

FINAL
Examination Paper
(COVER PAGE)

Session : August 2018

Programme : Diploma in Mechanical Engineering (DMEN)

Course : EGM2161 : Engineering Drawing 2-Mechanical Engineering

Date of Examination : December 11, 2018 (Tuesday)

Time : 2:00 pm – 4:00 pm Reading Time : Nil

Duration : 2 Hours

Special Instructions :

This paper consists of **SIX (6)** questions. Answer any **FOUR (4)** questions in the answer booklet provided. All questions carry equal marks.

Materials permitted : Drawing Instruments and Calculator

Material provided : A2 Sized Drawing Paper

Examiner : Phua Chin Lai

Moderator : Mr Teh Thiam Oun

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

DIPLOMA IN MECHANICAL ENGINEERING PROGRAMME (DMEN)
 EGM2161 ENGINEERING DRAWING 2
 FINAL EXAMINATION : AUGUST 2018 SESSION

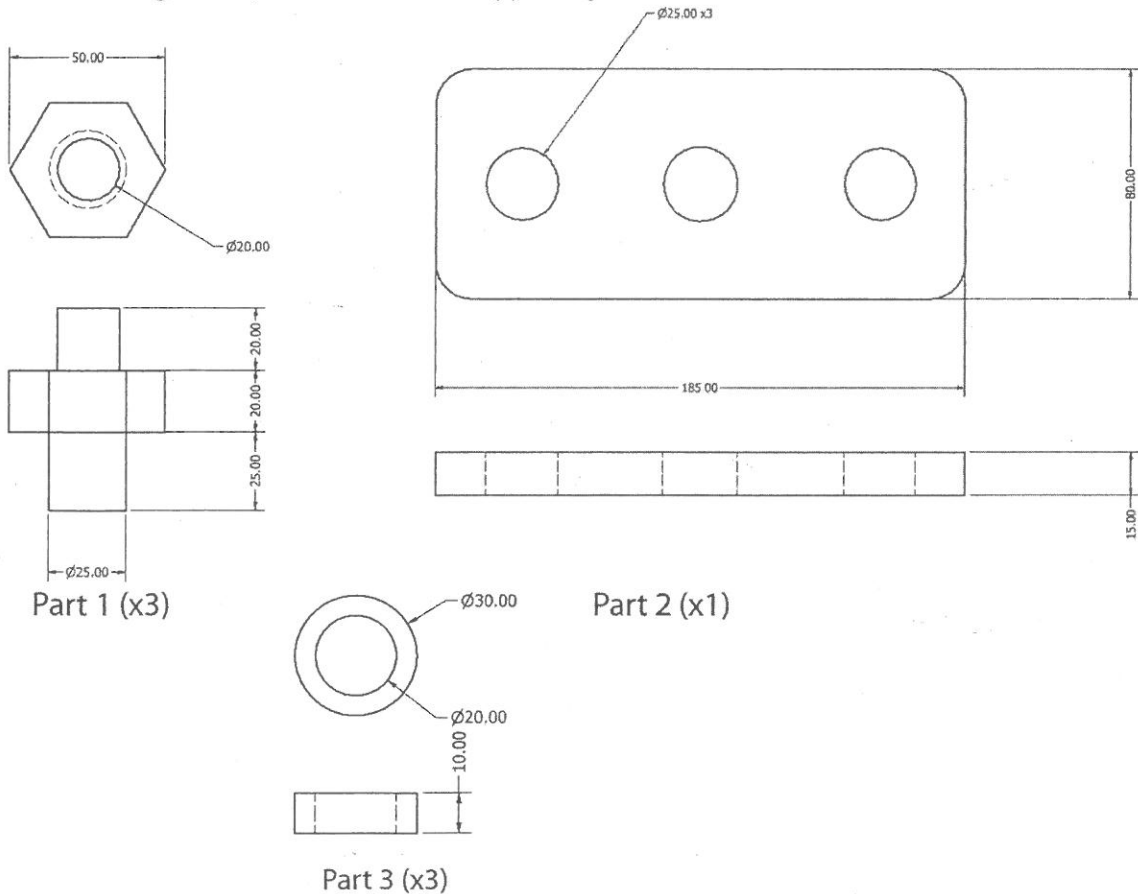
Instructions: This paper consists of **TWO (2)** sections, A and B. **Section A** consists of **TWO (2)** questions and both questions are compulsory. **Section B** consists of **FOUR (4)** questions of which you are in required to answer any **TWO (2)** questions. All drawings are to be drawn in full size unless otherwise stated. Dimensions are not required unless the question explicitly asks for them.

