean to be 'displaced' within your country? (1)
7.3 List in **bullet points** the four most important things that the UN Refugee Agency would need to supply to the refugees to keep them healthy. (4)
7.4 Discuss the problems children would face when they arrive in another country. (3)
7.5 How many Syrians have fled to neighbouring countries? (1)

Question 8: Draw a 3-D oblique drawing of the hexagon below. Your drawing should be drawn using the right-hand view. It must be drawn at 40 degrees. Each construction line must be 8cm long. Each oblique outline must be 5cm long. Do your 3-D drawing on this page and hand in with your answer sheet.



(10)

[50]