ST. MICHAEL FOUNDATION

ANNUAL EXAMINATIONS

GRAPHICAL COMMUNICATION   **FORM II**

Monday, 26ᵗʰ June 2017   **TIME: 1½ hours**

EXAMINATION INSTRUCTIONS

[1]   <u>ALL questions must be attempted.</u>

[2]   You must construct all drawings on the A3 paper provided.

[3]   All dimensions are in millimeters, unless otherwise indicated.

[4]   You must fill in all details correctly in the title block on each sheet.

[5]   All work must be completed in pencil.

[6]   All construction lines <u>MUST</u> be visible and in the correct pencil grades.

[7]   All construction lines must be completed as accurately as possible using the appropriate equipment and pencil grades.

[8]   Coloured pencils or crayons will also be needed.

[9]   All papers must be lined up and fastened in place before attempting any drawing.

[10] All questions require the use of a T-square, set-squares, compass as well as other equipment, as deemed necessary.

[11] A calculator may be used if required.

[12] Rough paper may be used for any working.

WHEN YOU HAVE FINISHED YOUR EXAM:

[1]   Check whether you used the dimensions given for each question.

[2]   Are all lines straight and neat?

[3]   Did you use the correct pencil grade?

[4]   Have you rubbed out any mistakes neatly?

[5]   Did you show all the construction techniques you can use?

[6]   Did you put your full name on each working sheet?

[7]   If you have completed the above, make sure you give the invigilator **all** your work sheets.

Question 1. Given the line 'A - B', figure 1, use a geometrical construction to find the centre of the line AB and on that centre draw a circle with half 'AB' as radius.
Inside this circle construct a regular Hexagon.
Measure and state the length of one of the sides of the hexagon. (15 Marks)

Fig. 1

A _____ B

Side of Hexagon = _____

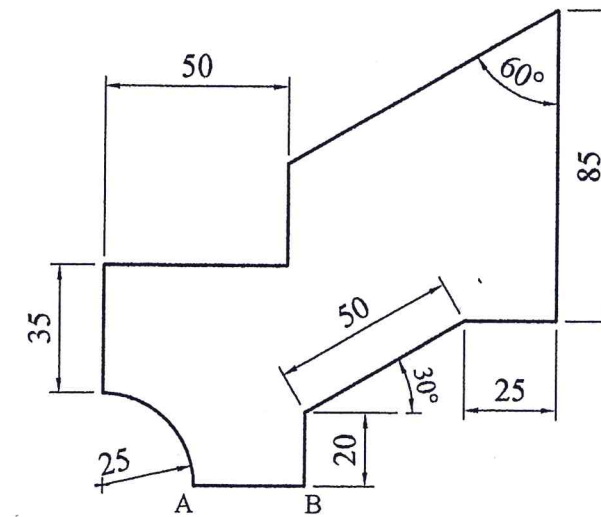**Question 2.** Fig. 2 shows the profile of part of a toy. On the given base 'A₁ - B₁', Fig. 2B, draw the profile full size using the given dimensions. (15 Marks)

Fig. 2A.

A₁ _____ B₁

Fig. 2B.

