JUNIOR LYCEUM ANNUAL EXAMINATIONS 2006

Educational Assessment Unit – Education Division

FORM 3 (3rd year)   TECHNICAL DESIGN   Time: 2 hours

NAME : _____   CLASS : _____

Instructions

- Write your name and class on all sheets.
- Attempt **ALL** questions.
- All answers are to be drawn accurately, with instruments, unless otherwise stated.
- All construction lines **MUST** be left on each solution to show the method employed.
- Drawing aids may be used.
- **You are required to use one side of your paper for question number 1 only.**
- Colour / shading should be used where appropriate.

Information

- All dimensions are in millimetres.
- Estimate any dimension not given.
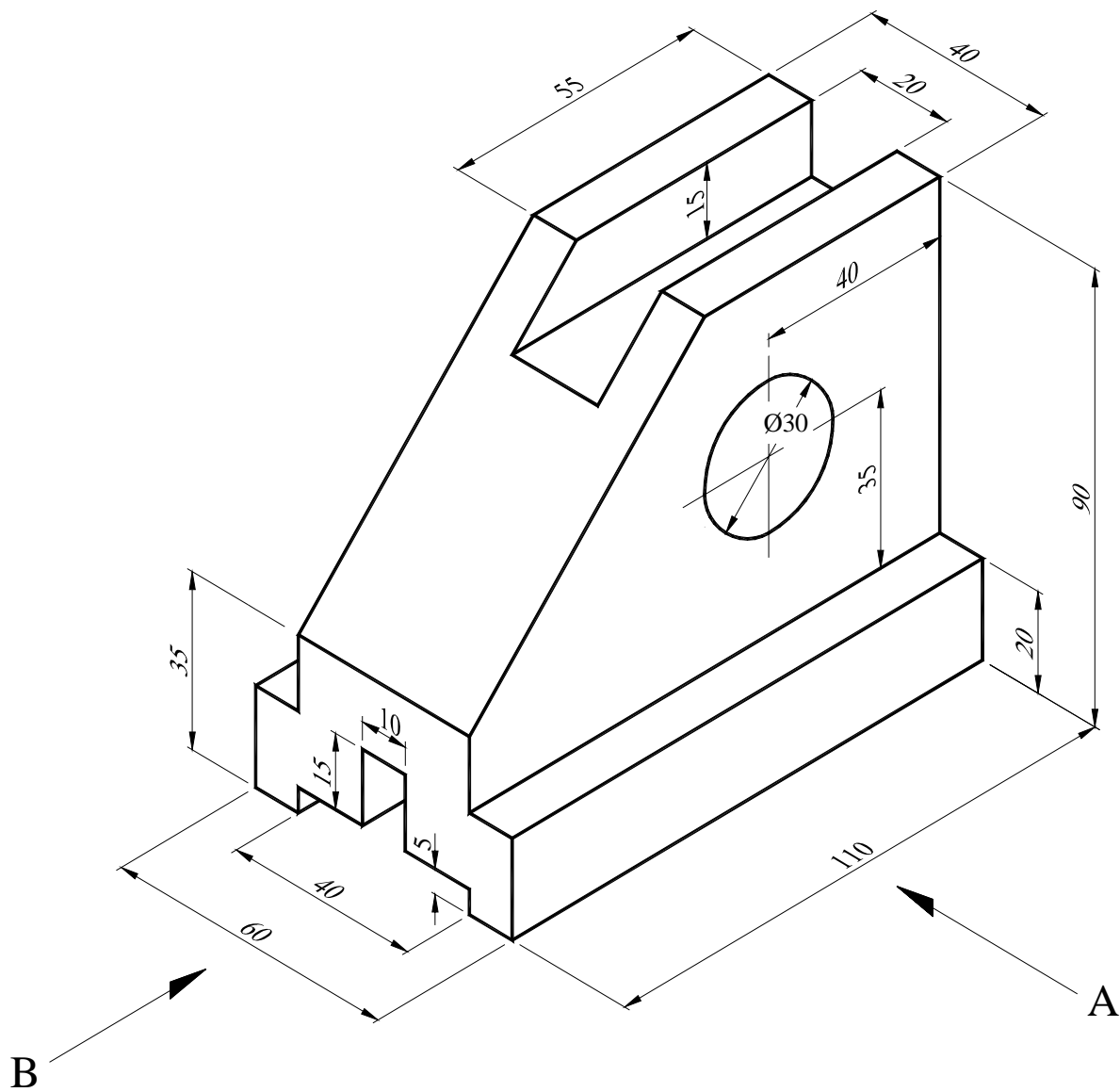- Marks will be awarded for accuracy, clarity and appropriateness of construction.

