

2502/104    2503/104    2509/104

ENGINEERING DRAWING

Oct./Nov. 2022

Time 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN MECHANICAL ENGINEERING  
(PLANT OPTION, PRODUCTION OPTION)  
DIPLOMA IN AUTOMOTIVE ENGINEERING

MODULE I

ENGINEERING DRAWING I

3 hours

**INSTRUCTIONS TO CANDIDATES**

*You should have the following for this examination:*

*drawing paper;*

*drawing instruments.*

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

*Answer question 1 (compulsory) and any THREE questions from section B in the answer booklet provided.*

*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 7 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 two intersecting pipes. Copy the given views and draw the:

- (a) complete plan;
- (b) line of intersection;
- (c) half development of the smaller pipe;
- (d) the shape of the hole on the  $\text{Ø} 50$  pipe.

(20 marks)

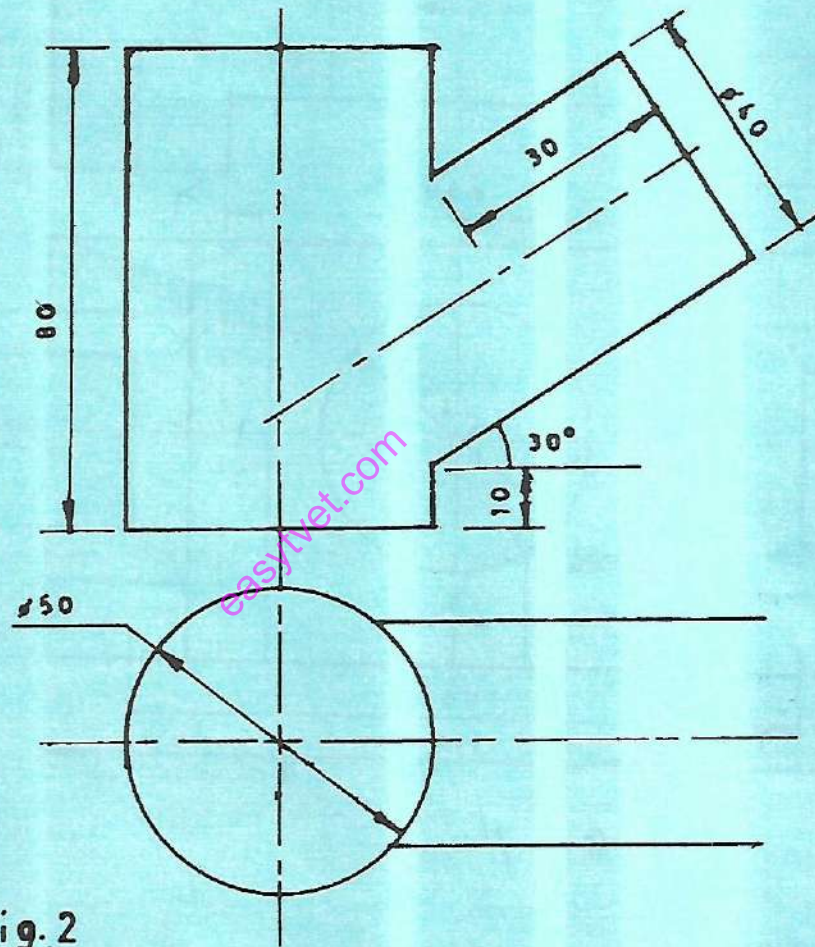


Fig. 2



3. Figure 3 shows the views of a machine block. Draw the isometric view of the block with point X as the lowest point. (20 marks)