Note: All dimensions are given in mm.

Section A: Compulsory section. Answer **ALL** questions in this section.

Question 1

Figure Q1 shows a pictorial view of 3 parts. Draw in 3rd angle projection a complete assembly of the following views, show hidden line(s) if any:



- (i) Plan View. (10 marks)
- (ii) Front View. (10 marks)
- (iii) Right End View. (5 marks)

Question 2

Refer to Figure Q2 and draw the following views in 1st Angle Projection:

- (a) A full front sectional view XX, where the cutting plane is at middle of the object. (14 marks)
- (b) A full sectional left end view YY, where the cutting plane is at middle of the object. (11 marks)

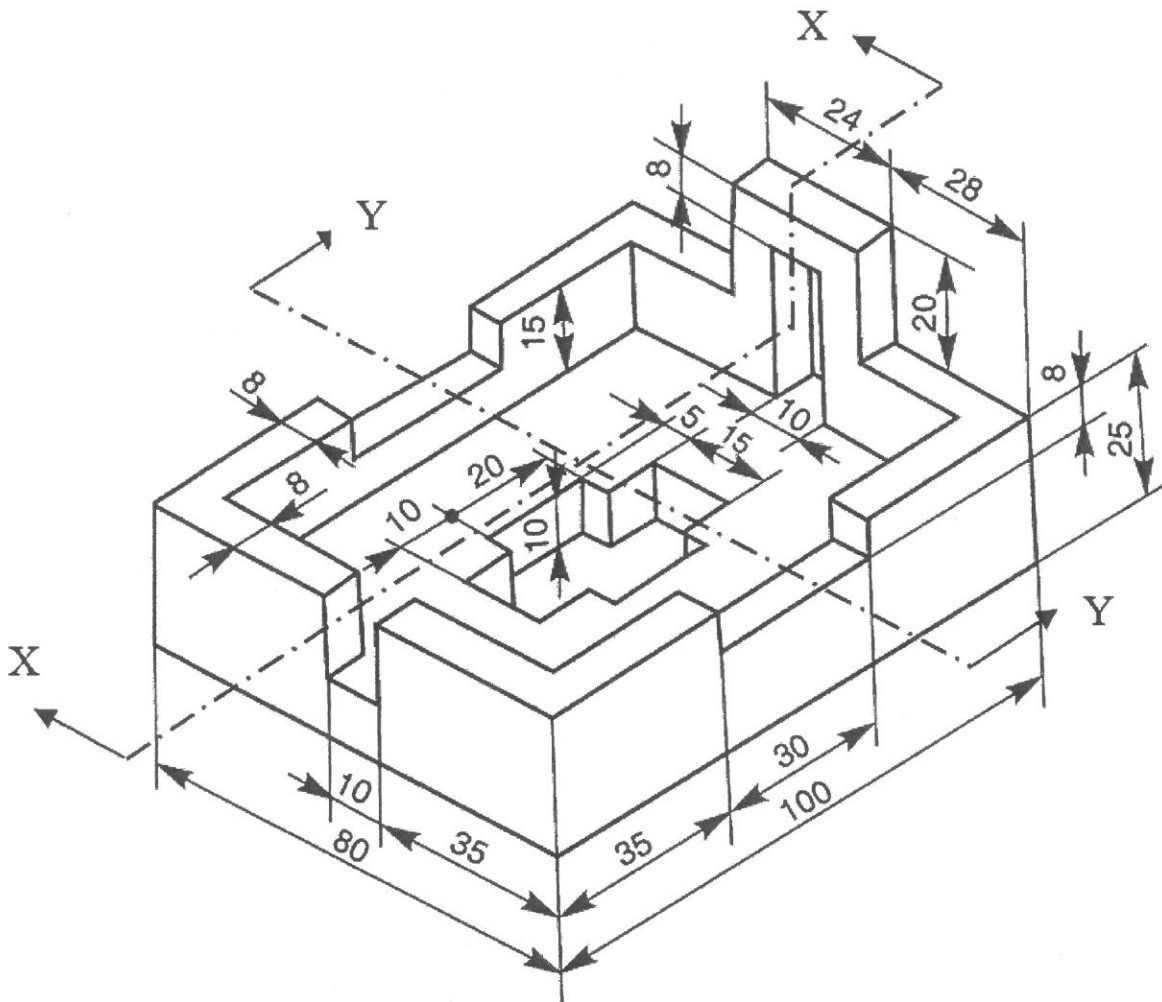


Figure Q2

Section B: Answer any **TWO (2)** questions.

