

EXAMINATIONS COUNCIL OF ZAMBIA

**Joint Examination for the School Certificate
and General Certificate of Education Ordinary Level**

METALWORK

6040/2

PAPER 2 Practical Test

Thursday

6 NOVEMBER 2014

TIME: 3 Hours

MARKS: 100

INSTRUCTIONS TO CANDIDATES

Each candidate should be supplied with the following materials in either Bright Drawn Mild Steel (B.D.M.S.) or Black Mild Steel (B.M.S.):

- 1** One piece 20 x 20 x 42mm long. One end squared.
 - 2** One piece 20 x 3 x 102 mm long. One end squared.
 - 3** One piece 20 x 3 x 80mm long. Both ends squared.
 - 4** One piece 30 x 6 x 30mm long. Both ends squared.
 - 5** One piece $\varnothing 16$ x 15mm long. Both ends squared.
 - 6** One piece $\varnothing 16$ x 47mm long. Turned as shown in Figure 1.
 - 7** One piece $\varnothing 5$ x 50mm long. Both ends squared.
 - 8** One piece $\varnothing 4$ x 30mm long. Both ends squared.
 - 9** One countersunk rivet $\varnothing 5$ x 12mm long. In any suitable material.
- One clear and clean plastic bag in which to enclose the work.
- Two tie-on tags, 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 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 material prepared prior to the examination, each candidate is to make the **BENCH HOLD FAST** shown in the working drawings on the insert. Modifications have been made for examination purposes.

All dimensions are in millimetres.

The following materials are required in either Bright Drawn Mild Steel (B.D.M.S) or Black Mild Steel (B.M.S):

- 1** One piece 20 x 20 x 42mm long. One end squared.
- 2** One piece 20 x 3 x 102 mm long. One end squared.
- 3** One piece 20 x 3 x 80mm long. Both ends squared.
- 4** One piece 30 x 6 x 30mm long. Both ends squared.
- 5** One piece Ø16 x 15mm long. Both ends squared.
- 6** One piece Ø16 x 47mm long. Turned as shown in Figure 1.
- 7** One piece Ø5 x 50mm long. Both ends squared.
- 8** One piece Ø4 x 30mm long. Both ends squared.
- 9** One countersunk rivet Ø5 x 12mm long. In any suitable material.

One clear and clean plastic bag in which to enclose the work.

Two tie-on tags, one to be attached to the work and the other to be tied to the plastic bag.

All dimensions are in millimetres.

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

- (a)** Twist drill bits - Ø5 and 6.5
- (b)** Radius gauge: - R10mm
- (c)** Taps and dies - M8 x 1.25

WORKING PROCEDURES

- 1** PART 2: Complete the shaping before riveting to Part 3, providing swing joint.
- 2** PART 3: Make the bevel before shaping the 3 x 10 recess.
- 3** PART 5: Drill and tap the M8 x 1.25 hole before making the 2 x 3 groove.
- 4** PART 7: Ensure that part 7 is loose-fitting in Ø5 hole in Part 6 before flattening the ends as shown in ghost lines on explode pictorial views.

The following information must be printed clearly on each tie-on tag.

- (a)** Name in (full, Surname first)
- (b)** Examination number (in full)
- (c)** Centre number (in full)
- (d)** Centre name (in full)

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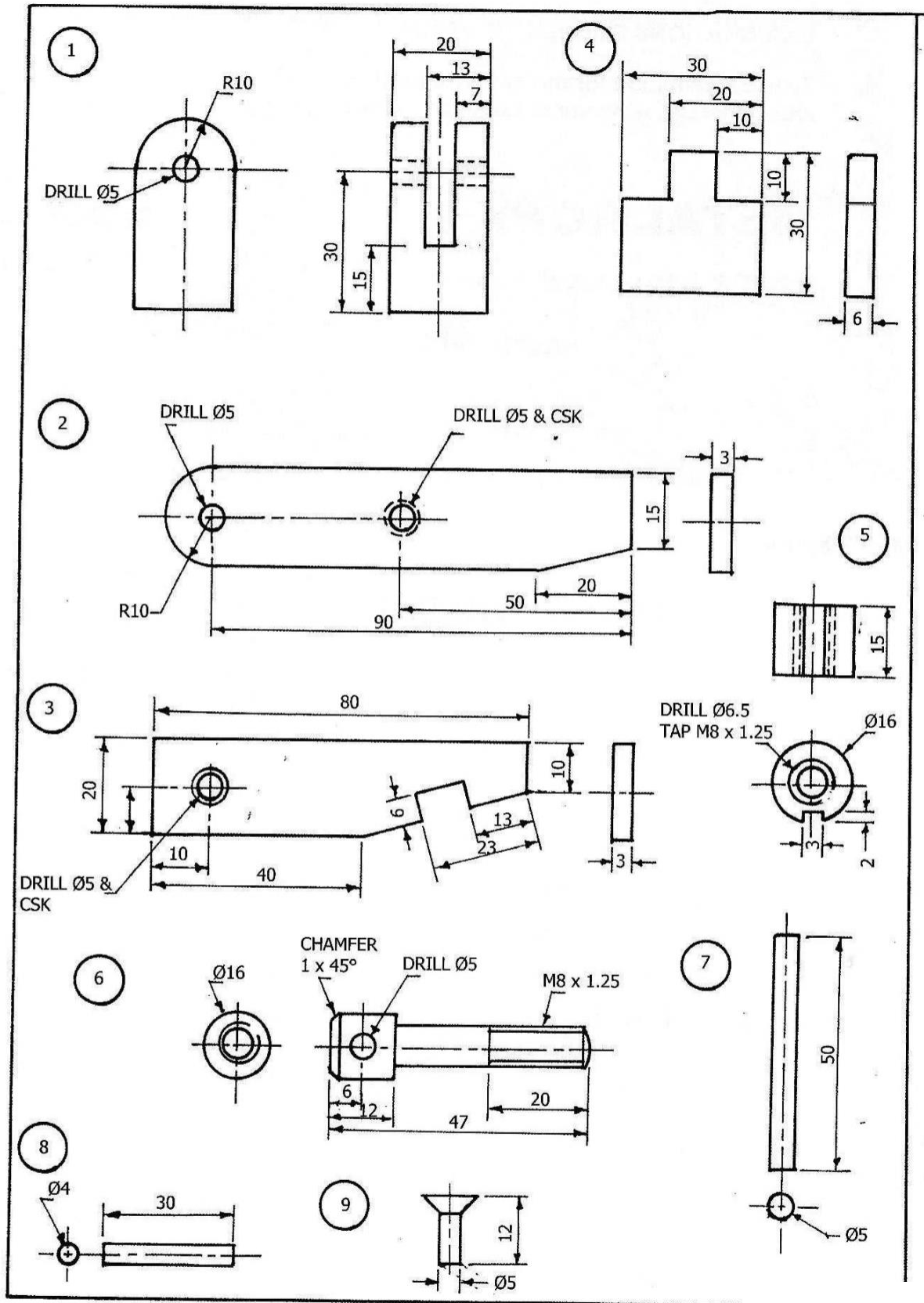
PAPER 2 Practical Test

