

Commentary on candidate evidence

The evidence for this candidate has achieved the following marks for each question of this course assessment component.

Candidate 1

Question 1(a)

The candidate was awarded **1 mark** for the reference to 'contains iron'. Although the candidate latterly contradicts this statement, positive marking is applied as they have correctly answered the question.

Question 1(b)

The candidate was awarded **1 mark** as they correctly stated that high carbon steel can be hardened.

Question 1(c)(i)

The candidate was awarded **0 marks** as they have incorrectly stated the name of the common section of metal.

Question 1(c)(ii)

No response.

Question 1(d)(i)

The candidate was awarded **1 mark**, as they have correctly explained that the metal is heated to a high temperature. No other marks can be awarded as there is no colour indication used to explain how much heat is applied to the metal and no description of how to correctly cool the metal.

Question 1(d)(ii)

The candidate was awarded **0 marks** as sharpness is not an effect of tempering.

Question 1(e)(i)

The candidate was awarded **0 marks** as they have attempted to give a purpose of the tool shown rather than the correct name of the tool.

Question 1(e)(ii)

The candidate was awarded **0 marks** as they have incorrectly named the tool shown.

Question 1(f)

The candidate was awarded **0 marks** as they have incorrectly named the machine shown. The correct name of the machine tool is the Centre Lathe.

Question 1(g)

The candidate was awarded **2 marks** for this question. 1 mark was awarded as they have correctly described that the work piece is fitted securely and a further mark is awarded for 'making sure machine guard is down'. No marks were awarded for 'cleaning area around the machine' as this is not a safety check on the machine itself.

Question 1(h)(i)

No response.

Question 1(h)(ii)

No response.

Question 1(h)(iii)

No response.

Question 1(i)

The candidate was awarded **0 marks** as they have not stated a feature of the 3 jaw chuck, which allows it to hold the screwdriver handle.

Question 1(j)

The candidate was awarded **0 marks** as moving the handle slowly does not necessarily mean that a high finish will be achieved.

Question 1(k)(i)

The candidate was awarded **1 mark** as they have correctly stated the reading from the micrometer. The use of the colon instead of a decimal point makes no difference to mark.

Question 1(k)(ii)

The candidate was awarded **1 mark** as they have correctly stated the reading from the micrometer. The use of the colon instead of a decimal point makes no difference to the mark.

Question 2(a)(i)

The candidate was awarded **2 marks** for this question. 1 mark was awarded for 'set odd leg callipers'. A further mark was awarded for marking lines down every side, as the size given by the candidate is 10cm. Although the candidate has written cm, we have accepted that this year, at no point throughout this question paper is there any mention of units of measurement, although it is widely taken that all sizes are in mm within the Practical Metalworking course.

Question 2(a)(ii)

The candidate was awarded **1 mark** for this question as they have correctly explained that using a countersink screw will ensure a flush surface. Their use of language is slightly different, but it is very clear they know the answer to this question.

Question 2(b)(i)

The candidate was awarded **1 mark** for this question. The mark was awarded for using a hack saw to remove waste material. No marks were awarded for 'filing smooth', as there is no mention of filing to a (marked) line.

Question 2(b)(ii)

The candidate was awarded **1 mark** for this question. The mark was awarded for the description of the safe edge, which is detailed enough to merit the mark. No marks were awarded for the ferrule description, as it is not used to join parts together. No marks were awarded for the tang description as the tang does not fit into the ferrule.

Question 2(c)(i)

The candidate was awarded **1 mark** for this question as they have correctly named the pop rivet shown.

Question 2(c)(ii)

The candidate was awarded **1 mark** for this question as they have correctly named the snap head rivet shown.

Question 2(c)(iii)

The candidate was awarded **1 mark** for this question as they have correctly named the countersunk rivet shown.

Question 2(d)(i)

The candidate was awarded **0 marks** as they have attempted to give a purpose of the tool shown rather than the correct name of the tool.

Question 2(d)(ii)

The candidate was awarded **0 marks** as they have not been specific enough within the context of the question.