Question 3. The Ladybird shown in Fig. 3A is drawn by constructing 6 circles. Complete the ladybird in Fig. 3B. by constructing circles on the given centre lines. The dimensions for each circle are given below. Add colour to your drawing.   (15 Marks)
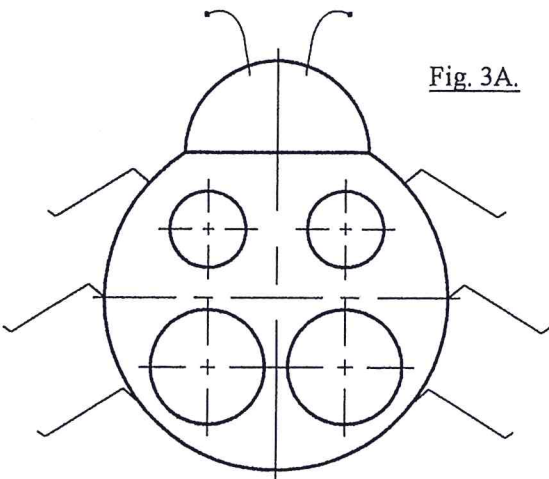
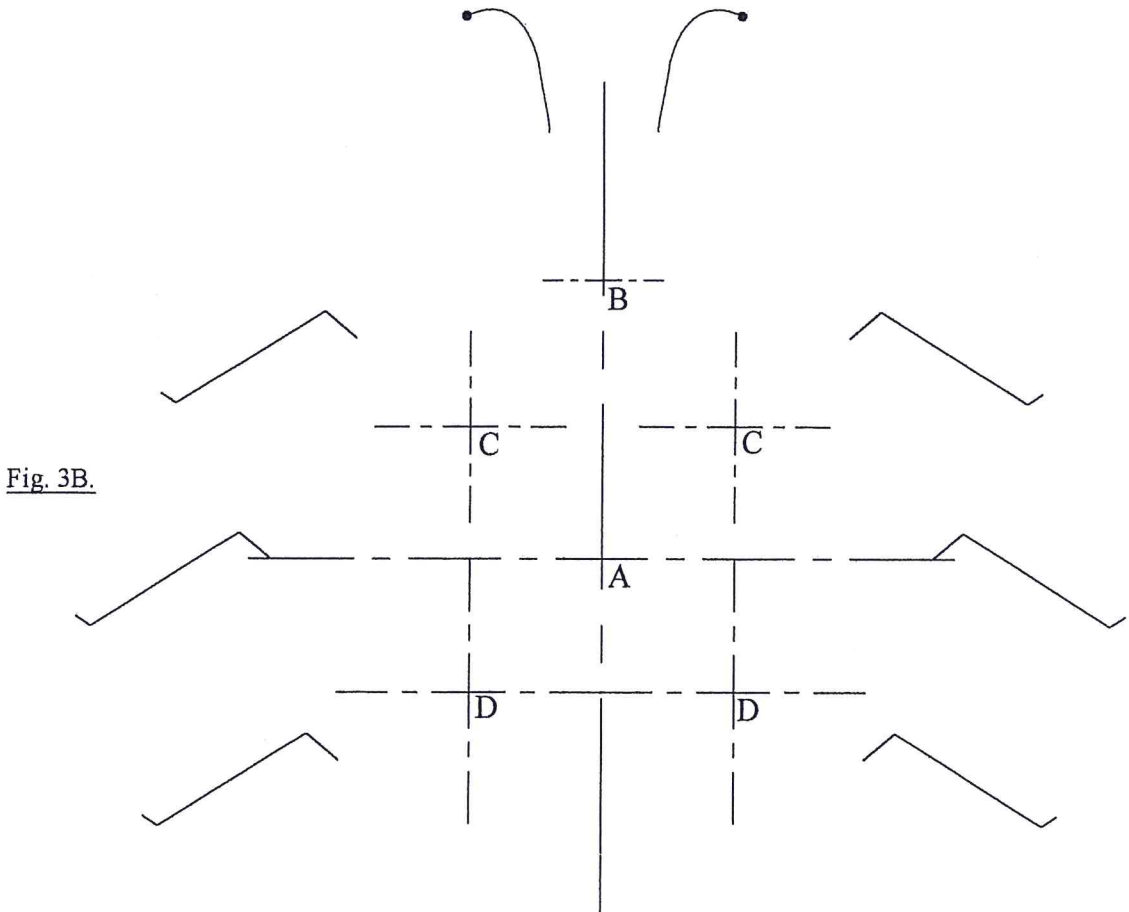Fig. 3A.

A = Ø90mm.
B = R24mm.
C = Ø20mm.
D = R15mm.

Fig. 3B.

