2502/104
2503/104
2509/104
ENGINEERING DRAWING I
March/April 2020
Time: 3 hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN MECHANICAL ENGINEERING
(PLANT OPTION)
DIPLOMA IN AUTOMOTIVE ENGINEERING
DIPLOMA IN CONSTRUCTION PLANT ENGINEERING

MODULE I

ENGINEERING DRAWING I

3 hours

INSTRUCTIONS TO CANDIDATES

The candidate, should have the following for this examination:
    Answer booklet;
    Drawing papers;
    Drawing board/table.
This paper consists of *TWO* sections; A and B.
Answer *BOTH* questions from section A (compulsory) and any *TWO* questions from section B.
Maximum marks to each part of a question are indicated.
All dimensions are in millimeters.
Candidates should answer the questions in English.

This paper consists of 6 printed pages.

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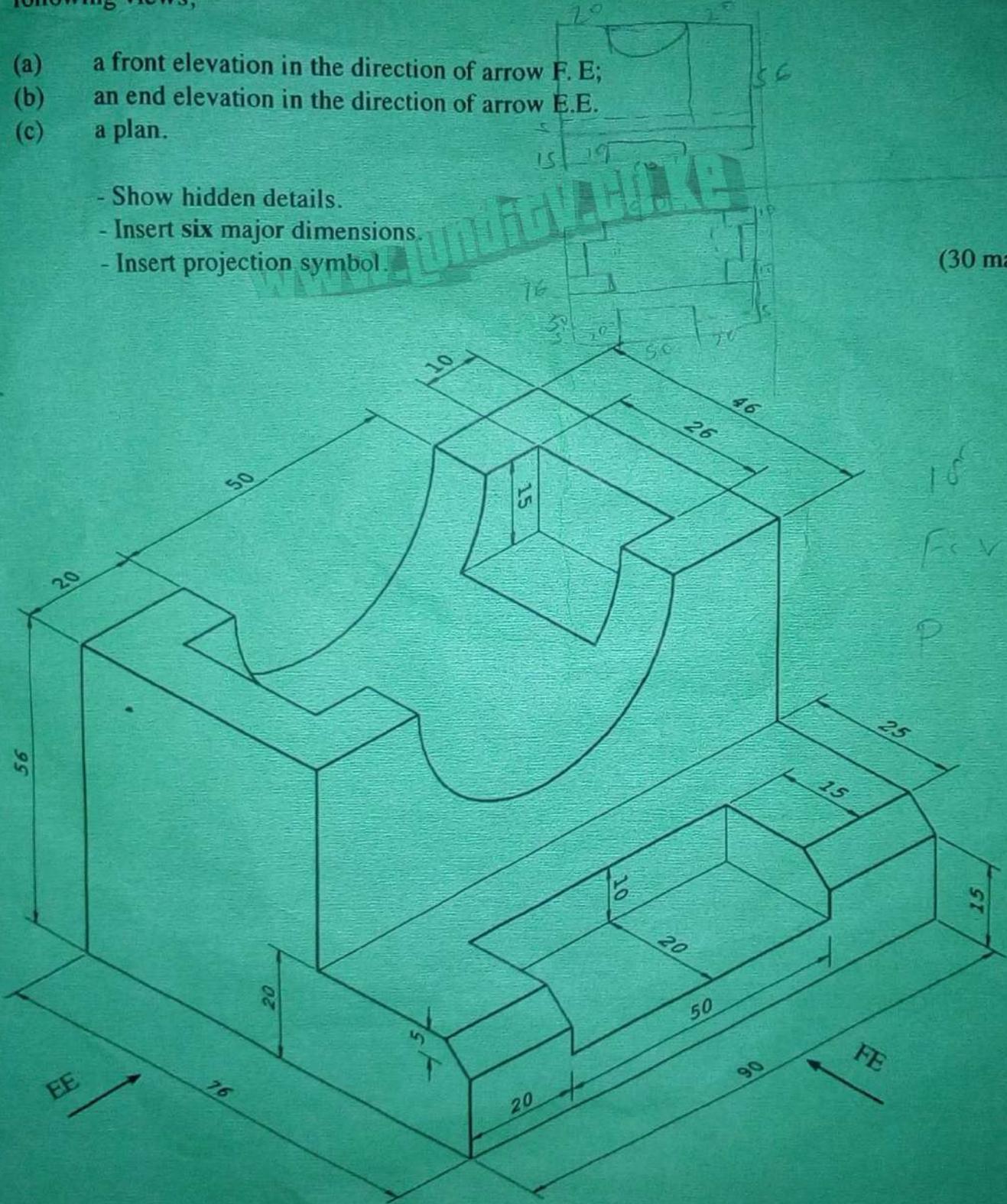
Turn over

