

**FINAL
ALTERNATIVE ASSESSMENT**

(COVER PAGE)

Session : August 2020

Programme : Diploma in Mechanical Engineering (DMEN)

Course : EGM2161: Engineering Drawing 2

Date of Examination : 18 December 2020 (Friday)

Time : 8.00am – 10.20am Reading Time : Nil

Duration : 2 Hours 20 Minutes

Special Instructions :

This paper consists of **FOUR (4)** questions. Answer **ALL** questions.

Material permitted : Non-Programmable Scientific Calculator

Materials provided : Nil

Examiner(s) : Phua Chin Lai

Chief Moderator : Tham Chan Seng

This paper consists of 6 printed pages, including the cover page

DIPLOMA IN MECHANICAL ENGINEERING PROGRAMME (DMEN)
EGM 2161: ENGINEERING DRAWING 2
FINAL ALTERNATIVE ASSESSMENT: AUGUST 2020 SESSION

Instructions: This paper consists of **FOUR (4)** questions. Answer **All questions**. All drawings are to be drawn in full size unless otherwise stated. Dimensions are not required unless the question explicitly asks for them.

Note: All dimensions are given in mm.

Question 1

Figure Q1a and Q1b shows the five detail parts in 3rd angle projection. Which together make up a Hooke's coupling assembly to connect two shafts (not shown in Figure Q1a and Q1b). The final assembly of these part are illustrated in 3D model shown in Figure Q1c.

Five detail parts consist of 2 folks (item 1), one centre (item 2), two pins (item 3), two collars (item 4) and two lock pins (items 5).

Draw sectional front view XX of completely assembled unit.

(25 marks)