Question	1	2	3	4	5
Max. mark	45	15	14	10	16
Mark					

1. The figure below shows a pictorial view of a **SLIDE BRACKET.**
    To the dimensions given and using **First Angle Projection**, draw the following views:

    (a) a front elevation as seen from direction of arrow **A.**
         (In this view only insert all hidden details).   15 marks
    (b) an end elevation as seen from direction of arrow **B.**   15 marks
    (c) a complete plan.   11 marks
    (d) the appropriate **Symbol** to show the projection angle used. 3 marks
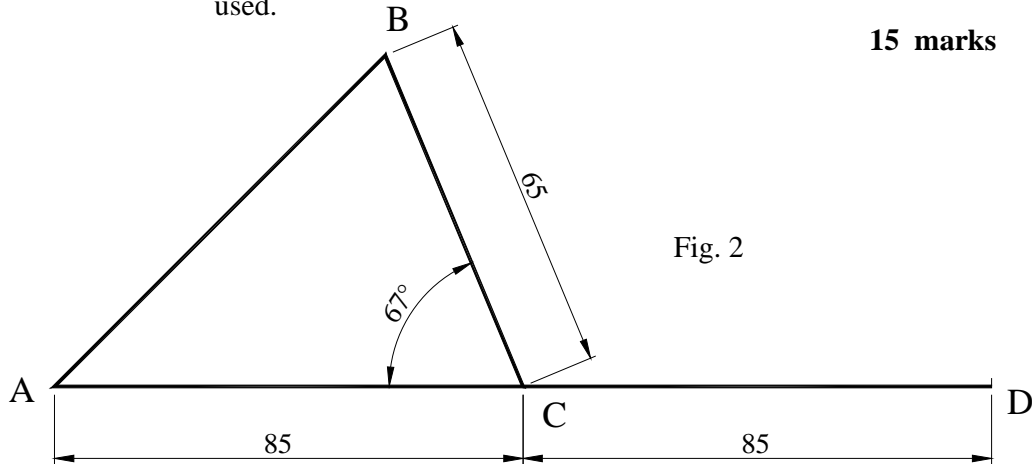   (e) The **Scale** used.   1 marks

