

2506/104
2507/104
ENGINEERING DRAWING
June/ July 2022
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

**DIPLOMA IN AERONAUTICAL ENGINEERING
(AIRFRAMES AND ENGINES OPTION)
(AVIONICS OPTION)**

MODULE I

ENGINEERING DRAWING

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:

- Drawing paper size A2;*
- Non-programmable scientific calculator;*
- Drawing instruments;*
- Drawing table/ board.*

This paper consists of FIVE questions in TWO sections; A and B.

Answer question ONE in section A (compulsory) and THREE questions from section B.

Maximum marks for each part of a question are as indicated.

ALL dimensions are in millimetres.

Candidates should answer the questions in English.

This paper consists of 5 printed pages.

Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

SECTION B

Answer any **THREE** questions from this section.

2. Figure 2 shows an elevation of a hexagonal pyramid of base sides 28 mm long cut by a plane A-A as shown. Copy the elevation and draw the:

- (a) plan;
(b) true shape of the cut portion.

(20 marks)

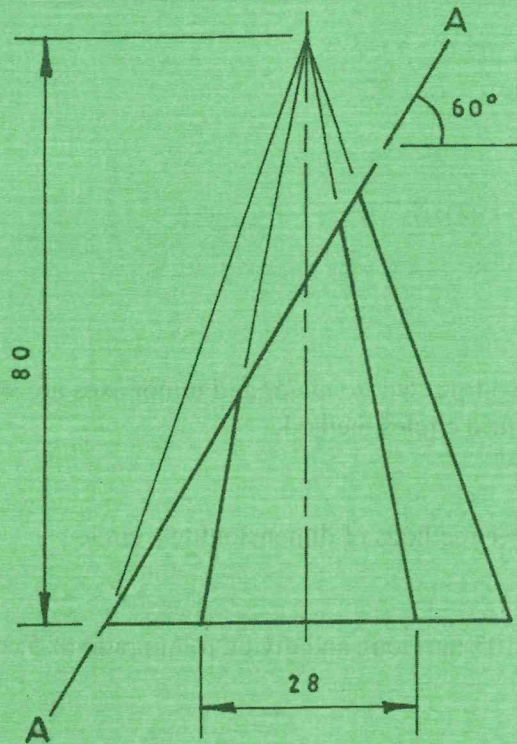


Fig. 2

3. Figure 3 shows a crank AB 30 mm long which rotates about A and is pin jointed by the connecting rod BC 118 mm long to the piston C which slides along the axis AC. BP = 50 mm. Plot the locus of point P for one complete revolution of the crank. (20 marks)

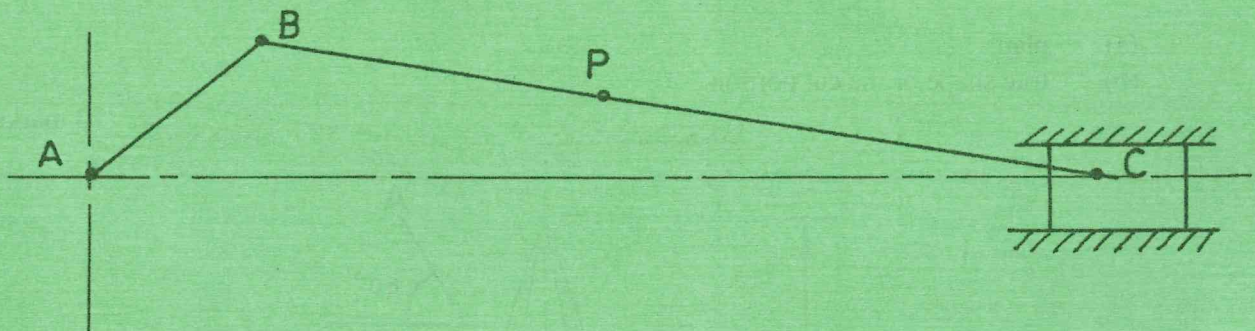


Fig.3

4. (a) Construct an ellipse whose major and minor axes are 90 mm and 60 mm respectively, using concentric circles method. (10 marks)
- (b) Illustrate **three** methods of dimensioning a circle. (6 marks)
- (c) Draw a line 105 mm long and divide it into ratio of 5:3:2. (4 marks)

5. Figure 4 shows a cylinder of $\text{Ø}32$ mm intersecting a cone. Copy the given view and construct the:

- (a) line of interpenetration;
- (b) complete plan;
- (c) surface development of the cylinder.