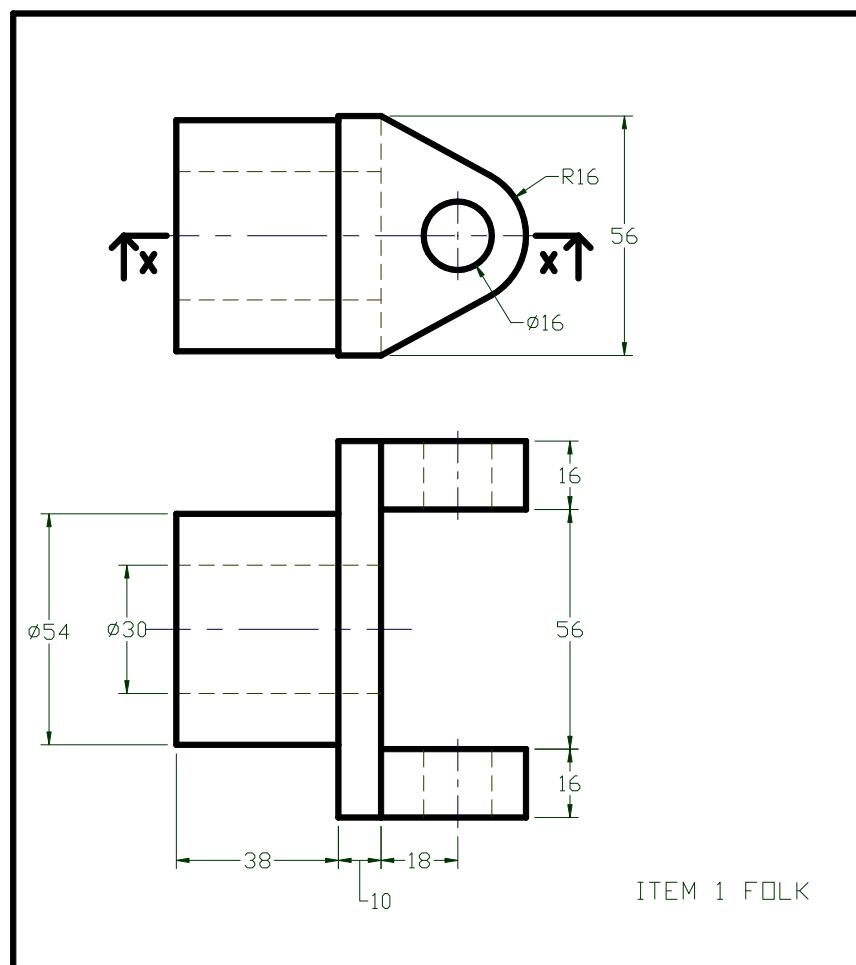


Figure Q1a

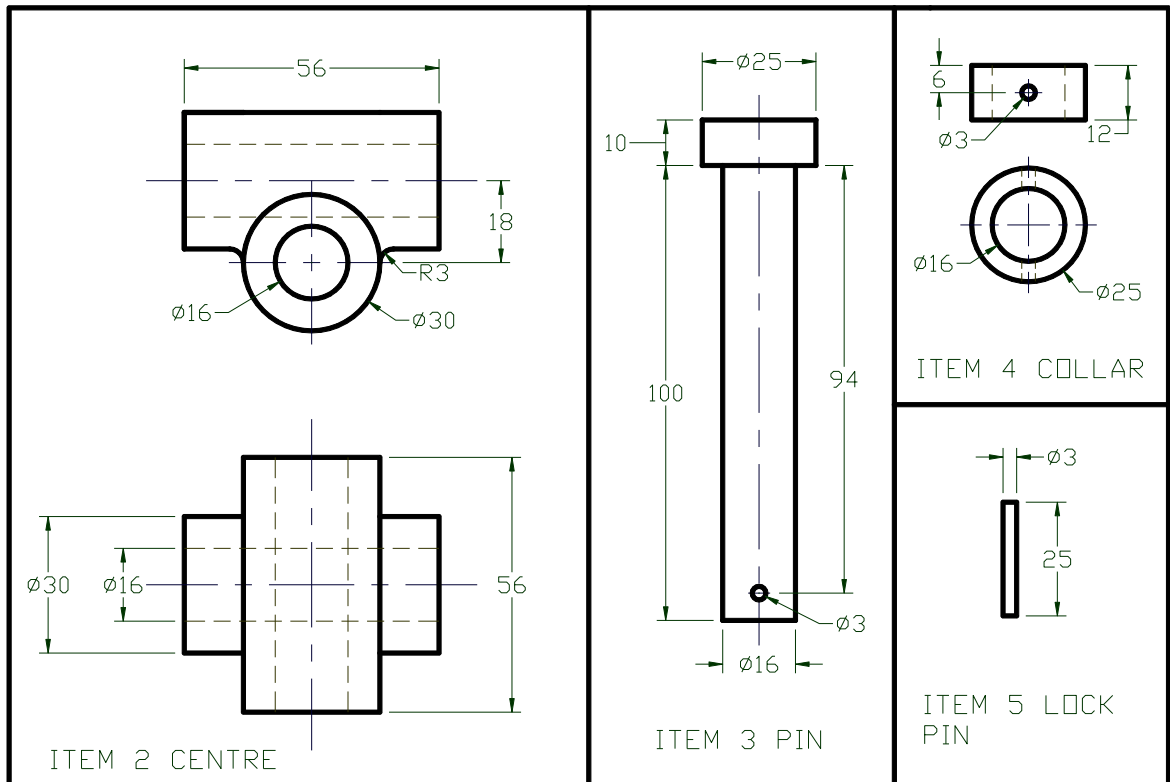


Figure Q1b

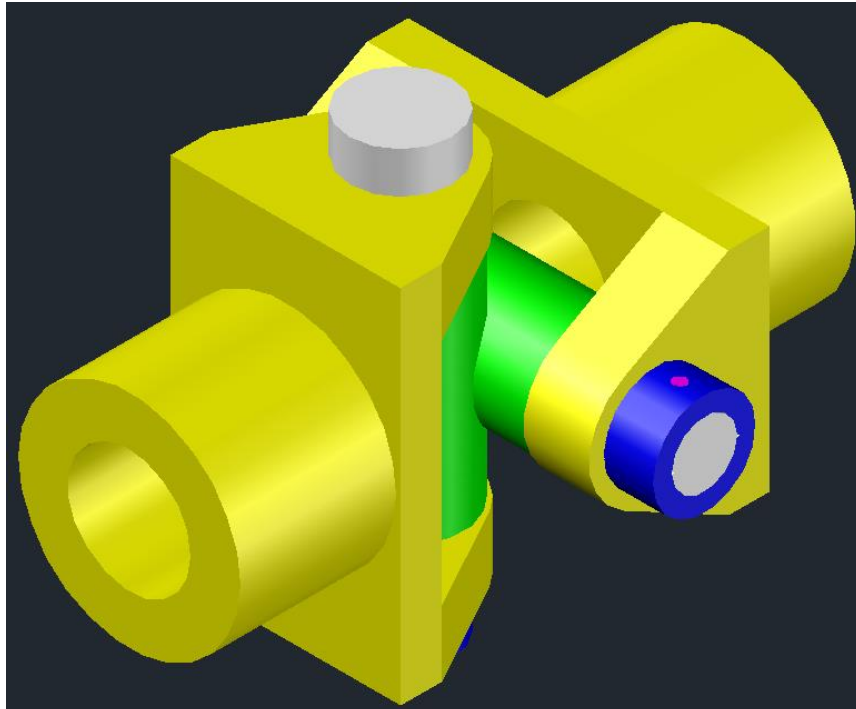


Figure Q1c

Question 2

Draw the given front and right-side views of Figure Q2, and add auxiliary view. Note: the auxiliary arrow is perpendicular to the inclined line of front view.

(25 marks)

