

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 $\text{Ø}10 \times 50$ mm long as shown in Figure 1.
- 4 One piece $20 \times 6 \times 50$ mm long. Both ends squared.
- 5 One piece $\text{Ø}16 \times 27$ mm long as shown in Figure 2.
- 6 One piece $\text{Ø}16 \times 6$ mm long as shown in Figure 3.
- 7 One piece $\text{Ø}16 \times 8$ mm long as shown in Figure 4.
- 8 One countersunk head rivet $\text{Ø}4 \times 11$ 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.

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 $\text{Ø}10 \times 50$ mm long as shown in Figure 1.
- 4** One piece $20 \times 6 \times 50$ mm long. Both ends squared.
- 5** One piece $\text{Ø}16 \times 27$ mm long as shown in Figure 2.
- 6** One piece $\text{Ø}16 \times 6$ mm long as shown in Figure 3.
- 7** One piece $\text{Ø}16 \times 8$ mm long as shown in Figure 4.
- 8** One countersunk head rivet $\text{Ø}4 \times 11$ 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 – $\text{Ø}4$, $\text{Ø}5.5$, $\text{Ø}6.5$ and $\text{Ø}8.5$ 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.

EXAMINATIONS COUNCIL OF ZAMBIA

Examination for General Certificate of Education Ordinary Level

Metal Work

6040/2

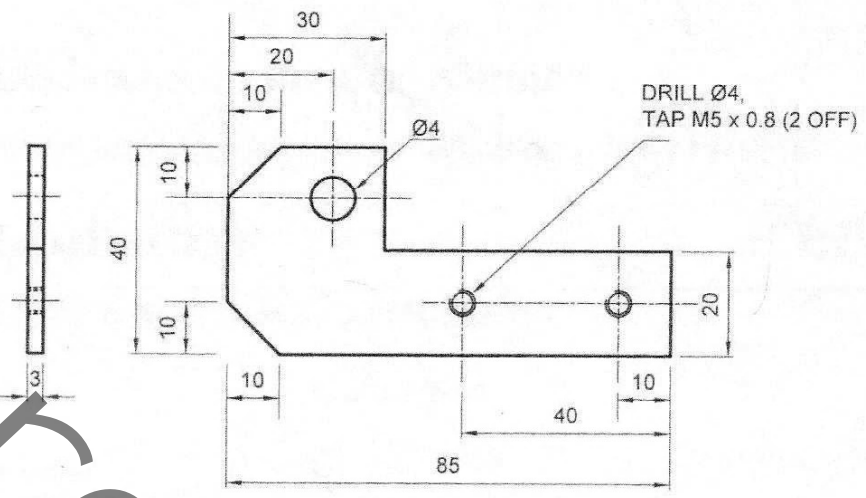
Paper 2 (Practical Test)