*Answer **ALL** the questions from this section.*

1. **Figure 1** shows a isometric view of a machine block. Draw in first angle projection the following views;

    (a) a front elevation in the direction of arrow F. E;
    (b) an end elevation in the direction of arrow E.E.
    (c) a plan.

    - Show hidden details.
    - Insert **six** major dimensions.
    - Insert projection symbol.   (30 marks)

2. **Figure 2** shows **two** orthographic views of the intersection between a cone and a pipe. Copy the given views and :

(i) complete the views;
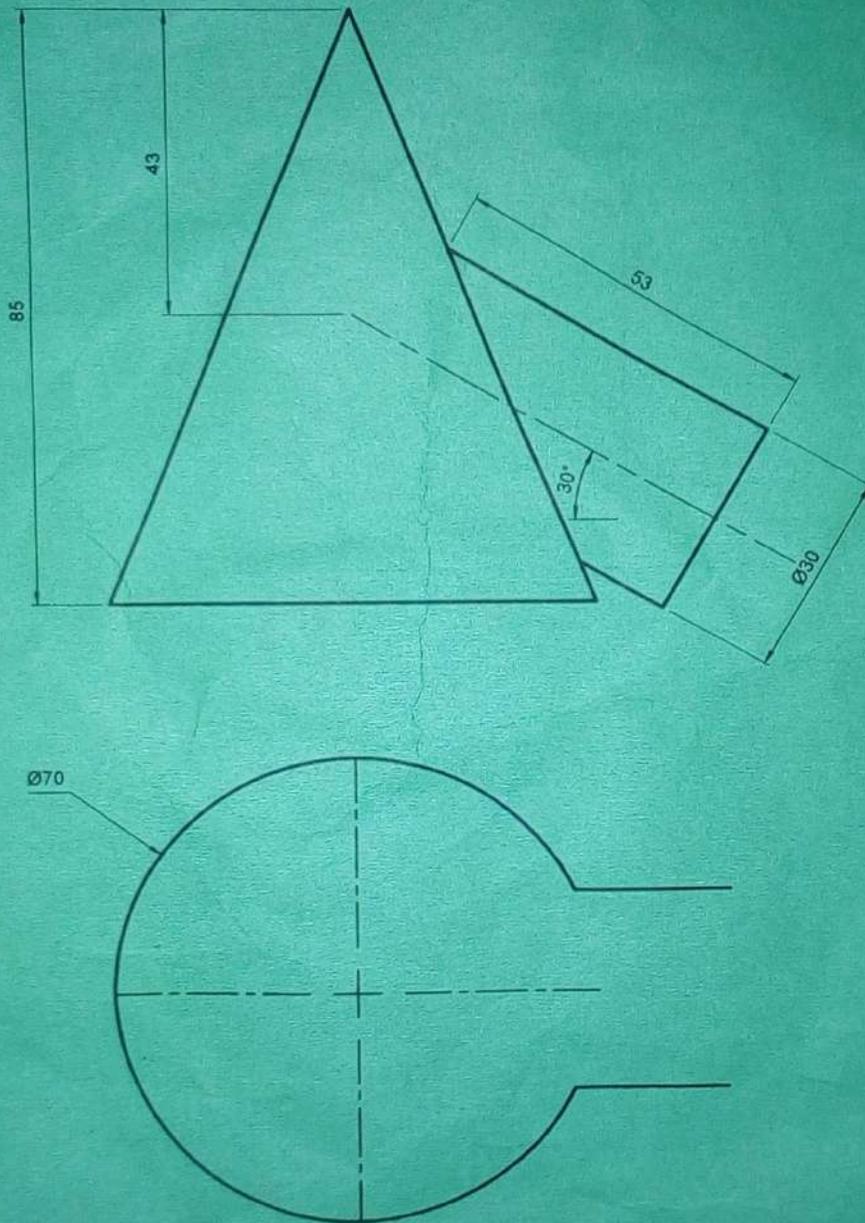
(ii) draw the surface development of the pipe.