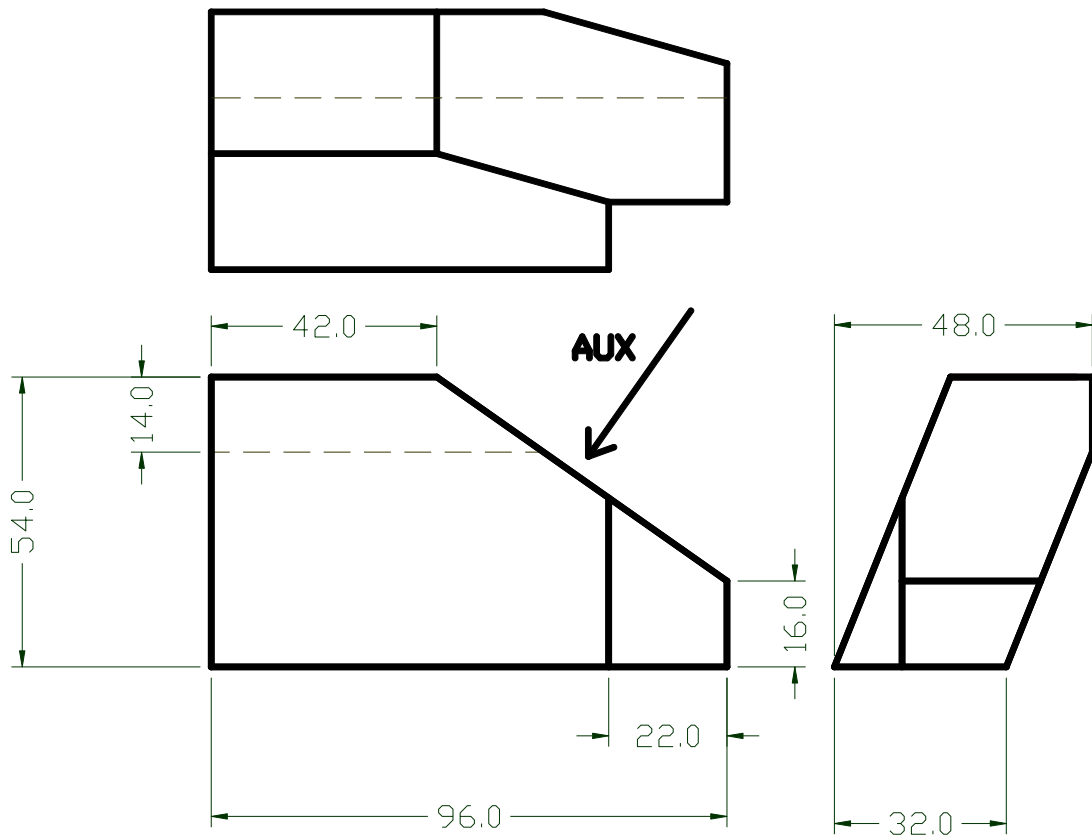


Figure Q2

Question 3

The component in Figure Q3 has been drawn in 3rd angle projection. Draw an isometric view of this component with the corner shown by the letter A in the foreground.

(25 marks)

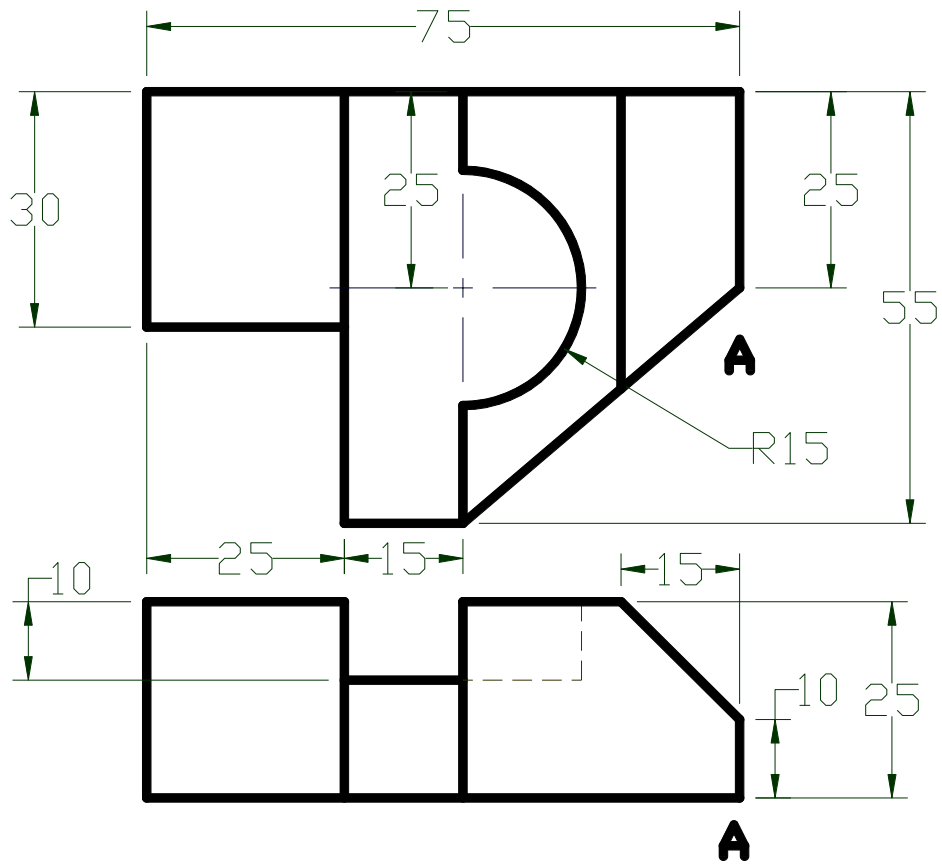


Figure Q3

Question 4

Draw the profile of a cam which gives the following motion to roller follower of 24 mm diameter in one revolution of the cam shaft in clock wise direction. The minimum cam radius is 25 mm. Draw the displacement diagram to a scale of 10 mm = 20°.

0° to 120° : Rise 40 mm and have simple harmonic motion

120° to 180° : Top dwell

180° to 270° : Fall 40 mm and have simple harmonic motion

270° to 360° : Bottom dwell

(25 marks)

~THE END~

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