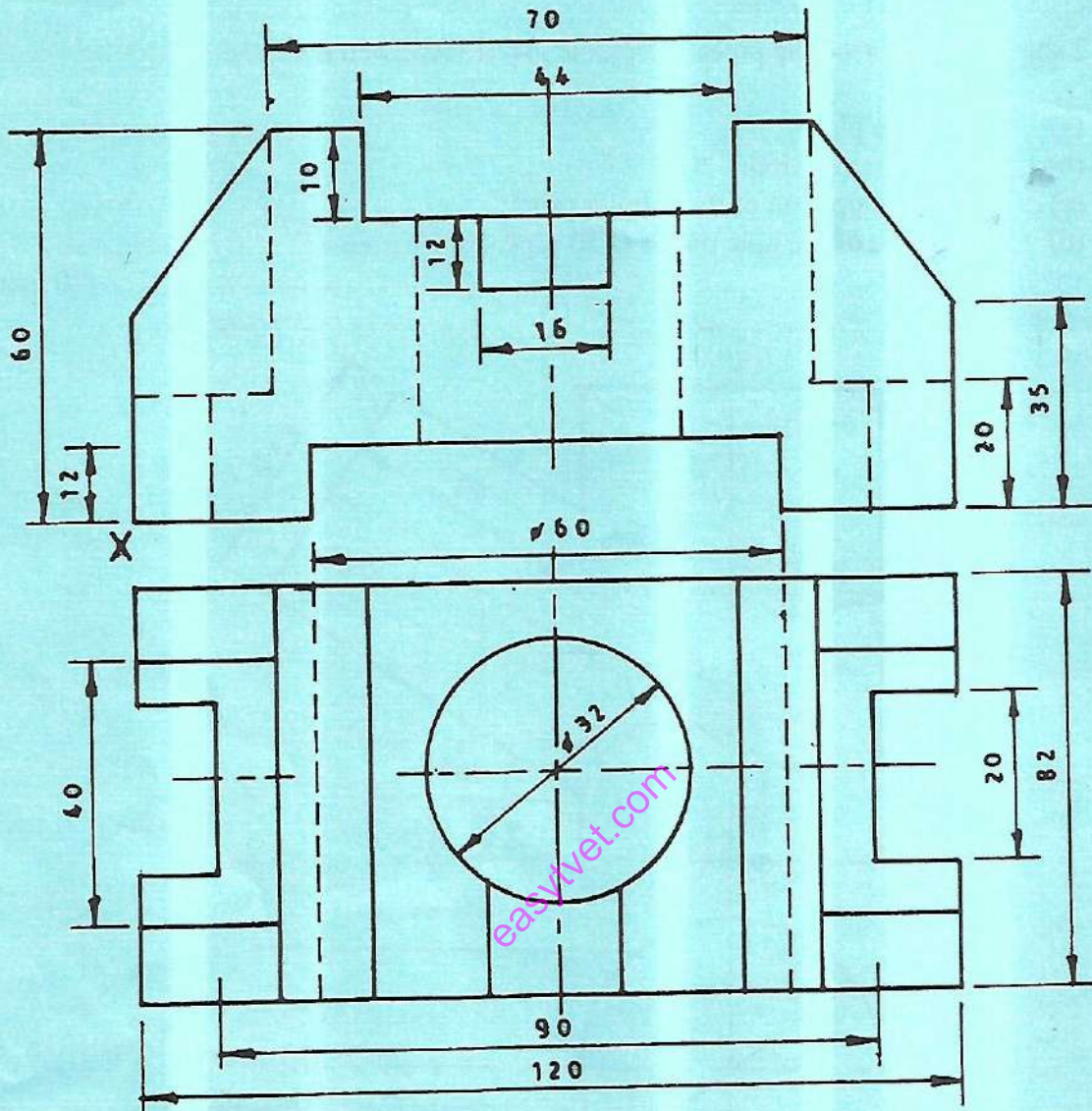
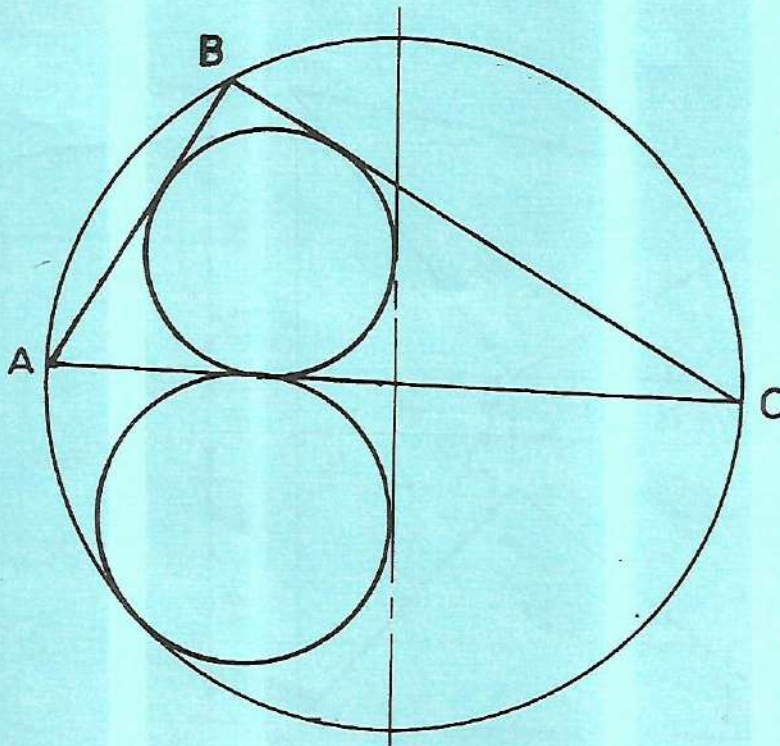


Fig.3



4. (a) Construct figure 4 showing all the construction lines.

