

EXAMINATIONS COUNCIL OF ZAMBIA

Examination for General Certificate of Education Ordinary Level

Metal Work Paper 2 (Practical Test)

6040/2

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 $40 \times 3 \times 85$ mm long. Both ends squared.
- 2 One piece $30 \times 3 \times 82$ mm long. One end squared.
- 3 One piece $\varnothing 10 \times 50$ mm long as shown in Figure 1.
- 4 One piece $20 \times 6 \times 50$ mm long. Both ends squared.
- 5 One piece $\varnothing 16 \times 27$ mm long as shown in Figure 2.
- 6 One piece $\varnothing 16 \times 6$ mm long as shown in Figure 3.
- 7 One piece $\varnothing 16 \times 8$ mm long as shown in Figure 4.
- 8 One countersunk head rivet $\varnothing 4 \times 11$ mm long in any suitable material.
- 9 One pan head screw M5 x 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.

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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)

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 $40 \times 3 \times 85$ mm long. Both ends squared.
- 2** One piece $30 \times 3 \times 82$ mm long. One end squared.
- 3** One piece $\varnothing 10 \times 50$ mm long as shown in Figure 1.
- 4** One piece $20 \times 6 \times 50$ mm long. Both ends squared.
- 5** One piece $\varnothing 16 \times 27$ mm long as shown in Figure 2.
- 6** One piece $\varnothing 16 \times 6$ mm long as shown in Figure 3.
- 7** One piece $\varnothing 16 \times 8$ mm long as shown in Figure 4.
- 8** One countersunk head rivet $\varnothing 4 \times 11$ mm 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 – $\varnothing 4$, $\varnothing 5.5$, $\varnothing 6.5$ and $\varnothing 8.5$ mm
- (b)** R15 – Radius gauges
- (c)** Taps and dies – M5 $\times 0.8$ and M8 $\times 1.25$.

Working Procedures

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

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

Part 5: Make the square head before cutting M8 $\times 1.25$ 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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Metal Work

6040/2

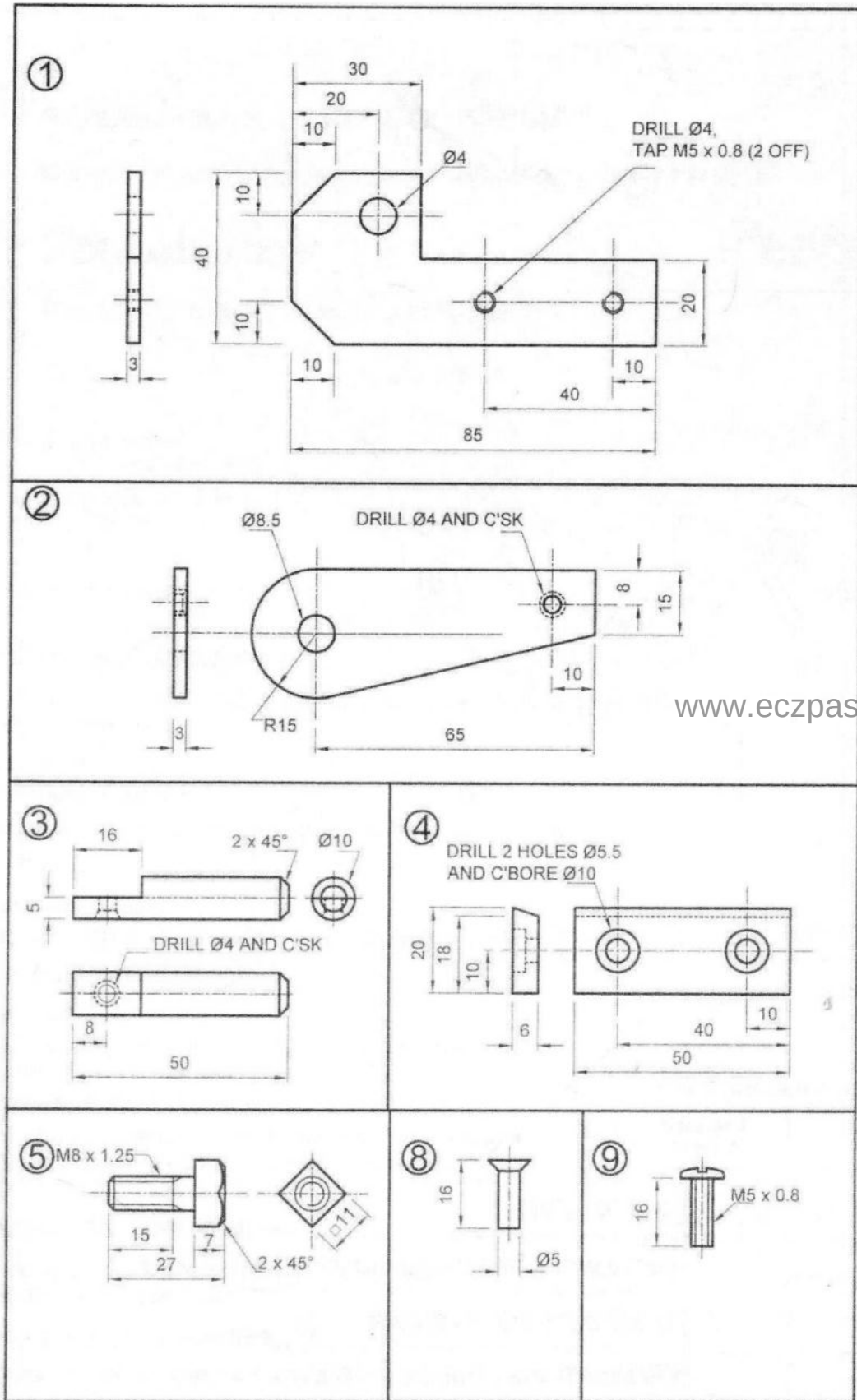
Paper 2 (Practical Test)

