**P710/2A**

**TECHNICAL DRAWING**

**GEOMETRICAL AND MECHANICAL DRAWING**

**Paper 2**

**MONDAY, 19th August 2019 (Afternoon)**

 **3 hours**

ACHOLI SECONDARY SCHOOLS EXAMINATIONS COMMITTEE

*Uganda Advanced Certificate of Education*

Joint Mock Examinations, 2019

TECHNICAL DRAWING

GEOMETRICAL AND MECHANICAL DRAWING

Paper 2A

3 hours

INSTRUCTIONS TO CANDIDATES:

* This paper consists of sections: A and B.
* Answer ONE question from section A and ONE question from section B.
* Not more than 25 minutes may be taken in section A.
* All measurements are in millimeters and drawings are not to scale.
* You are provided with an A2 size paper.
* Make a suitable block to indicate your name and other relevant information.

**SECTION A (20 marks)**

*Attempt only ONE question from this section*

1. An involute gear wheel has the following data:

 Teeth = 25

 Module = 10

 Angle = 20°

1. Derive relevant data for the gear wheel above. (05 marks)
2. Using the derived data, construct four involute spur gear teeth. (15 marks)
3. Make free-hand sketches of the following.

(i) Lever and shaft showing a tapered cotter. (04 marks)

(ii) Poppet valve showing split cotter. (04 marks)

(iii) Locking plate showing set screw. (04 marks)

1. Sketch the following thread profiles.

(i) Buttress (02 marks)

(ii) Acme (02 marks)

(iii) Metric thread (02 marks)

(iv) Square (02 marks)

**SECTION B (60 marks)**

1. Figure 1 below shows parts of a LEVER.

(a) Draw a sectional front elevation of the assembly on the cutting plane A – A. (30 marks)

(b) Project the plan of the assembly in first angle projection. (11 marks)

(c) Project the end view of the assembly. (09 marks)

(d) Include any five dimensions of a varied nature. (05 marks)

(e) (i) Print your details on the standard title block. (03 marks)

 (ii) Indicate projection symbol. (02 marks)



*The End*.