Question 2(e)

The candidate was awarded **4 marks** for this question as they have correctly completed the cutting in all 4 areas questioned.

Question 2(f)

The candidate was awarded **0 marks** as they have incorrectly named the tool shown.

Question 2(g)

The candidate was awarded **1 mark** as they have correctly named the tool shown.

Question 2(h)

The candidate was awarded **1 mark** for this question. Although slightly vague in explanation, the answer implies to have free access to emergency foot stop button.

Question 3(a)(i)

The candidate was awarded **1 mark** for this question. 0 marks were awarded for the response given with regard to cost or savings as it has not been fully explained. However, 1 mark was awarded for 'good for the environment' as it is accepted that this is the case.

Question 3(a)(ii)

The candidate was awarded **0 marks** for this question as they have not correctly answered the question.

Question 3(b)

The candidate was awarded **1 mark** as they have correctly named the tool shown.

Question 3(c)

The candidate was awarded **2 marks** for this question. 1 mark was awarded for aligning with bending bars – although folding bars is terminology used in the course specification, bending bars deemed appropriate in this question context. 1 mark was awarded for mallet, positive marking has been applied and full marks by ignoring the use of a ball pein hammer.

Question 3(d)

The candidate was awarded **1 mark** as they have correctly explained that the material is easier to hold when flat.

Question 3(e)

The candidate was awarded **0 marks** for this question as they have not correctly answered the question.

Question 3(f)

The candidate was awarded **0 marks** for this question as they have not correctly answered the question.

Question 3(g)

The candidate was awarded **1 mark** as they have correctly named the tool shown. The spelling used by the candidate is incorrect but the benefit of the doubt is given that it does read 'knocher' and not 'knocker'.

Question 3(h)

The candidate was awarded **2 marks** for this question. 1 mark was awarded for correctly stating that 'all sides of the metal are filed until smooth'. A further mark was awarded for 'use steel wool to clean the metal'.

Question 3(i)

The candidate was awarded **1 mark** as they have correctly stated a suitable finish which can be applied to sheet metal – paint.

Question 3(j)

The candidate was awarded **1 mark** as they have correctly explained that a slip could occur when using blunt tools.

Total marks – 31/60

Candidate 2

Question 1(a)

The candidate was awarded **1 mark** as they have correctly answered that a ferrous metal contains iron.

Question 1(b)

The candidate was awarded **1 mark** as they correctly stated that high carbon steel is durable.

Question 1(c)(i)

The candidate was awarded **0 marks** as they have incorrectly stated the name of the common section of metal.

Question 1(c)(ii)

The candidate was awarded **0 marks** as they have not attempted to answer the question.

Question 1(d)(i)

The candidate was awarded **2 marks** for this question. 1 mark has been awarded for correctly explaining that the metal is heated to a high temperature. 1 mark has been awarded for giving a colour indication (red) of the temperature of the metal. No description of how to correctly cool the metal is given.

Question 1(d)(ii)

The candidate was awarded **0 marks** as the effects of tempering the metal are reduced hardness and reduced brittleness.

Question 1(e)(i)

The candidate was awarded **1 mark** as they have correctly named the tool shown.

Question 1(e)(ii)

No response.

Question 1(f)

The candidate was awarded **0 marks** as they have incorrectly named the machine shown. The correct name of the machine tool is the Centre Lathe.

Question 1(g)

The candidate was awarded **3 marks** for this question. 1 mark was awarded as they have correctly described that the chuck key must be removed from the chuck. A further mark was awarded as they have correctly described that the work piece is fitted securely. A further and final mark was awarded for making sure that the machine is in the correct gear.

Question 1(h)(i)

No response.

Question 1(h)(ii)

No response.

Question 1(h)(iii)

No response.

Question 1(i)

The candidate was awarded **0 marks** as they have not stated a feature of the 3 jaw chuck which allows it to hold the screwdriver handle.

Question 1j

The candidate was awarded **1 mark** as they have correctly stated that the knurling tool is sharp. **0 marks** were awarded for turning at a constant speed as thus answer is too vague in general and the speed could be either fast or slow.