Question 3

Figure Q3 shows a prism made of equilateral triangle of side 90 mm drawn following the orthographic symbol below. It is pierced by a hole which in plan view appears to be a circular hole which has diameter of 30mm. Redraw the two given view and then project an auxiliary view in the direction of arrow A.

(25 marks)

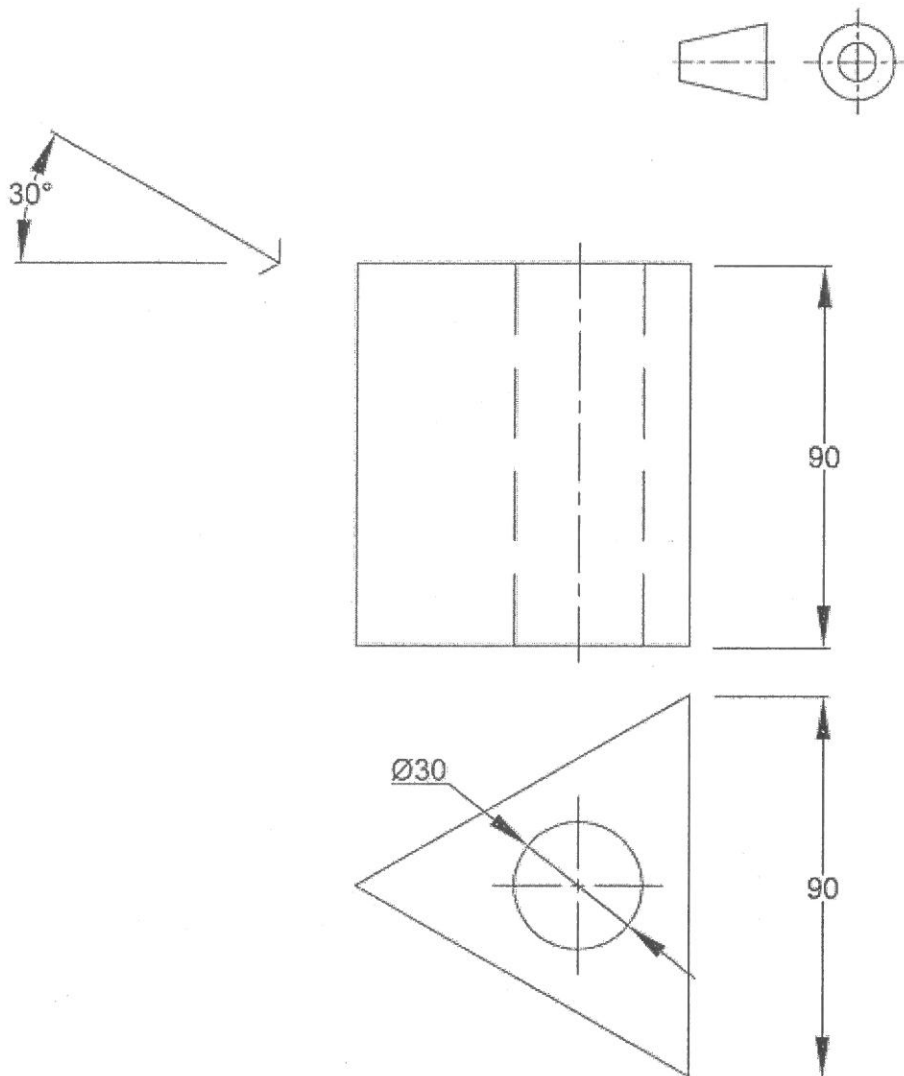


Figure Q3

Question 4

Draw the isometric view of the component given in Figure Q4 with the corner shown by the letter A in the foreground. The object has been drawn using First Angle Projection. All dimensions are in mm.

(25 marks)