(30 marks)

Fig 2.

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

3. **Figure 3** shows a link mechanism pivoted at O_1 and O_2 and pin-jointed at A, B and C. The link BE is free to slide through the swivelling guide D. Plot the loci traced by points B and E for one complete revolution of crank O_1C.
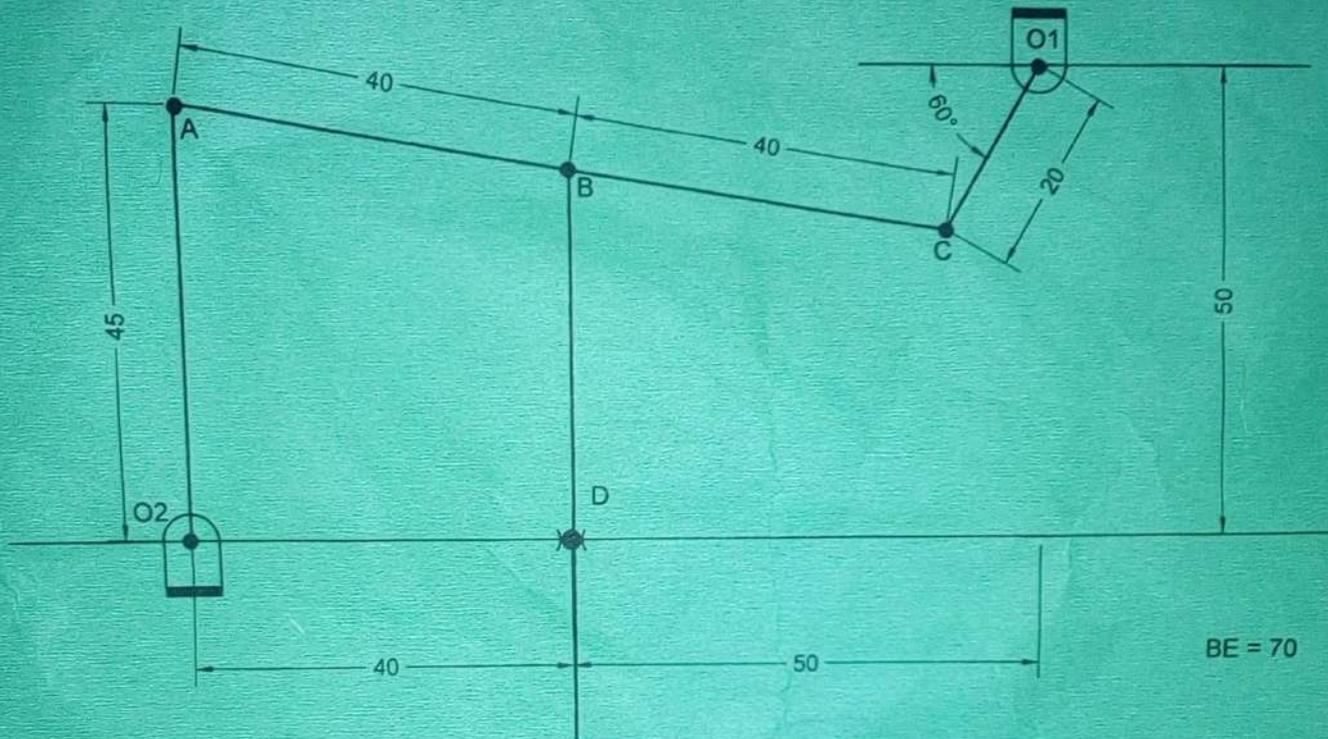   (20 marks)

Fig 3.

5. **Figure 5** shows two orthographic views of a machined block. Draw the isometric view of the block with corner X at the lowest point. Include six major dimensions. (20 marks)

Fig 5.

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