Question 1(k)(i)

The candidate was awarded **1 mark** as they have correctly stated the reading from the micrometer.

Question 1(k)(ii)

The candidate was awarded **0 marks** as they have incorrectly stated the reading from the micrometer.

Question 2(a)(i)

The candidate was awarded **5 marks** for this question. 1 mark was awarded for set odd leg callipers. 1 mark was awarded for 'mark lines 10 from each side'. A further mark was awarded for use of centre punch. A final mark was awarded for setting dividers.

1 mark was awarded for ensuring dividers are set to 10 and then marking 'rounded line'. Although the candidate has not specifically mentioned the word spring in spring dividers, in the context of this question, it is clear that the candidate knows that this is the correct tool to be used in this situation.

Question 2(a)(ii)

The candidate was awarded **1 mark** for this question as they have correctly explained that using a countersink screw will ensure a flush surface.

Question 2(b)(i)

The candidate was awarded **2 marks** for this question. 1 mark was awarded for drilling holes in corners to accommodate blade. A further mark was awarded for using a hack saw to remove waste material.

Question 2(b)(ii)

The candidate was awarded **2 marks** for this question. 1 mark was awarded for ferrule description as it will stop the wood (wooden handle) expanding – although slightly vague, we felt the candidate deserved the mark in this context. A further mark was awarded for the description of the safe edge, which is detailed enough to merit the mark. No marks were awarded for the tang description as candidate has not specified how the blade is supported - i.e. with the handle.

Question 2(c)(i)

The candidate was awarded **0 marks** for this question as they have incorrectly named the rivet shown.

Question 2(c)(ii)

The candidate was awarded **0 marks** for this question as they have incorrectly named the rivet shown.

Question 2(c)(iii)

The candidate was awarded **0 marks** for this question as they have incorrectly named the rivet shown.

Question 2(d)(i)

The candidate was awarded **0 marks** as they have incorrectly named the tool shown.

Question 2(d)(ii)

The candidate was awarded **1 mark** as they have given the correct purpose for the use of this tool in the context of the question.

Question 2(e)

The candidate was awarded **4 marks** for this question as they have correctly completed the cutting in all 4 areas questioned.

Question 2(f)

The candidate was awarded **1 mark** as they have correctly named the tool shown.

Question 2(g)

The candidate was awarded **1 mark** as they have correctly named the tool shown.

Question 2(h)

The candidate was awarded **1 mark** for this question as keeping floors clean and dry will reduce hazards and accidents.

Question 3(a)(i)

The candidate was awarded **0 marks** for this question. The response given with regard to preventing waste has not been fully explained, nor has the response given with regard to cost efficiency.

Question 3(a)(ii)

The candidate was awarded **1 mark** for this question as they have correctly described the use of 'magnets to separate the mild steel' (from the aluminium).

Question 3(b)

The candidate was awarded **1 mark** as they have correctly named the tool shown.

Question 3(c)

The candidate was awarded **1 mark** for this question. 1 mark was awarded for aligning bend A with bending bar - although folding bars is terminology used in course specification, bending bars deemed appropriate in this question context. No marks were awarded for 'Gabro' as this is a brand name.

Question 3(d)

The candidate was awarded **1 mark** as they have correctly explained that the material is more difficult to clamp when it is bent.

Question 3(e)

The candidate was awarded **1 mark** for this question as they have correctly stated that a template can be used to ensure that both tops are bent to the same shape.

Question 3(f)

The candidate was awarded **0 marks** for this question as they have not correctly answered the question. Although they have stated 'sharp edges', they have not given any indication of a precaution that should be taken. There must be a relation to removing sharp edges with this type of response.

Question 3(g)

The candidate was awarded **1 mark** as they have correctly named the tool shown. The spelling used by the candidate is incorrect, but it is clear that 'guillotine' is the answer given.

Question 3(h)

The candidate was awarded **0 marks** for this question. Although they have said 'make edges smooth', they have not said how they would do this (i.e. file, etc.).

Question 3(i)

The candidate was awarded **1 mark** as they have correctly stated a suitable finish which can be applied to sheet metal – spray lacquer.