(8 marks)

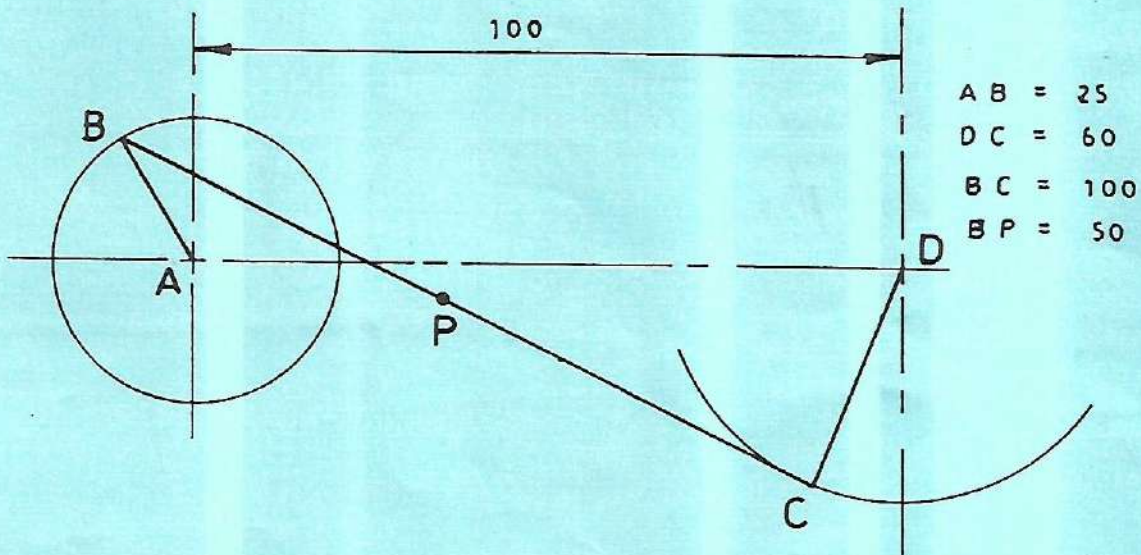


$AC = 80 \text{ mm}$

$AB = 30 \text{ mm}$

Fig. 4

(b) Draw the locus of point P for the three bar mechanism shown in figure 5. (12 marks)



$AB = 25$

$DC = 60$

$BC = 100$

$BP = 50$

Fig. 5



5. (a) Figure 6 shows the elevation and plan of a triangle ABC. Determine the true shape and size of the triangle. (8 marks)

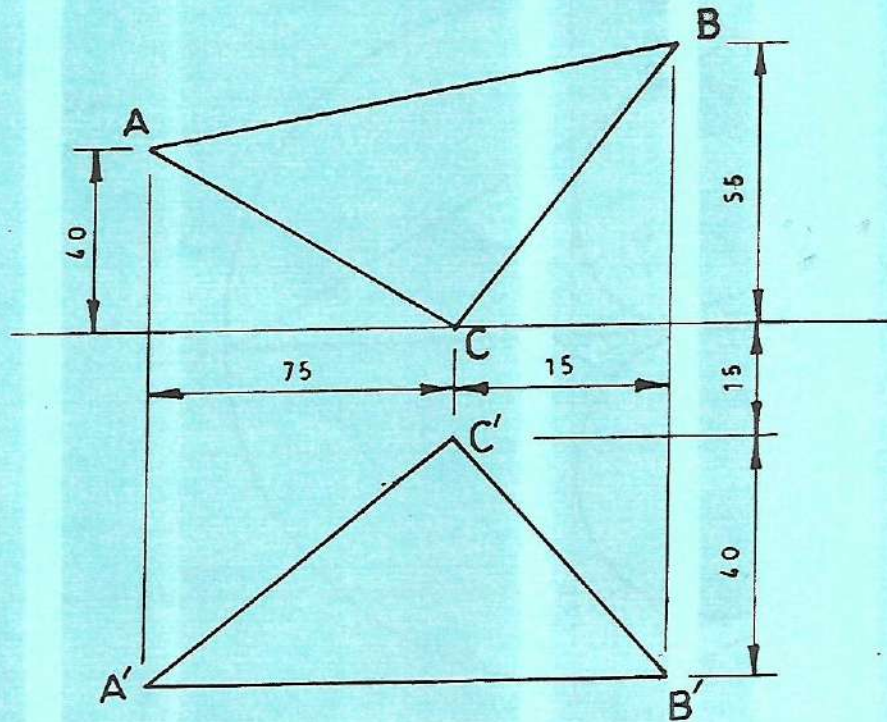


Fig.6

- (b) Figure 7 shows a metal template. Draw full scale the template, showing all construction lines. (12 marks)



