**Design & Technology**

**AQA GCSE** Logo

Description automatically generated with low confidence

**Natural and manufactured timbers**

**Materials required for questions**

* Pencil
* Rubber
* Calculator

**Instructions**

* Use black ink or ball-point pen
* Try answer all questions
* Use the space provided to answer questions
* Calculators can be used if necessary
* For the multiple choice questions, circle your answer

**Advice**

* Marks for each question are in brackets
* Read each question fully
* Try to answer every question
* Don’t spend too much time on one question

**Good luck!**

**Q1.** Which type of wood is made by gluing layers together with the grain directions alternating?

**A** Plywood

**B** MDF

**C** Oak

**Q2.** Which one of the following is a manufactured board??

**A** Ash

**B** Spruce

**C** Plywood

**Q3.** What is one factor that makes hardwoods more expensive than softwoods?

**A** Hardwoods need more care

**B** Hardwoods have higher density

**C** Hardwoods grow slower

**Q4.** What is the main advantage of manufactured boards over natural timbers?

**A** Much more aesthetic than natural timber

**B** Made in any shape/size/thickness

**C** Much stronger than natural timber

**Q5a.** Name one manufactured board **(1 marks)**

**Q5b.** Explain one advantage of using manufactured boards **(2 marks)**

**Q6.** MDF is going to be used to make a picture frame backing board.

Explain the environmental advantage of using MDF instead of pine to make a wall clock? **(2 marks)**

**Answers**

**Q1**. A

**Q2**. C

**Q3**. C

**Q4**. B

**Q5a.**

* Medium density fibreboard (MDF)
* High density fibreboard
* Plywood
* Chipboard
* Laminboard
* Blockboard
* Strawboard
* Glulam
* Hardboard

**Q5b.**

* To ensure that the whole of the tree is used and there is no waste e.g., knots, surface defects etc that have to be avoided.
* Produce large flat boards.
* Produce boards of a consistent thickness which are better for making accurate engineered products e.g., flat-pack furniture.
* Produce flat boards that are less likely to warp.
* Some manufactured boards have a smooth surface finish which can be painted to produce a highquality finish or have a laminate bonded to it to create a durable hard-wearing surface e.g., kitchen worktops.
* Better for the environment as the whole tree can be used e.g., chipboard.
* Use of recycled
* Create a timber with enhanced properties that is stronger and more suited to modern engineered buildings and structures e.g., glulam where long, consistent beams can be manufactured.

**Q6.**

* Because MDF is created with waste materials (1), there is no need for the leftovers to be disposed of or dumped in a landfill (1).
* Using MDF will reduce the amount of natural timber being cut down (1), therefore pine as a natural resource will last longer/be put to better use (1).