Question 3(j)

The candidate was awarded **0 marks** as they have incorrectly explained that a blunt tool will cause greater injury than a sharp tool if it cuts a person.

Total marks – 35/60

Candidate 3

Question 1(a)

The candidate was awarded **1 mark** as they have correctly answered that a ferrous metal contains iron.

Question 1(b)

The candidate was awarded **1 mark** as they correctly stated that high carbon steel is durable.

Question 1(c)(i)

The candidate was awarded **1 mark** as they have correctly stated the name of the common section of metal.

Question 1(c)(ii)

The candidate was awarded **1 mark** as they have correctly stated the name of the common section of metal.

Question 1(d)(i)

The candidate was awarded **3 marks** for this question. 1 mark was awarded for correctly identifying that the metal needs to be heated. A further mark was awarded for the temperature it needs to be heated to (red). A final mark was awarded for 'quenched in cold water' (although 'cold water' is technically incorrect).

Question 1(d)(ii)

The candidate was awarded **0 marks** as the effects of tempering the metal are reduced hardness and reduced brittleness.

Question 1(e)(i)

The candidate was awarded **1 mark** as they have correctly named the tool shown.

Question 1(e)(ii)

The candidate was awarded **1 mark** as they have correctly named the tool shown.

Question 1(f)

The candidate was awarded **0 marks** as they have incorrectly named the machine shown. The correct name of the machine tool is the Centre Lathe.

Question 1(g)

The candidate was awarded **3 marks** for this question. 1 mark was awarded as they have correctly described that the chuck needs to be fitted securely (to the

machine). A further mark was awarded as they have correctly described that the chuck key must be removed from the chuck. A final mark was awarded for making sure that the safety guard is down.

Question 1(h)(i)

The candidate was awarded **1 mark** as they have identified the correct handle.

Question 1 (h ii)

The candidate was awarded **1 mark** as they have identified the correct handle.

Question 1(h)(iii)

The candidate was awarded **1 mark** as they have identified the correct handle.

Question 1(i)

The candidate was awarded **0 marks** as they have not stated a feature of the 3 jaw chuck which allows it to hold the screwdriver handle.

Question 1(j)

No response.

Question 1(k)(i)

The candidate was awarded **0 marks** as they have incorrectly stated the reading from the micrometer.

Question 1(k)(ii)

The candidate was awarded **0 marks** as they have incorrectly stated the reading from the micrometer.

Question 2(a)(i)

The candidate was awarded **3 marks** for this question. 1 mark was awarded for correct identification of scribe used with engineers square. A further mark was awarded for use of centre punch at all correct intersections of lines.

Another mark was awarded for correctly setting to 10mm size and marking radii. Candidate has incorrectly named spring dividers (named the callipers) and so no marks were awarded here.

Question 2(a)(ii)

The candidate was awarded **1 mark** for this question as they have correctly explained that using a countersink screw will ensure a flush (flat) surface on the metal.

Question 2(b)(i)

The candidate was awarded **1 mark** for this question. The mark was awarded for hacksawing 'down the sides' of waste material. No marks were awarded for use of junior hacksawing diagonally and horizontally as in practice this method would not be entirely accurate as the candidate has described it. Again, no marks were awarded for 'file the rest of the material using a flat file ' as doesn't mention 'file to a line'.

Question 2(b)(ii)

The candidate was awarded **1 mark** for this question. The mark was awarded for the tang description as candidate has correctly stated that it allows the blade to connect to the handle. No marks were awarded for ferrule description as it does not secure the file blade in the handle.

Question 2(c)(i)

The candidate was awarded **1 mark** for this question as they have correctly named the pop rivet shown.

Question 2(c)(ii)

The candidate was awarded **0 marks** for this question as they have incorrectly named the rivet shown.

Question 2(c)(iii)

The candidate was awarded **1 mark** for this question as they have correctly named the countersunk rivet shown.

Question 2(d)(i)

The candidate was awarded **1 mark** as they have correctly named the tool shown.

