

EDEXCEL GCSE
RESISTANT MATERIALS
PAST PAPERS 2010 – 2013

QUESTION 1-10

GENERAL MULTIPLE CHOICE

THE EXAM

- It is 90 minutes long.
- You will need a BLACK ball point pen for the exam.
- Do NOT use coloured pens, coloured pencils, or highlighters.
- Answer ALL the questions.
- There are 80 marks for the paper.
- Read each question carefully and think “What does the examiner want to read in my answer”, not “I’ll put some information down which may not be relevant”.
- If you find a question hard, leave it and come back to it later.
- Answer the questions you find easiest first (this will be your personal choice).
- Study the way each question is written. There are common themes and the way they are set out is the same each year. Therefore you can work out what the question is going to ask you. Obviously the content will be different (IE a different picture, but the questions will be very similar!)
- If you have time, check your answers and re-read them several times.

Questions 1-10	10 marks (12.5%)	Suggested timings 11 minutes
Question 11	19 marks (23.75%)	Suggested timings 21 minutes
Question 12	16 marks (20%)	Suggested timings 18 minutes
Question 13	16 marks (20%)	Suggested timings 18 minutes
Question 14	19 marks (23.75%)	Suggested timings 21 minutes

Answer ALL the questions.

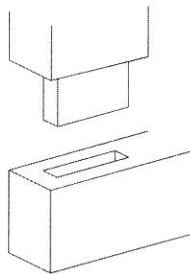
For each question 1 to 10, choose an answer A, B, C or D. Put a cross in the box indicating the answer you have chosen ☐. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☐.

1 Which **one** of the following is a temporary method of joining?

- ☐ A Brazing
- ☐ B Welding
- ☐ C Screws
- ☐ D Soldering

(Total for Question 1 = 1 mark)

2 What kind of joint is shown below?



- ☐ A Butt
- ☐ B Mortise and tenon
- ☐ C Knock down fitting
- ☐ D Rebate

(Total for Question 2 = 1 mark)

3 A manufacturer makes 100,000 identical products.

This scale of manufacture is known as:

- ☐ A one-off
- ☐ B batch
- ☐ C mass
- ☐ D limited

(Total for Question 3 = 1 mark)



4 The best process to form a bottle from polythene is:

- ☐ A vacuum forming
- ☐ B injection moulding
- ☐ C blow moulding
- ☐ D line bending

(Total for Question 4 = 1 mark)

5 Which **one** of the following tools can be used for a wasting process?

- ☐ A Plane
- ☐ B Scriber
- ☐ C Micrometer
- ☐ D Paint brush

(Total for Question 5 = 1 mark)

6 Brass is an alloy of copper and which other metal?

- ☐ A Aluminium
- ☐ B Silver
- ☐ C Mild steel
- ☐ D Zinc

(Total for Question 6 = 1 mark)

7 CNC stands for:

- ☐ A Computer Numbered Cutters
- ☐ B Combined Numbers Controlled
- ☐ C Computer Numerically Controlled
- ☐ D Centrally Networked Computers

(Total for Question 7 = 1 mark)



H 3 7 0 7 0 A 0 3 2 0

8 Which **one** of the following is a smart material?

- ☐ A Reactive glass
- ☐ B ABS
- ☐ C Oak
- ☐ D High impact polystyrene

(Total for Question 8 = 1 mark)

9 The Kyoto Protocol agreement was established to:

- ☐ A reduce greenhouse gas emissions
- ☐ B reduce paper consumption
- ☐ C recycle more plastic
- ☐ D reuse materials and products where applicable

(Total for Question 9 = 1 mark)

10 Which **one** of the following is the correct definition of elasticity?

- ☐ A Ability to withstand sudden shock loading without fracture
- ☐ B Ability to withstand abrasive wear and indentation
- ☐ C Ability to be drawn or stretched
- ☐ D Ability to return to its original shape after the deforming force has been removed

(Total for Question 10 = 1 mark)



Answer ALL the questions.

