



QUESTION 2: LOCI (MECHANISMS)

A manufacturing company designed a mechanism to open and close a mechanical gate on an assembly line in a bottling plant.

The mechanism consists of a crank, OA, attached to a shaft which rotates clockwise at a constant speed about a centre point O. Rod AB, attached to the crank at A, slides freely through a fixed point at C. AB rotates freely about point A.

During the design process the loci generated by points B and E on the moving parts of the mechanism had to be established.

Given:

FIGURE 1: A drawing showing the assembled parts of the mechanism.
 FIGURE 2: A schematic drawing of the moving parts of the mechanism.

Instructions:

- 2.1 With point O as a reference, draw FIGURE 2 full size.
- 2.2 Trace the locus generated by point B located on the rod AB.
- 2.3 Trace the locus generated by point E located on the rod AB.

- Show ALL necessary construction. [33]

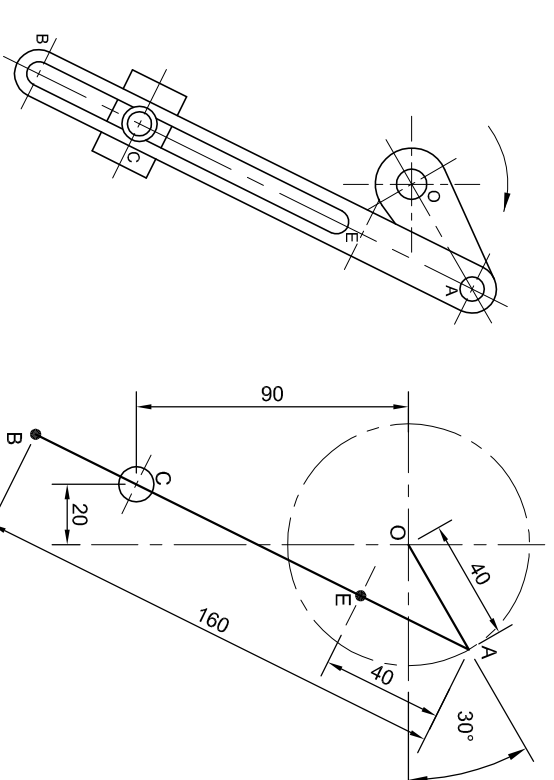


FIGURE 1

FIGURE 2

ASSESSMENT CRITERIA

GIVEN FIGURE	4
CONSTRUCTION	3
LOCUS B	13
LOCUS E	13
TOTAL	33



EXAMINATION NUMBER	
EXAMINATION NUMBER	3