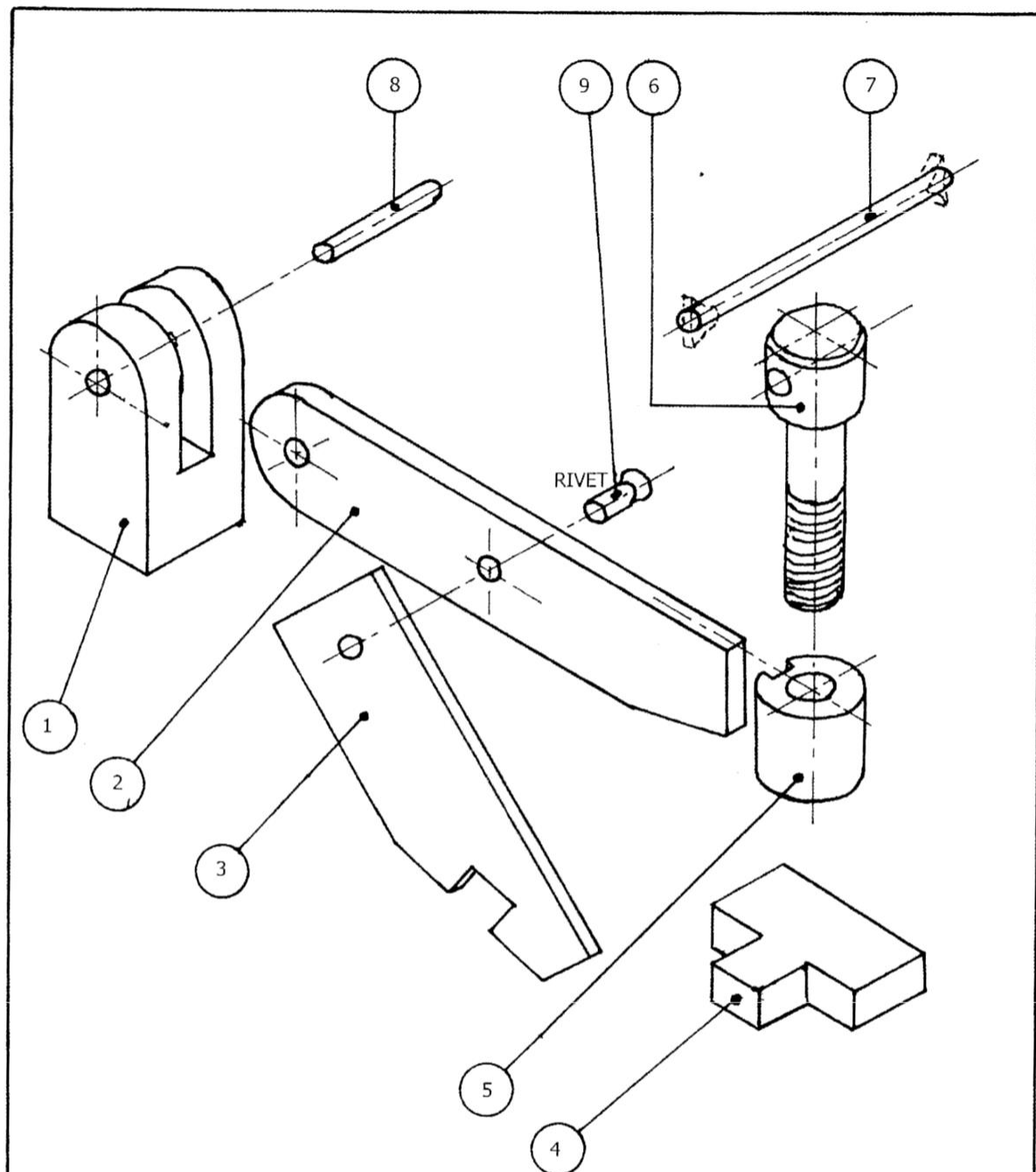
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S.C./G.C.E. 'O' LEVEL EXAMINATION

OCTOBER 2014

METALWORK PRACTICAL P2 – 6040/2

3 HOURS

BENCH HOLD FAST

EXAMINATIONS COUNCIL OF ZAMBIA – LUSAKA