

2506/104

2507/104

ENGINEERING DRAWING

Oct./Nov. 2019

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 papers size A2;*

*Drawing instruments;*

*A non-programmable scientific calculator;*

*Drawing table/Board.*

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

*Answer Question 1 in section A (COMPULSORY) and any THREE questions from section B in the drawing papers provided.*

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

*All dimensions are in millimeters.*

*Candidates should answer the questions in English.*

**This paper consists of 4 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 A (40 marks)

Compulsory

1. Figure 1 shows the front end and plan of an insulator bracket drawn in first angle projection. Draw the following in first angle projection:

- (a) a sectional front elevation on cutting plane A - A;
- (b) the plan.

Include six major dimensions.

(40 marks)

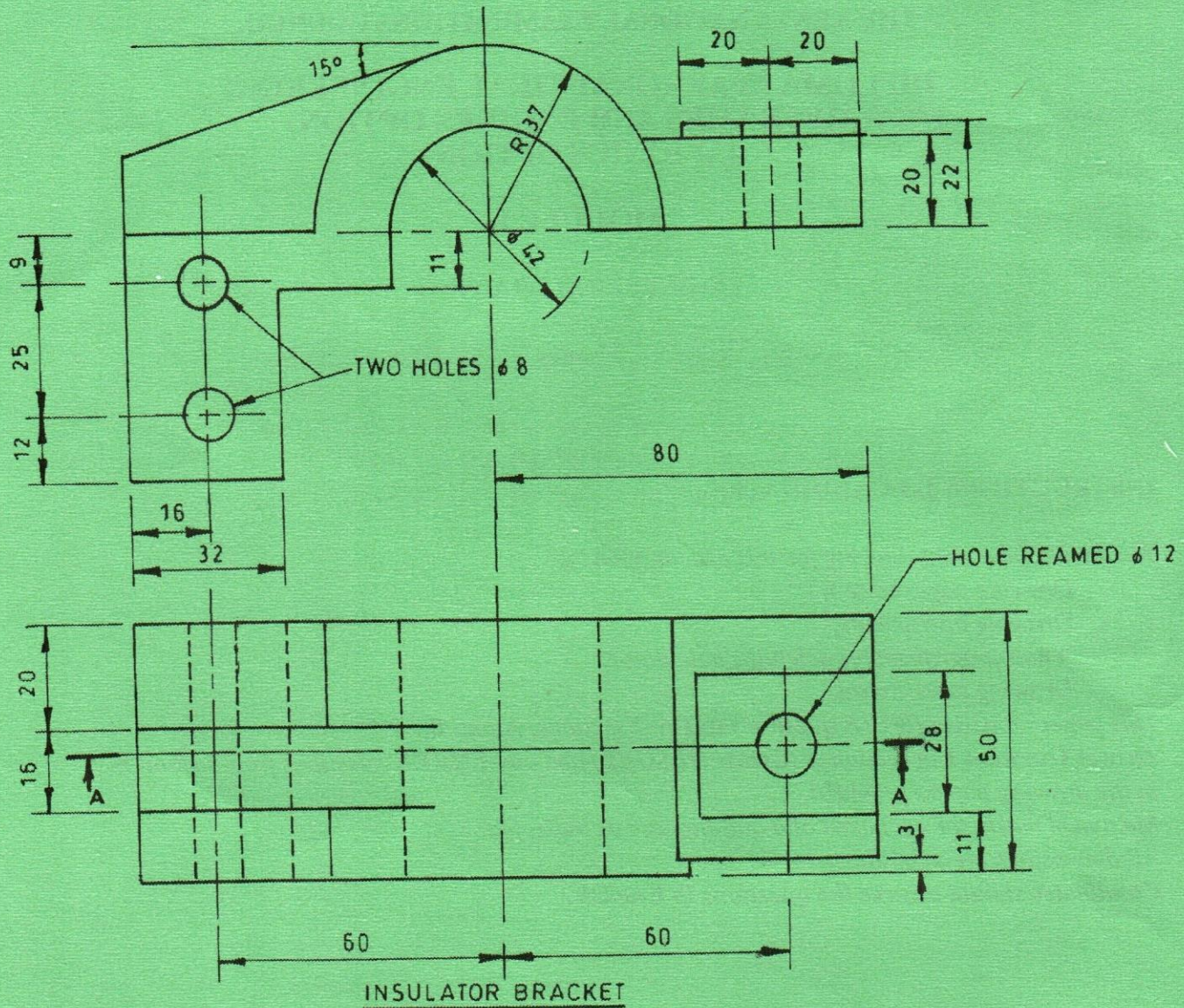


Fig. 1

**SECTION B (60 marks)**

*Answer any THREE questions from this section.*

2. (a) Construct a circle of 50 mm diameter and show the following parts:

- (i) secant;
- (ii) radius;
- (iii) sector;
- (iv) segment;
- (v) tangent;
- (vi) chord.

(8 marks)

(b) Construct a regular heptagon within a circle of diameter 80 mm.

(12 marks)

3. Figure 2 shows front and plan of an object drawn in first angle projection. Construct its isometric view taking the part marked A as the lowest point.

