EXAMINATIONS COUNCIL OF ZAMBIA

Examination for General Certificate of Education Ordinary Level

Metal Work 6040/2
Paper 2 (Practical Test)

Friday 21 JULY 2017

Time: 3 hours Marks: 100

Instructions to Candidates

Check that the following materials are available in either Bright Drawn Mild Steel (B.D.M.S) or Black Mild Steel (B.M.S)

1. One piece 40 × 3 × 85mm long. Both ends squared.
2. One piece 30 × 3 × 82mm long. One end squared.
3. One piece Ø10 × 50mm long as shown in Figure 1.
4. One piece 20 × 6 × 50mm long. Both ends squared.
5. One piece Ø16 × 27mm long as shown in Figure 2.
6. One piece Ø16 × 6mm long as shown in Figure 3.
7. One piece Ø16 × 8mm long as shown in Figure 4.
8. One countersunk head rivet Ø4 x 11mm long in any suitable material.
9. One pan head screw M5 × 0.8, minimum length 10mm in any suitable material.
10. One clear, clean and strong plastic bag of A4 size in which to enclose the work.
11. Two tie - on tags of Manila paper, one to be attached to the work and the other to be tied to the plastic bag.

Information for Candidates

At the end of an examination, candidates must:

1. Assemble work pieces where work pieces cannot be assembled, fasten them together using a string.
2. Attach a tag with your name in full, examination number, centre number, name of the school and date.
3. Enclose your work pieces in the plastic bag.
4. Fasten the bag and attach a second tag.
5. Hand in your work to the supervisor (invigilator)

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This question paper consists of 2 printed pages
Practical Test

Using the materials prepared prior to the examination, each candidate is to make the a light duty BENCH SHEAR shown in the working drawings on the insert. Modifications have been made for examination purposes.

All dimensions are in millimetres.

1. One piece 40 × 3 × 85mm long. Both ends squared.
2. One piece 30 × 3 × 82mm long. One end squared.
3. One piece ø10 × 50mm long as shown in Figure 1.
4. One piece 20 × 6 × 50mm long. Both ends squared.
5. One piece ø16 × 27mm long as shown in Figure 2.
6. One piece ø16 × 6mm long as shown in Figure 3.
7. One piece ø16 × 8mm long as shown in Figure 4.
8. One countersunk head rivet ø4 x 11mm long in any suitable material.
9. One pan head screw M5 x 0.8, minimum length 10mm in any suitable material.

Special Tools

Apart from the usual bench tools, the following special tools should also be provided:

(a) Twist drill bits – ø4, ø5.5, ø6.5 and ø8.5mm
(b) R15 – Radius gauges
(c) Taps and dies – M5 ×0.8 and M8 ×1.25.

Working Procedures

Part 3: Drill and countersink after making the 16 × 5mm rebate.

Part 4: Make the bevel after drilling and counter boring the two holes.

Part 5: Make the square head before cutting M8 × 1.25 thread.

Assembly Procedure

1. Do not force-fit pieces together.

2. Assemble the pieces as illustrated in the exploded view shown on the right-hand bottom corner of the insert.
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INSERT
GCE 'O' LEVEL

METALWORK PRACTICAL 6040/2  3 HOURS

LIGHT DUTY BENCH SHEAR

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