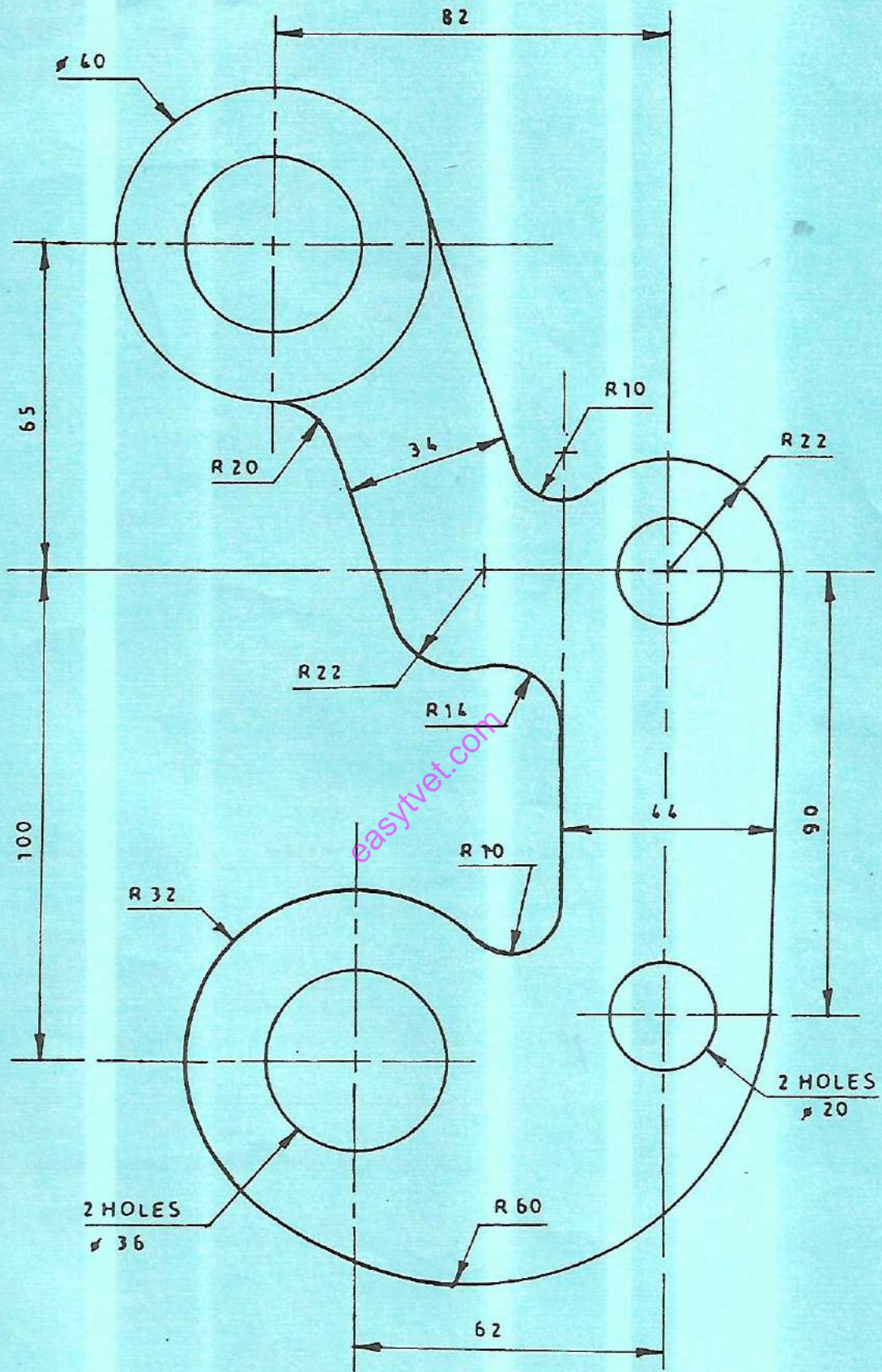


Fig.7

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