Time: 3 hours

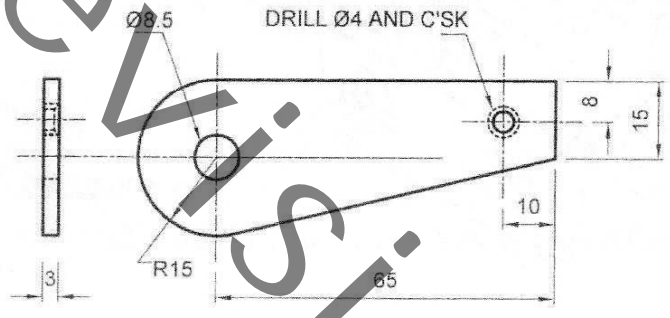
Marks: 100

INSERT

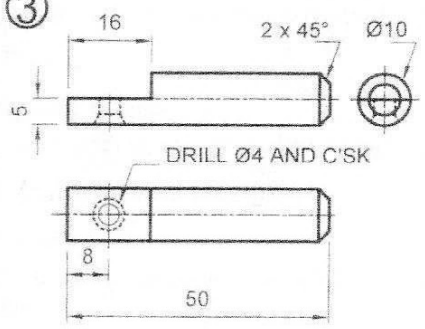
①



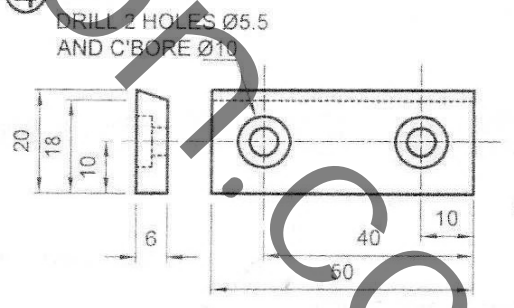
②



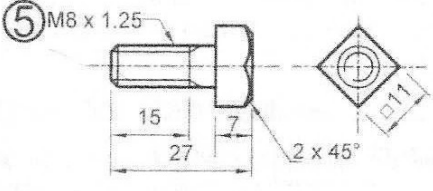
③



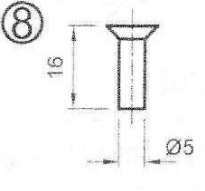
④



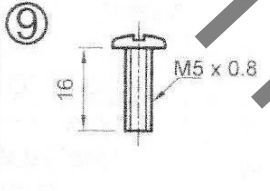
⑤

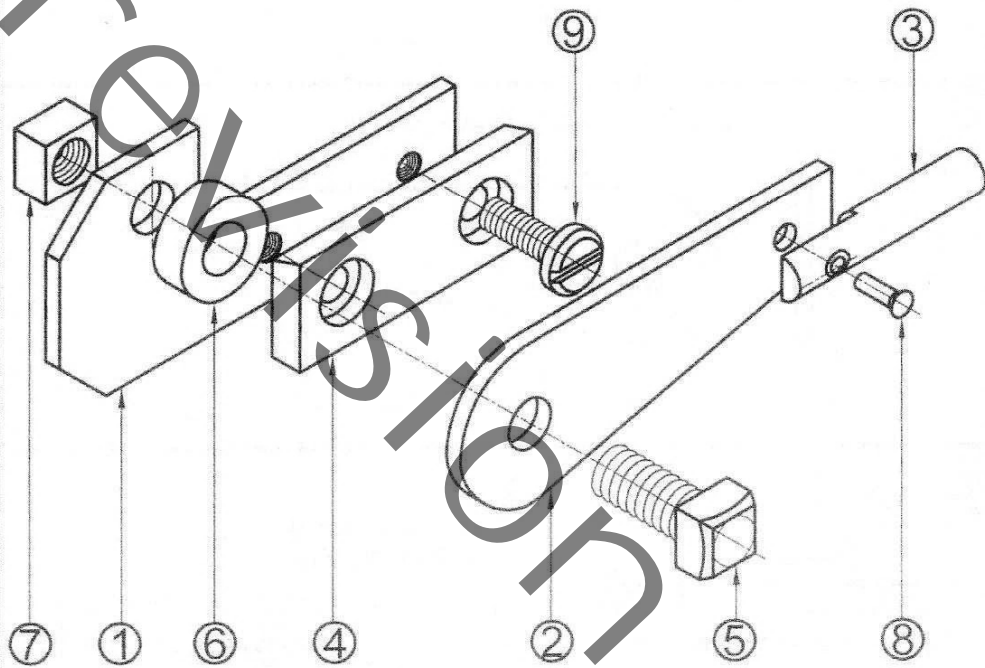
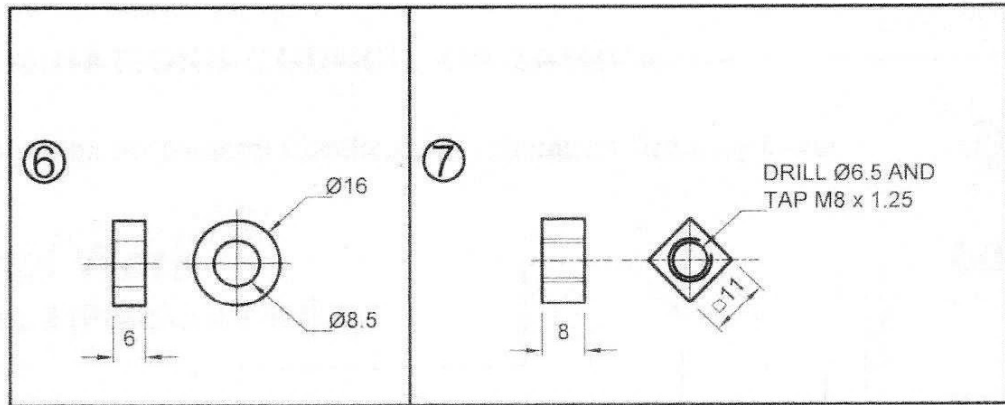


⑧



⑨





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