Question 4. The Cabinet shown in Fig. 4A has seven drawers. On the given base, Fig. 4B, complete the outline of the Cabinet and construct the missing drawers   using the *division of a line* method.
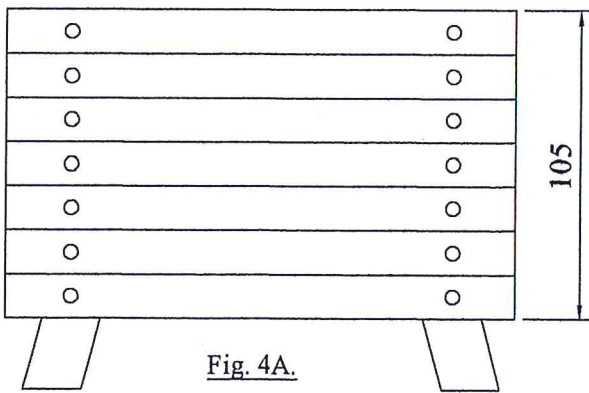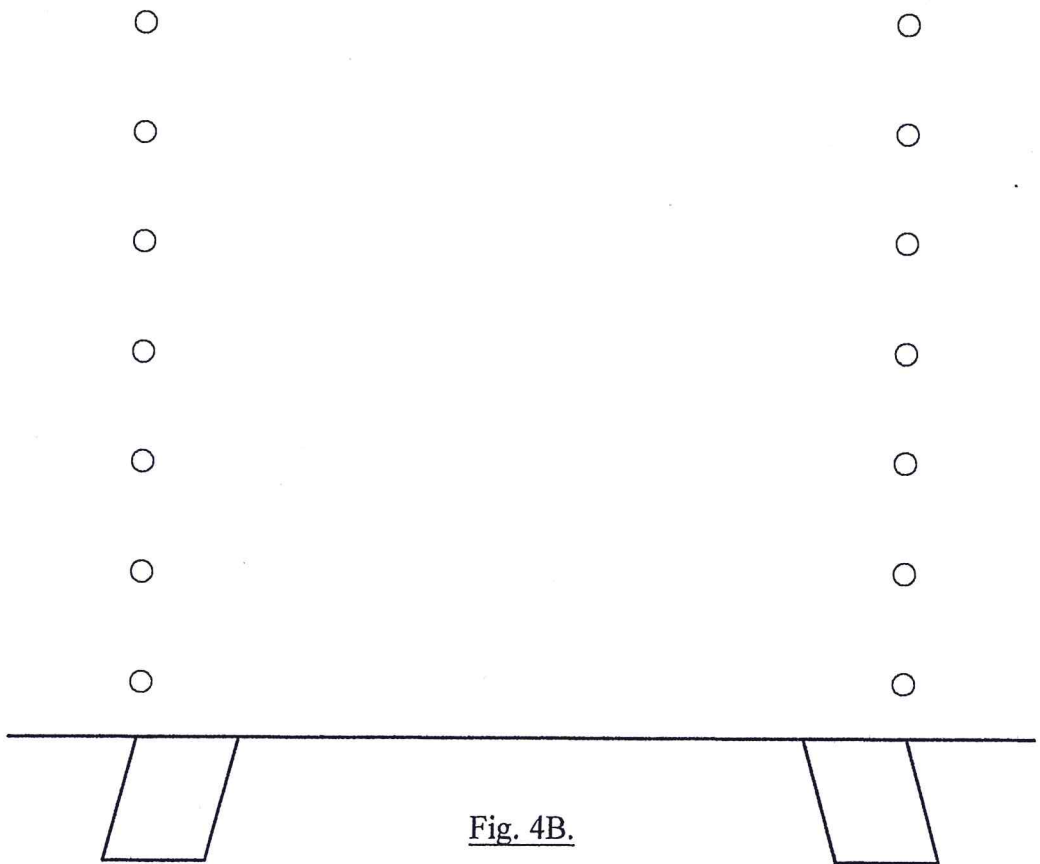
(15 Marks)

105

Fig. 4A.

Fig. 4B.

