EXAMINATIONS COUNCIL OF ZAMBIA

Examination for General Certificate of Education Ordinary Level

Geographical and Mechanical Drawing 7040/2
Paper 2

Monday 17 JULY 2017

Additional Material(s):
A2 Drawing paper (1 sheet)
Standard drawing equipment

Time: 2 hours 40 minutes Marks: 100

Instructions To Candidates
Print your name, centre number and candidate number in the Title Block at the bottom right-hand side of your drawing paper.

There are two (2) questions in this paper. Answer both questions.

Use both sides of the drawing paper for your answers.

Information For Candidates
The number of marks is given in brackets [ ] at the end of each question or part question.

The insert contains Figure 2 for Section 2.

You have an additional 10 minutes to read carefully the text of Section 2 before answering the questions.

Arcs of circles less than 5mm radius may be drawn freehand.

All dimensions are in millimetres unless otherwise stated.

Cell phones are not allowed in the examination room.

This question paper consists of 3 printed pages
Section 1 (16 marks)

Candidates are advised to spend not more than 30 minutes on this section of the paper:

1. **Figure 1** shows a **CASTING BRACKET** in first angle projection. Make a freehand pictorial sketch of this component – approximately full size with P as the lowest point in the foreground.

   NB: The use of instruments will be severely penalized. Faint construction lines and points used when preparing the sketch should not be erased.

![Figure 1](image)
Section 2 (84 marks)

2 Figure 2 shows details of the components of a ROLLER BEARING.

The components are assembled as follows:

The Bush ⑤ is fitted in the 28mm diameter hole in the Roller ⑥. The Shaft ⑦ is then inserted into the 20mm hole of the Bush ⑤ until the Roller is centrally positioned.

The sub assembly is then fitted on top of the Body ① with the shaft resting on the R10 semi-circular holes. The bearing Caps ② are fitted on top of the Body ① so that the 10mm diameter holes are aligned with the M10 blind tapped holes in the body.

The Studs ③ are inserted into the 10mm diameter holes of the Bearing Cap and screwed into the M10 blind holes. The Washers ④ are inserted into the four studs and screwed by means of four M10 hexagonal nuts.

Draw full size, in either first or third angle projection a fully assembled:

(a) Front elevation looking in the direction of arrow F.
(b) Sectional End Elevation, the plane of the section and direction of the required view being indicated at X–X on the front elevation.

Note: The Plan is not required.

– Suitable dimensions should be estimated where not provided. Hidden details not required in any view.
– Insert the following dimensions on the views using the recommended BS 308 standard.
  (i) a horizontal dimension
  (ii) a vertical dimension
  (iii) a diameter
  (iv) the size of the screw thread

(c) On the same side of your drawing showing these views, draw a Title block.

Print in this Title block: a Title, Scale, Centre and Projection symbol using the recommended BS 308.
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