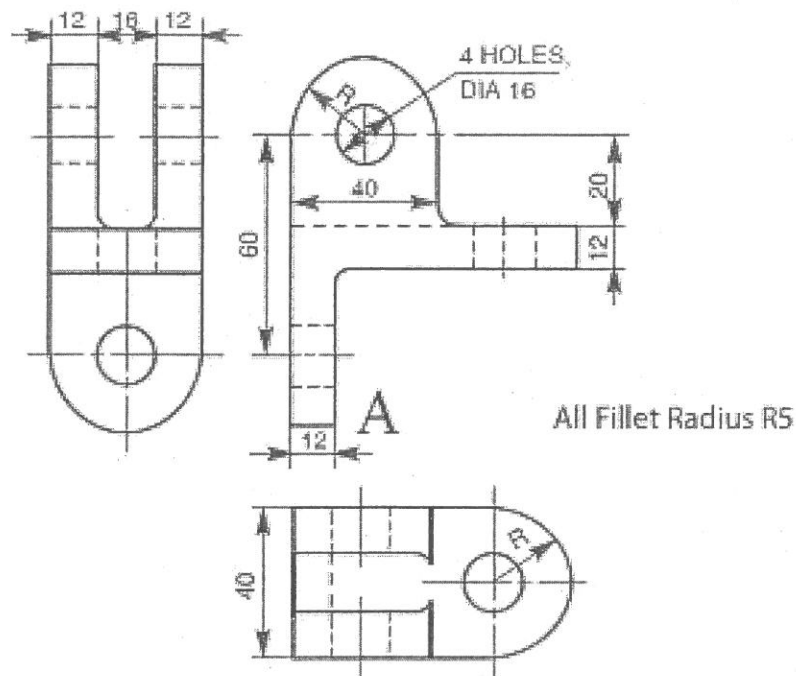


Figure Q4

Question 5

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 clockwise direction. The minimum cam radius is 35 mm. Draw the displacement diagram to a scale of 10 mm = 30°.

0-90 degrees: Bottom dwell

90-180 degrees: Rise 45 mm and have simple harmonic motion

180 to 270 degrees: Top dwell

270 – 360 degrees: Falls 45 mm with simple harmonic motion

(25 marks)

Question 6

A horizontal cylinder with diameter 66 mm is partially penetrated by another cylinder of diameter 54 mm vertically on the top. Figure Q4 shows the Front View with the intersection line(s) missing and the Right End View in Third Angle Projection.

- (a) Draw the Front View and Right End View in Third Angle Projection.

(12 marks)

- (b) Complete the Front View showing clearly the construction for the intersection line(s).

(13 marks)

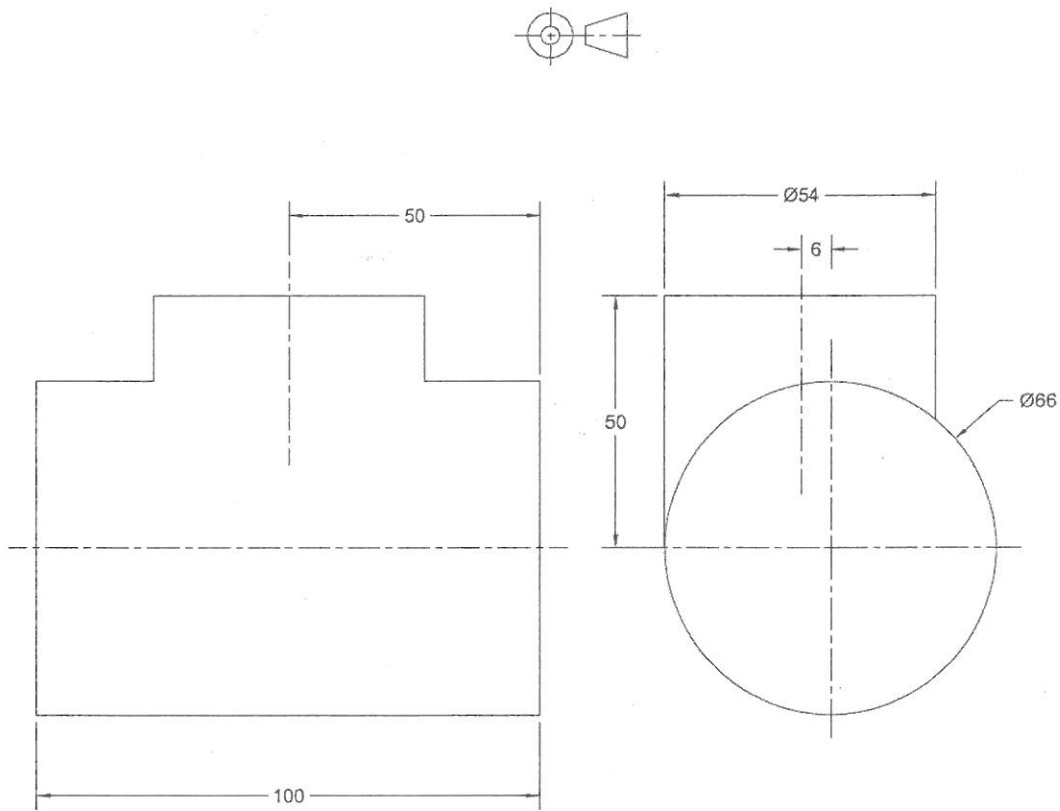


Figure Q6

-THE END-

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