(20 marks)

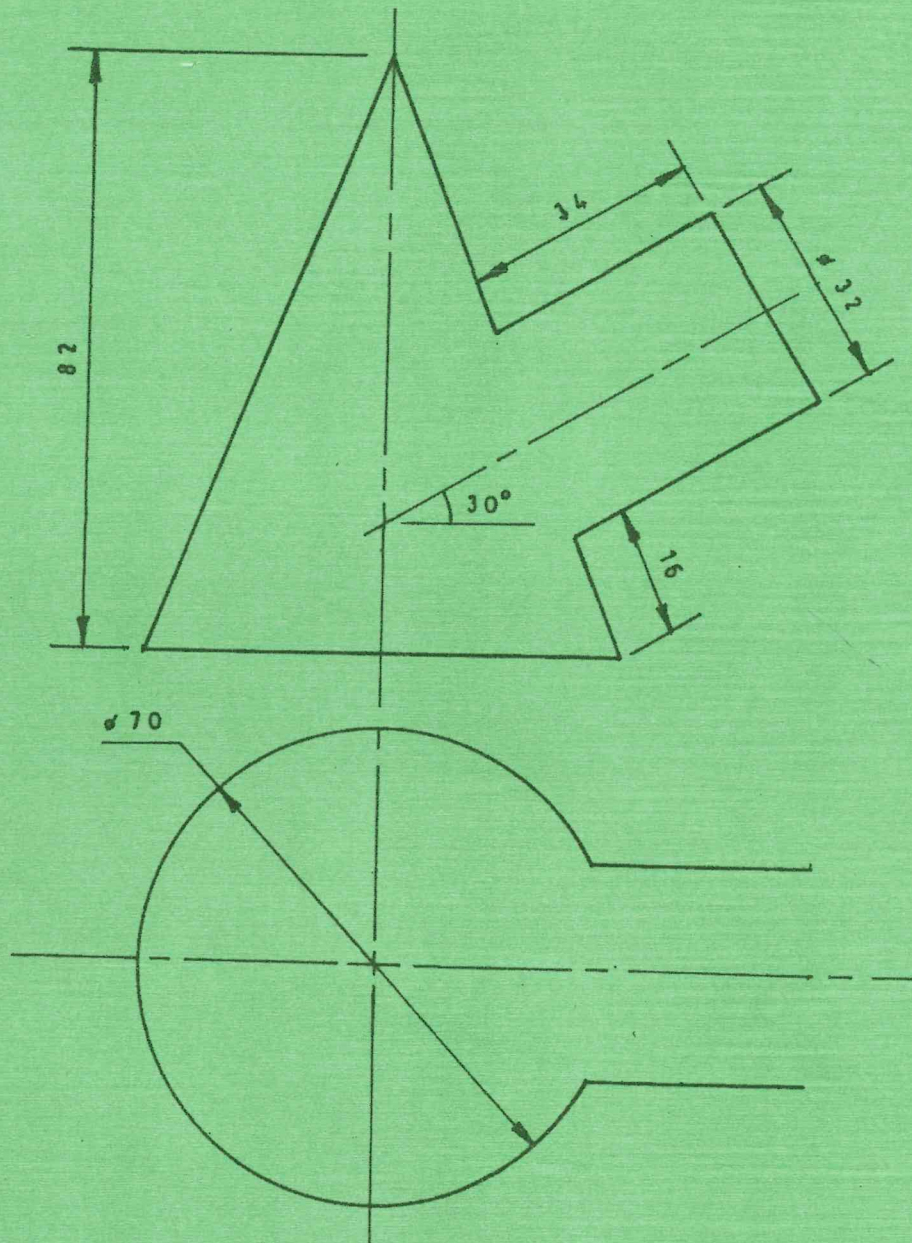


Fig. 4

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