(20 marks)

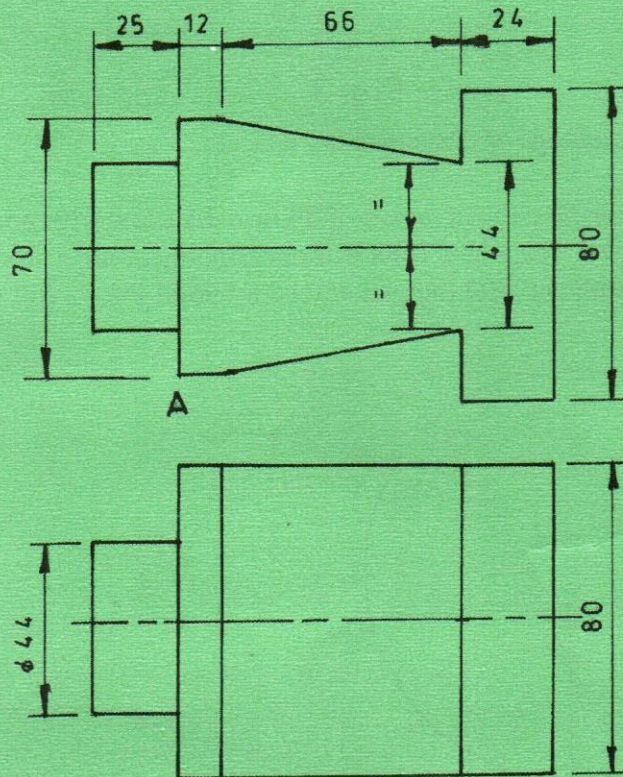


Fig. 2

4. Figure 3 shows a truncated cylinder. Draw the given elevation and construct the following:

- (a) plan;
- (b) true shape of the cut surface;
- (c) development of the truncated cylinder.

(20 marks)

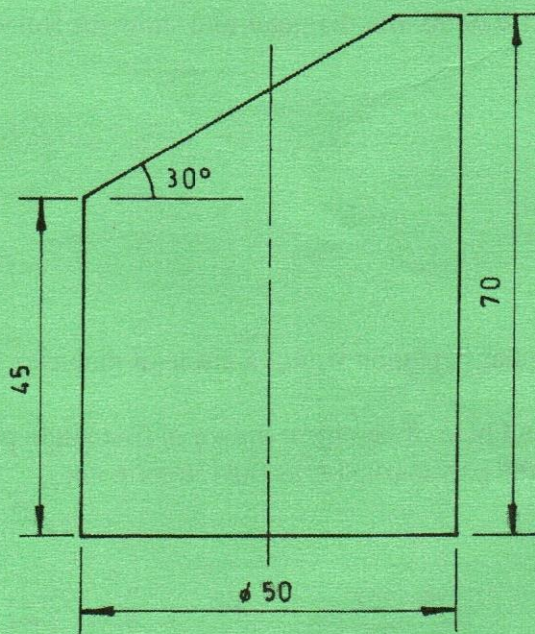


Fig. 3

5. (a) Show **five** methods of dimensioning a circle. (5 marks)

(5 marks)

- (b) Figure 4 shows a circular wheel of 30 mm diameter with point P attached on its circumference. The wheel rolls without slipping along a straight line while remaining on the same plane. Plot the path traced by point P for a full revolution of the wheel. (15 marks)

(15 marks)

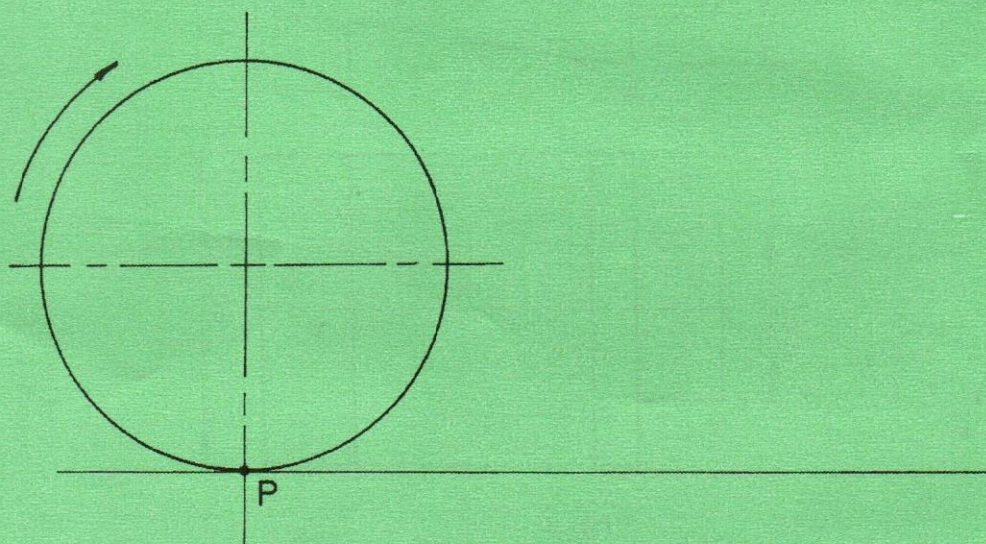


Fig. 4

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