Question 2(d)(ii)

The candidate was awarded **1 mark** as they have given the correct purpose for the use of this tool in the context of the question.

Question 2(e)

The candidate was awarded **2 marks** as they have correctly identified two of the 4 areas questioned within the cutting list.

Question 2(f)

The candidate was awarded **1 mark** as they have correctly named the tool shown.

Question 2(g)

The candidate was awarded **1 mark** as they have correctly named the tool shown.

Question 2(h)

The candidate was awarded **1 mark** for this question as keeping floors clean and dry will avoid accidents or injuries.

Question 3(a)(i)

The candidate was awarded **0 marks** for this question. The response given with regard to not using any more metal as it has not been fully explained. Again, no marks were awarded for the response given with regard to saving money as it has not been fully explained.

Question 3 (a)(ii)

No response.

Question 3(b)

The candidate was awarded **1 mark** as they have correctly named the tool shown.

Question 3(c)

The candidate was awarded **0 marks** for this question. The candidate has not used the correct equipment – bench vice. Bending by hand is not an acceptable method of producing and accurate fold.

Question 3(d)

The candidate was awarded **0 marks** as the answer is too vague in description to attract any marks. The candidate has not explained why it is easier.

Question 3(e)

No response.

Question 3(f)

No response.

Question 3(g)

The candidate was awarded **1 mark** as they have correctly named the tool shown.

Question 3(h)

No response.

Question 3(i)

The candidate was awarded **1 mark** as they have correctly stated a suitable finish which can be applied to sheet metal – paint(ing).

Question 3 (j)

The candidate was awarded **1 mark**. Although the candidate has not mentioned any possible resulting injury, they do have enough of an explanation of a hazard that can occur -‘rougher edges’ - if using a blunt tool compared to a sharp tool.

Total marks – 34/60

Candidate 4

Question 1(a)

The candidate was awarded **1 mark** as they have correctly answered that a ferrous metal contains iron. Although only one of these statements is correct, it is clear that the candidate cannot gain advantage through putting down multiple answers in this context.

Question 1(b)

The candidate was awarded **1 mark** as they correctly stated that high carbon steel is strong and durable. One of these statements would be sufficient for the awarding of a mark in this question.

Question 1(c)(i)

The candidate was awarded **0 marks** as they have incorrectly stated the name of the common section of metal.

Question 1(c)(ii)

The candidate was awarded **0 marks** as they have incorrectly stated the name of the common section of metal.

Question 1(d)(i)

The candidate was awarded **1 mark**, as they have correctly explained that the metal is heated to a high temperature. No other marks can be awarded as there is no colour indication used to explain how much heat is applied to the metal, and no description of how to correctly cool the metal.

Question 1(d)(ii)

The candidate was awarded **0 marks** as the effects of tempering the metal are reduced hardness and reduced brittleness.

Question 1(e)(i)

The candidate was awarded **0 marks** as they have incorrectly named the tool shown.

Question 1(e)(ii)

The candidate was awarded **0 marks** as they have incorrectly named the tool shown.

Question 1(f)

The candidate was awarded **0 marks** as they have incorrectly named the machine shown. The correct name of the machine tool is the Centre Lathe.

Question 1(g)

The candidate was awarded **3 marks** for this question. 1 mark was awarded as they have correctly described that the metal must be secure in the chuck. A further mark was awarded for making sure that the safety guard is down. A final mark was awarded as they have correctly described that the chuck key must be removed from the chuck.

Although candidate has also stated that long hair must be tied back, this is not an acceptable answer as it is not a safety check on the machine.

Question 1(h)(i)

The candidate was awarded **0 marks** as they have identified the incorrect handle.

Question 1(h)(ii)

The candidate was awarded **0 marks** as they have identified the incorrect handle.

Question 1(h)(iii)

The candidate was awarded **1 mark** as they have identified the correct handle.

Question 1(i)

The candidate was awarded **0 marks** as they have not stated a feature of the 3 jaw chuck which allows it to hold the screwdriver handle.

Question 1(j)

The candidate was awarded **0 marks**. None of the procedures given would ensure that a high quality finish is achieved while knurling.