For each question 1 to 10, choose an answer A, B, C or D. Put a cross in the box indicating the answer you have chosen ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

1 For which **one** of the following is a scribe used?

- ☐ **A** Measuring
- ☐ **B** Making holes
- ☐ **C** Marking out
- ☐ **D** Removing waste

(Total for Question 1 = 1 mark)

2 Which **one** of the following is most suitable for joining two pieces of pine together?

- ☐ **A** Contact adhesive
- ☐ **B** Epoxy resin
- ☐ **C** Tensol® cement
- ☐ **D** PVA

(Total for Question 2 = 1 mark)

3 Which **one** of the following is a wasting process?

- ☐ **A** Turning
- ☐ **B** Vacuum forming
- ☐ **C** Casting
- ☐ **D** Blow moulding

(Total for Question 3 = 1 mark)



4 Which **one** of the following is an alloy?

- ☐ A Copper
- ☐ B Zinc
- ☐ C Aluminium
- ☐ D Brass

(Total for Question 4 = 1 mark)

5 Which **one** of the following processes is most suitable for producing long lengths of plastic guttering?

- ☐ A Laminating
- ☐ B Extrusion
- ☐ C Casting
- ☐ D Vacuum forming

(Total for Question 5 = 1 mark)

6 Which **one** of the following statements about plywood is true?

- ☐ A It has an odd number of layers
- ☐ B The outside layers run in opposite directions
- ☐ C It has an even number of layers
- ☐ D It is a natural timber

(Total for Question 6 = 1 mark)

7 Which **one** of the following tools is used for producing lines parallel to an edge?

- ☐ A Try square
- ☐ B Engineer square
- ☐ C Marking gauge
- ☐ D Centre punch

(Total for Question 7 = 1 mark)



8 Which **one** of the following is a thermosetting plastic?

- ☐ A Acrylic
- ☐ B Polyethene
- ☐ C Polyvinyl chloride
- ☐ D Urea formaldehyde

(Total for Question 8 = 1 mark)

9 A screw thread is described as M6 x 1.0

What does the M stand for?

- ☐ A Metric
- ☐ B Millimetres
- ☐ C Metres
- ☐ D Measurement

(Total for Question 9 = 1 mark)

10 Tempering is a heat treatment process.

Which **one** of the following is the purpose of tempering?

- ☐ A It increases the hardness of the metal
- ☐ B It removes the brittleness of the metal once hardened
- ☐ C It increases carbon content
- ☐ D It makes the outside surface harder

(Total for Question 10 = 1 mark)



Answer ALL the questions.

For each question 1 to 10, choose an answer A, B, C or D. Put a cross in the box indicating the answer you have chosen ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

- 1** 50,000 plastic ice cream pots are required.

Which **one** of the following processes is best for the manufacture of the pots?

- ☐ **A** Casting
- ☐ **B** Vacuum forming
- ☐ **C** Extrusion
- ☐ **D** Laminating

(Total for Question 1 = 1 mark)

- 2** Which **one** of the following tools is used with a hammer to mark out where a hole is to be drilled in a piece of metal?

- ☐ **A** Centre punch
- ☐ **B** Try square
- ☐ **C** Scriber
- ☐ **D** Twist drill

(Total for Question 2 = 1 mark)

- 3** Which **one** of the following materials is a composite?

- ☐ **A** Zinc
- ☐ **B** Acrylic
- ☐ **C** Carbon fibre
- ☐ **D** Reactive glass

(Total for Question 3 = 1 mark)

- 4** Many retailers make use of an EPOS system. What does the term EPOS stand for?

- ☐ **A** Electronic profit on sales
- ☐ **B** Efficient promotion of stock
- ☐ **C** Economical production of stock
- ☐ **D** Electronic point of sale

(Total for Question 4 = 1 mark)

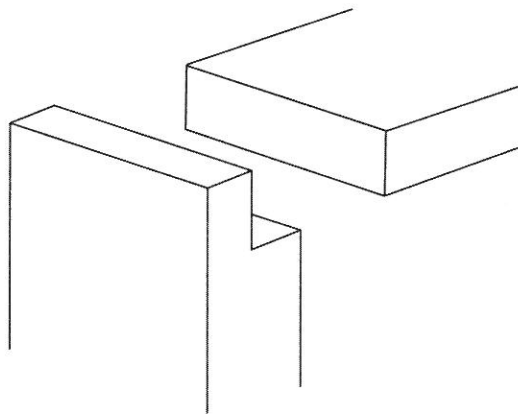


5 Which **one** of the following is a ferrous metal?

- ☐ A Aluminium
- ☐ B Stainless steel
- ☐ C Brass
- ☐ D Copper

(Total for Question 5 = 1 mark)

6 What type of joint is shown in the diagram below?



- ☐ A Mortise and tenon joint
- ☐ B Dowel joint
- ☐ C Rebate joint
- ☐ D Dovetail joint

(Total for Question 6 = 1 mark)