Question 5.
Complete the 'Sailing Boat' shown in Fig. 5A on the given base line, Fig. 5B. Get your dimensions from the completed diagram shown below. Construct the mast on the centre of the hull.
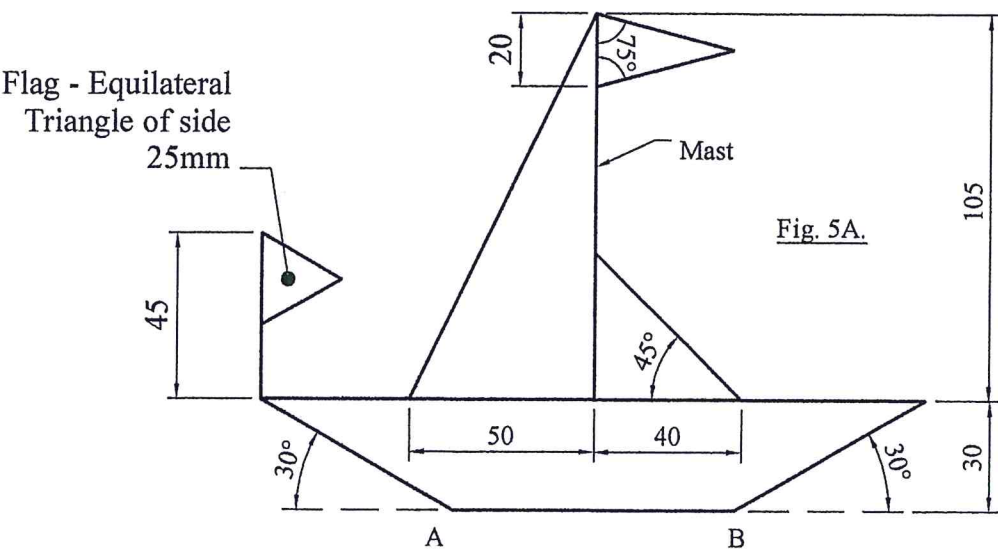(25 Marks)

Flag - Equilateral
Triangle of side
25mm

Mast

Fig. 5A.

20

75°

105

45

45°

50   40

30°

30°

30

A   B

Fig. 5B.

A   B

Question 6.

The shape of the watch shown in figure 6A below has 5 equal sides.
What is this shape called?
Construct the shape on the given line 'A - B' in figure 6B.
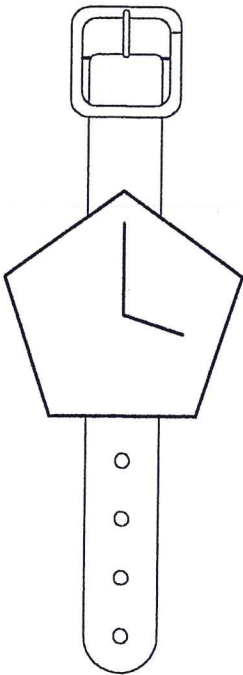ALL construction lines are to be shown clearly.
(15 Marks)

Fig. 6A

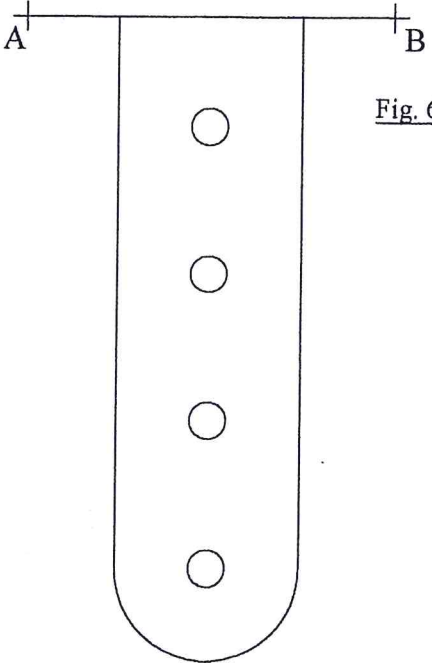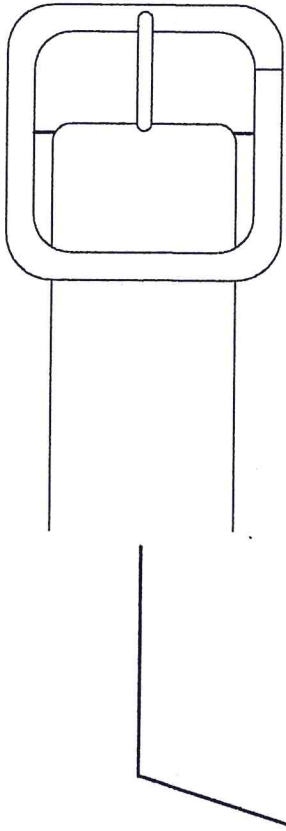The watch shown in Fig. 6A is in

the shape of a _____

A   B

Fig. 6B

| Name:_____ | Form 2___ | Form 2 Annual Exam 2016/'17 | Page 3 of 3. | Date: Monday 26th June | Time: 1½ hrs. | St. Michael Foundation |