    Note: Hidden details to be shown in view (**a**) only.
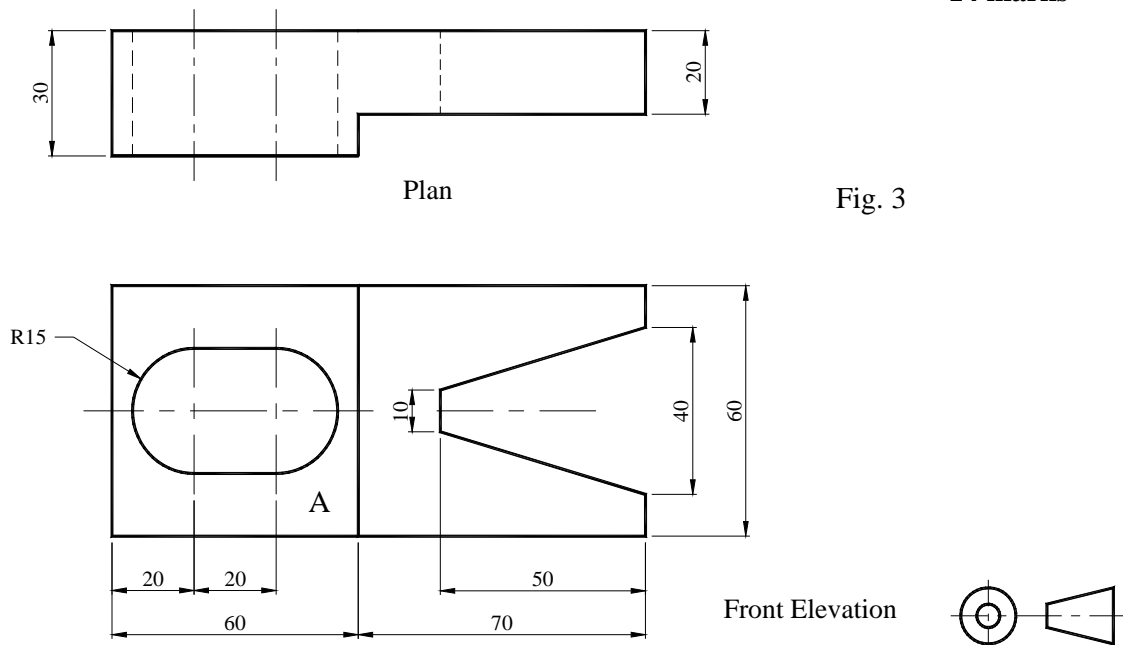
    Total 45 marks

2. (a) Draw the triangle shown in figure 2 below and extend the line **AC** to give point **D**.
    (b) Construct the circumscribed circle for the triangle which passes through the points **A**, **B** and **C**.
    (c) Construct **ONE** of the two tangents from point **D** which touch the circle.
    Note: Leave all construction lines in your solution to show the method used.
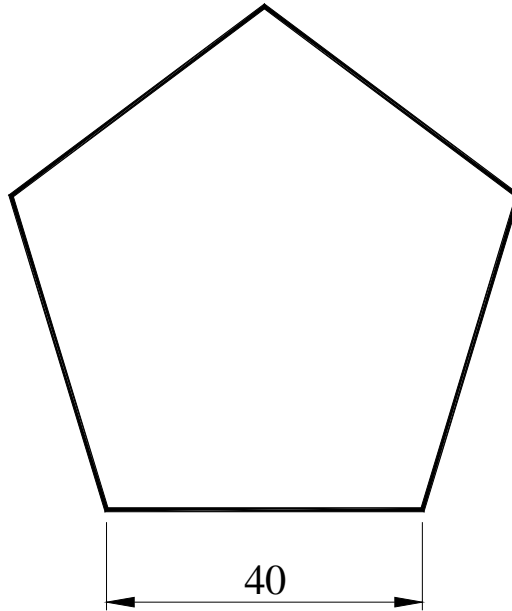
15 marks

B

65

Fig. 2

67°

A

C

D

85

85

3. Figure 3 below shows a solid component in third angle projection.
    Draw the component in Cabinet Oblique projection.
    Face '**A**' to be drawn in the foreground.

14 marks

30

20

Plan

Fig. 3

R15

10

40

60

A

20   20   50

60   70

Front Elevation

4.   The figure below shows a regular pentagon. Using any method you
      learned, copy the figure and enlarge it so that the 40mm side is enlarged in
      the ratio of **5 : 3** while keeping the same proportions.

      10 marks

40

5.   The table below shows the number of **BOYS** and **GIRLS** that attended an
      activity during the scholastic year 2004 / 2005.

	January	February	March	April	May	June
GIRLS	15	45	30	20	30	40
BOYS	30	50	20	35	40	45

(a)   Draw a **pie chart** to show a comparison of the attendance of the
       GIRLS from **January** to **June**.
(b)   Draw **line graphs** to show a comparison of the attendance by the
       Girls and **Boys** for all the months given.
(c)   Add suitable colour and notation to your graphs / charts.

       16 marks