Design & Technology
(Product Design)

DTBase©

OCR A-Level

Manufactured Boards (5.2aii)

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. What manmade board has perpendicular layers?

A Block board

B Plywood

C MDF

Q2. Plywood is used in many school workshops for what reason?

A More durable than natural timber

B Cheap in comparison to natural timber

C Finishes well

Q3. 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

Q4. Which manufactured board is made from wood chips and resin, and is commonly used in flat-pack furniture?

A Chipboard

B MDF

C Plywood

Q5. Plywood is to be used to make a phone stand.

What are two advantages, aside from cost, of using plywood instead of solid wood for the production of the phone stand **(4 marks)**

Q6a. Name one manufactured board other than Plywood **(1 marks)**

Q6b. Explain one advantage of using manufactured boards **(2 marks)**

Answers

Q1. B
Q2. B
Q3. B
Q4. A

Q5.

- Plywood resists warping (1) since it is a dimensionally stable material (1).
- Because plywood has uniform strength (1), tiny details are less prone to come loose (1).
- Plywood can be knot free (1), so there won't be any vulnerable weak areas (1).

Q6a.

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

Q6b.

- 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 timber

- 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.