Question 1(k)(i)

The candidate was awarded **0 marks** as they have incorrectly stated the reading from the micrometer.

Question 1(k)(ii)

The candidate was awarded **0 marks** as they have incorrectly stated the reading from the micrometer.

Question 2(a)(i)

The candidate was awarded **2 marks** for this question. 1 mark was awarded for identifying spring dividers and a further mark was awarded for marking radii as per sketch showing r10 arc.

Although candidate has written cm, we have accepted that this year, at no point throughout this question paper is there any mention of units of measurement,

although it is widely taken that all sizes are in mm within the Practical Metalworking course.

Question 2(a)(ii)

The candidate was awarded **0 marks** for this question as they have given an incorrect explanation for using a countersunk screw.

Question 2(b)(i)

The candidate was awarded **0 marks** for this question. No marks can be awarded for using the steel rule to mark out the waste material as the question states it has already been marked out. No marks awarded for chopping the material in a guillotine.

Question 2(b)(ii)

The candidate was awarded **0 marks** for this question. The ferrule description does not connect the file blade in the handle. No marks were awarded for tang description as its purpose is not to 'marry' with the handle. Again, no marks were awarded for safe edge description as it is unclear what the candidate mean by their answer.

Question 2(c)(i)

The candidate was awarded **1 mark** for this question as they have correctly named the pop rivet shown.

Question 2(c)(ii)

The candidate was awarded **0 marks** for this question as they have incorrectly named the rivet shown.

Question 2(c)(iii)

The candidate was awarded **0 marks** for this question as they have incorrectly named the rivet shown.

Question 2(d)(i)

The candidate was awarded **0 marks** as they have incorrectly named the tool shown.

Question 2(d)(ii)

The candidate was awarded **1 mark** as they have given the correct purpose for the use of this tool in the context of the question.

Question 2(e)

The candidate was awarded **3 marks** as they have correctly identified three of the 4 areas questioned within the cutting list.

Question 2(f)

The candidate was awarded **1 mark** as they have correctly named the tool shown.

Question 2(g)

The candidate was awarded **1 mark** as they have correctly named the tool shown.

Question 2(h)

The candidate was awarded **1 mark** for this question as keeping floors clean and dry will avoid slips and remove sharp material from floor.

Question 3(a)(i)

The candidate was awarded **1 mark** for this question. The mark was awarded for 'good for the environment' as it is accepted that this is the case. No marks were awarded for the response given with regard to saving money as it has not been fully explained.

Question 3(a)(ii)

The candidate was awarded **0 marks**. The statement given by the candidate 'They're magnetic', does not indicate use of magnets or make reference to one material being magnetic and one not being magnetic.

Question 3(b)

The candidate was awarded **1 mark** as they have correctly named the tool shown.

Question 3(c)

The candidate was awarded **1 mark** for this question. The mark was awarded for describing that the bar is set to where the bend is (alignment), along with sketches. No marks were awarded for hammering as they needed to state an appropriate tool (i.e. hide mallet), or verb.

Question 3(d)

The candidate was awarded **1 marks** as they have correctly described deformation of the hole with their answer.

Question 3(e)

The candidate was awarded **1 mark** for this question as they have correctly stated that a template can be used to ensure that both tops are bent to the same shape.

Question 3(f)

The candidate was awarded **1 mark** as they have correctly stated that gloves are required so their hands don't get cut.

Question 3(g)

The candidate was awarded **1 mark** as they have correctly named the tool shown. The spelling used by the candidate is incorrect but it is clear that 'guillotine' is the answer given.

Question 3(h)

The candidate was awarded **1 mark** for this question. The mark was awarded for filing it smooth as it is implied that this is the edges. No marks were awarded for dip coating or polishing.

Question 3(i)

The candidate was awarded **1 mark** as they have correctly stated a suitable finish which can be applied to sheet metal – dip coating.

Question 3(j)

The candidate was awarded **0 marks** as they have incorrectly explained that a blunt tool will cause greater injury than a sharp tool if it cuts a person.

Total marks – 26/60