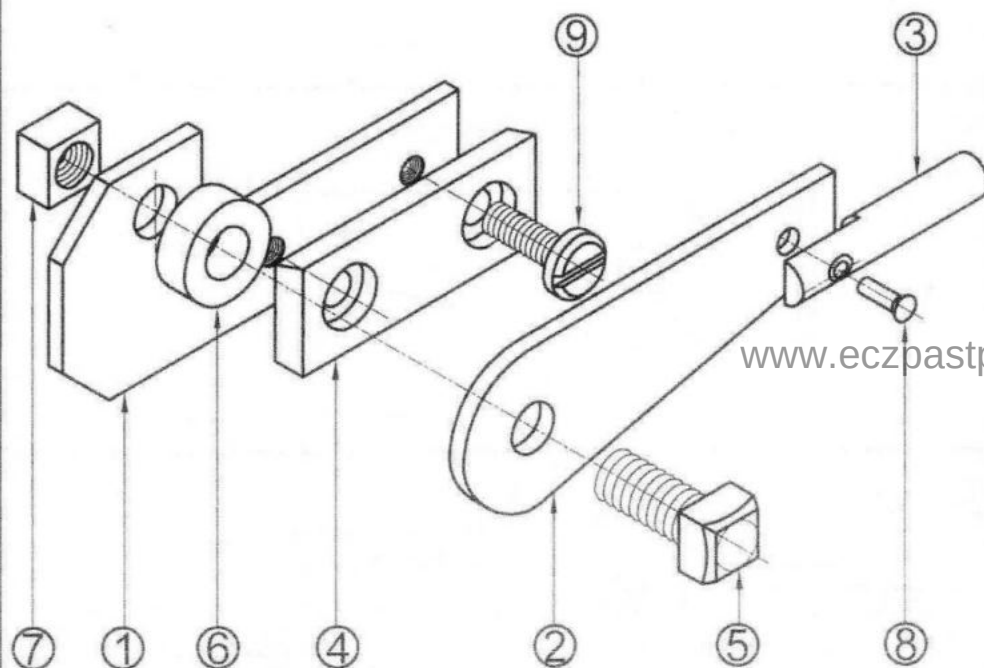
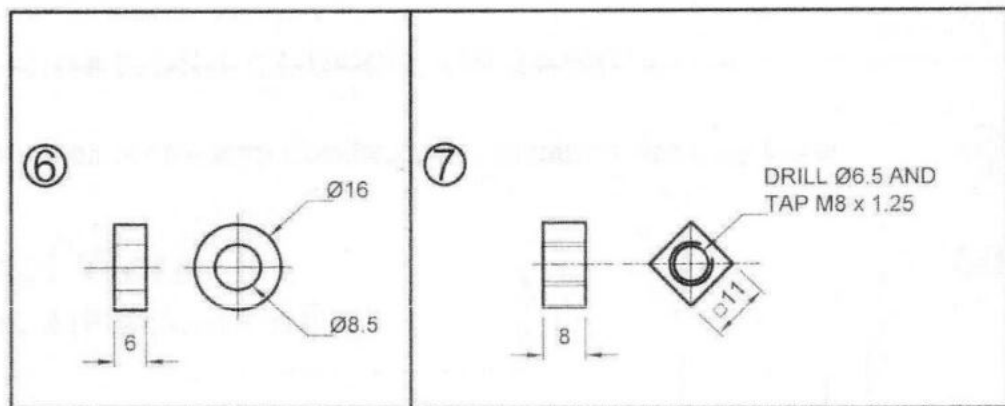
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GCE 'O' LEVEL	
METALWORK PRACTICAL 6040/2	3 HOURS
LIGHT DUTY BENCH SHEAR	
EXAMINATIONS COUNCIL OF ZAMBIA, LUSAKA	