



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering and Technology

DEPARTMENT OF MECHANICAL AND AUTOMOTIVE ENGINEERING
UNIVERSITY EXAMINATION FOR:

DIPLOMA IN MARINE ENGINEERING (DMAE 1)
EMR 2106 TECHNICAL DRAWING
END OF SEMESTER EXAMINATION

SERIES: DEC 2016 PAPER-A

TIME: 2 HOURS

DATE: 2016

Instructions to Candidates

You should have the following for this examination

-*Answer Booklet, examination pass and student ID*

This paper consists of FIVE questions. Attempt any THREE.

Do not write on the question paper.

Question One

(a) State the meaning of the following abbreviations

- i. CL
- ii. NTS
- iii. ASSY
- iv. PCD

(4mks)

(b) List the symbols for

- i. Diameter
- ii. Square
- iii. First and third angle orthographic projections

(4mks)

(c) Draw a line 95mm and divide it into;

- i. ELEVEN equal parts
- ii. The ratio 1:3:5

(7 marks)

- (d) Construct a triangle whose sides are 40mm, 50mm and 60mm long respectively.
Inscribe and subscribe a circle for the triangle. (5 marks)

Question Two

- (a) Construct free hand sketches of the following
- i. Engineer's ball pane hammer
 - ii. Pliers
 - iii. Anvil. (10mks)
- (b) Draw an ellipse whose major and minor axis are 140 and 90mm respectively.
Use the rectangular method. (10mks)

Question Three

- (a) Draw a circle 65mm and
- i. Divide it into SIX equal parts
 - ii. Label the parts, sector, quadrant, sector, segment, chord (10mks)
- (b) The center between two circles is 98mm. If the radii of the circles are 30 and 21mm respectively, construct an internal and an external tangent to the circles (10mks)

Question Four

Fig.1 shows the profile of a crane hook. Construct the hook to scale and show the construction work. (20mks)

Question Five

- (a) Fig 2 shows the front view of a truncated hexagonal prism. Draw the surface development and the plan view of the component. (10mks)
- (b) Construct the following;
- i. Angles 105° , 37.5° , 82.5° , 285° , 67.5° (4mks)
 - ii. A hexagon, a nonagon and a undecagon using the perpendicular bisector method (6mks)

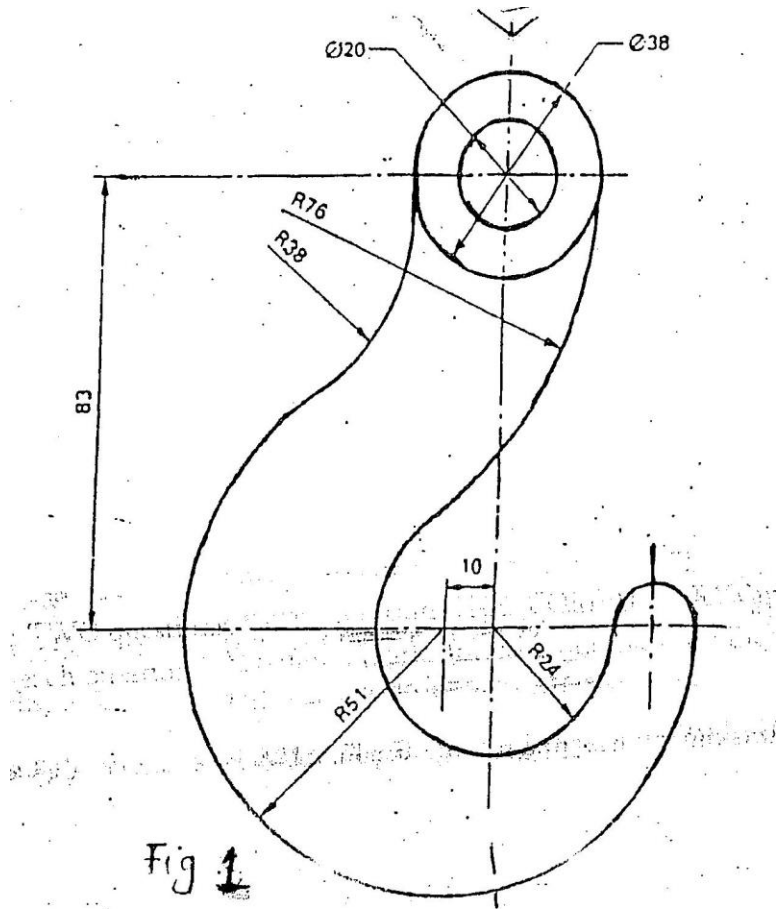


Fig 1

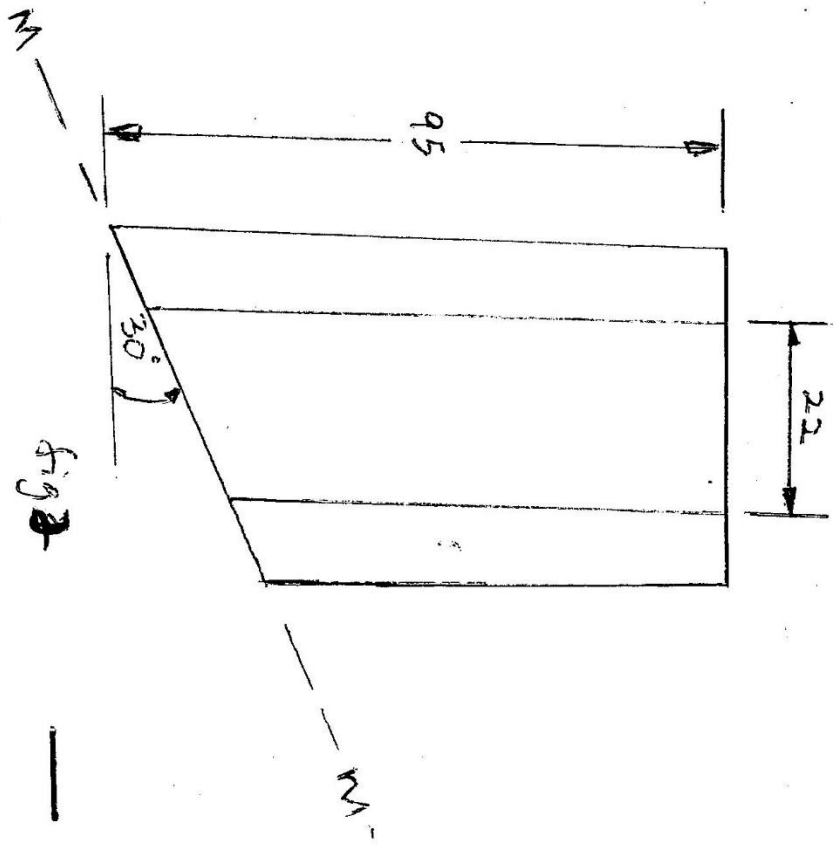


fig 2