7 What electronic system is identified by the logo shown below?



- ☐ A Videoconferencing
- ☐ B CAD/CAM
- ☐ C Bluetooth®
- ☐ D CNC

(Total for Question 7 = 1 mark)



P 3 9 4 2 1 A 0 3 1 6

8 Photochromic paint changes colour when exposed to:

- ☐ A heat
- ☐ B water
- ☐ C sunlight
- ☐ D cold

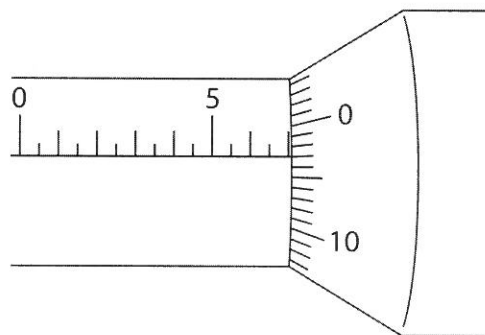
(Total for Question 8 = 1 mark)

9 Hardness is defined as:

- ☐ A the ability of a material to be deformed by compression without cracking or tearing
- ☐ B the ability of a material to withstand abrasive wear and indentation
- ☐ C the ability of a material to withstand sudden shock loading without fracture
- ☐ D the ability of a material to return to its original shape after a deforming force has been removed

(Total for Question 9 = 1 mark)

10 What is the reading shown on the micrometer below?



- ☐ A 7.03 mm
- ☐ B 7.06 mm
- ☐ C 7.30 mm
- ☐ D 7.60 mm

(Total for Question 10 = 1 mark)



Answer ALL the questions.

For each question 1 to 10, choose an answer A, B, C or D. Put a cross in the box indicating the answer you have chosen ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

1 Which **one** of the following is **not** a manufactured board?

- ☐ **A** Hardboard
- ☐ **B** Plywood
- ☐ **C** Beech
- ☐ **D** Medium density fibreboard (MDF)

(Total for Question 1 = 1 mark)

2 Which **one** of the following is iron alloyed with to make mild steel?

- ☐ **A** Carbon
- ☐ **B** Zinc
- ☐ **C** Brass
- ☐ **D** Aluminium

(Total for Question 2 = 1 mark)

3 Which **one** of the following processes involves the use of heat?

- ☐ **A** Turning
- ☐ **B** Laminating
- ☐ **C** Vacuum forming
- ☐ **D** Pop riveting

(Total for Question 3 = 1 mark)

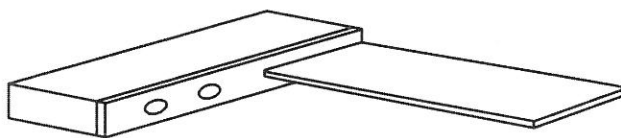
4 Which **one** of the following tools is an abrading tool?

- ☐ **A** Plane
- ☐ **B** File
- ☐ **C** Chisel
- ☐ **D** Saw

(Total for Question 4 = 1 mark)



5 What is the tool below used for?



- ☐ A Measuring angles
- ☐ B Marking out and checking right angles
- ☐ C Marking lines parallel to an edge
- ☐ D Measuring small distances

(Total for Question 5 = 1 mark)

6 Photovoltaic cells react to which form of energy?

- ☐ A Solar
- ☐ B Wind
- ☐ C Tidal
- ☐ D Oil

(Total for Question 6 = 1 mark)

7 Which **one** of the following is **not** a property of mild steel?

- ☐ A Magnetic
- ☐ B Malleable
- ☐ C Tough
- ☐ D Plasticity

(Total for Question 7 = 1 mark)

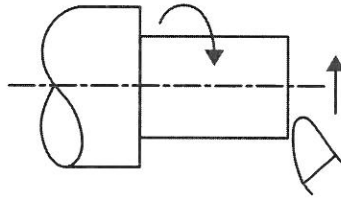
8 Reactive glass will change colour when subjected to which **one** of the following?

- ☐ A Sunlight
- ☐ B Heat
- ☐ C Water
- ☐ D Cold

(Total for Question 8 = 1 mark)



9 Which turning process is shown below?



- ☐ A Parallel turning
- ☐ B Facing
- ☐ C Taper turning
- ☐ D Parting

(Total for Question 9 = 1 mark)

10 Which **one** of the following best describes the process of case hardening?

- ☐ A Removes the brittleness of the metal once hardened
- ☐ B Increases the hardness of the metal
- ☐ C Makes the surface shiny
- ☐ D Makes the outside surface harder

(Total for Question 10 = 1 mark)

