

The Open University of Sri Lanka
Faculty of Engineering Technology
Department of Mechanical Engineering



Study Programme	: Bachelor of Technology Honours in Engineering
Name of the Examination	: Final Examination
Course Code and Title	: DMX3305 – Introduction to Engineering Design Graphics
Academic Year	: 2019/20
Date	: 24 th July 2020
Time	: 14.00 – 17.00
Duration	: 3 hours

General Instructions

1. Read all the instructions carefully before answering the questions.
2. This question paper consists of 2 parts, **Part – A** and **Part - B**.
3. Answer **all** questions within the space provided.
4. Drawing Instruments can be used.
5. Use an **Hb** pencil to sketch the drawings.

Part-A

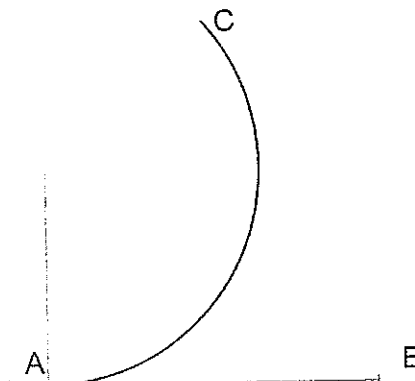
1. Divide the given line AB in to 7 equal parts.

5 Marks



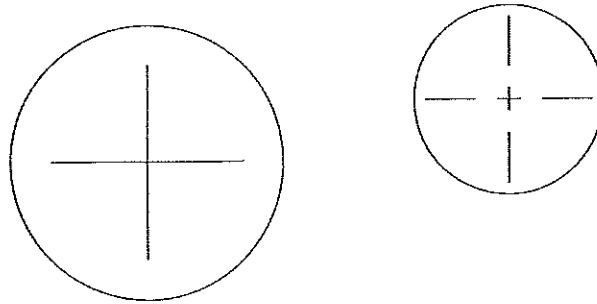
2. Construct the given straight length **AB**, into an arc length on the given circular arc **AC**.

5 Marks



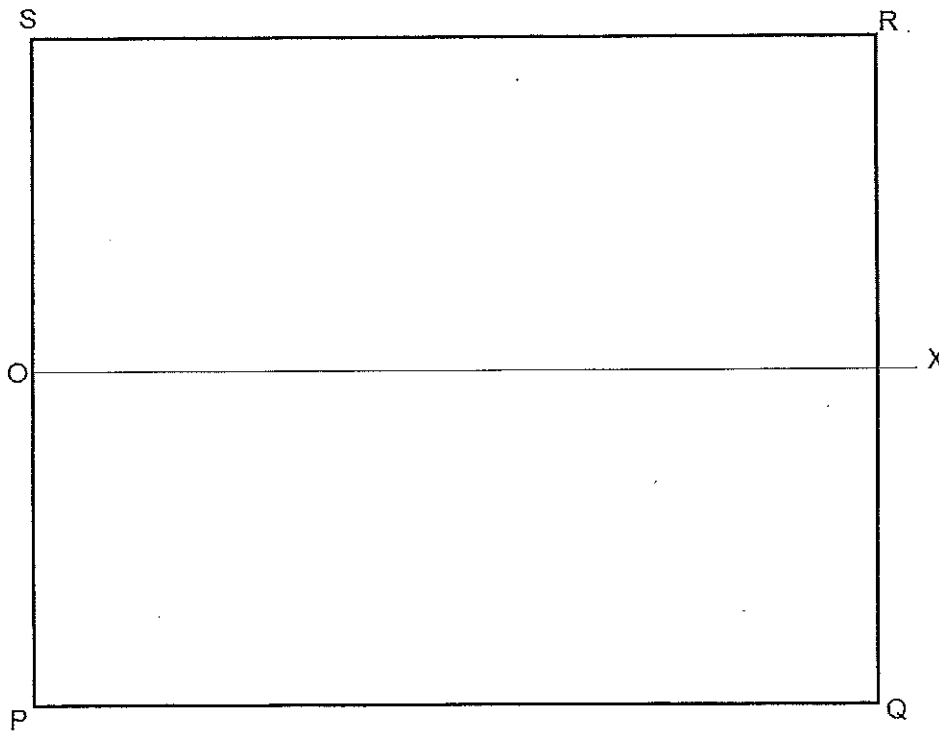
3. Construct the circle that is externally tangent to the given two circles with 50mm radius.

5 Marks



4. Construct the parabola enclosed within the given PQRS rectangle with OX as the axis of symmetry.

10 Marks



5. **Figure Qa-5**, shows a pictorial view of solid object. Draw the following orthographic views to a scale of full size in the first angle projection within the space provided.

25 Marks

- Front Elevation looking in the direction of arrow "X"
- End Elevation looking in the direction of arrow "Y"
- Plan looking in the direction of arrow "Z"

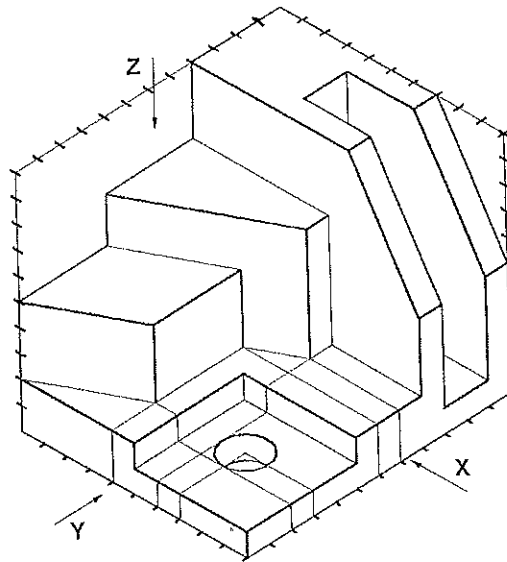
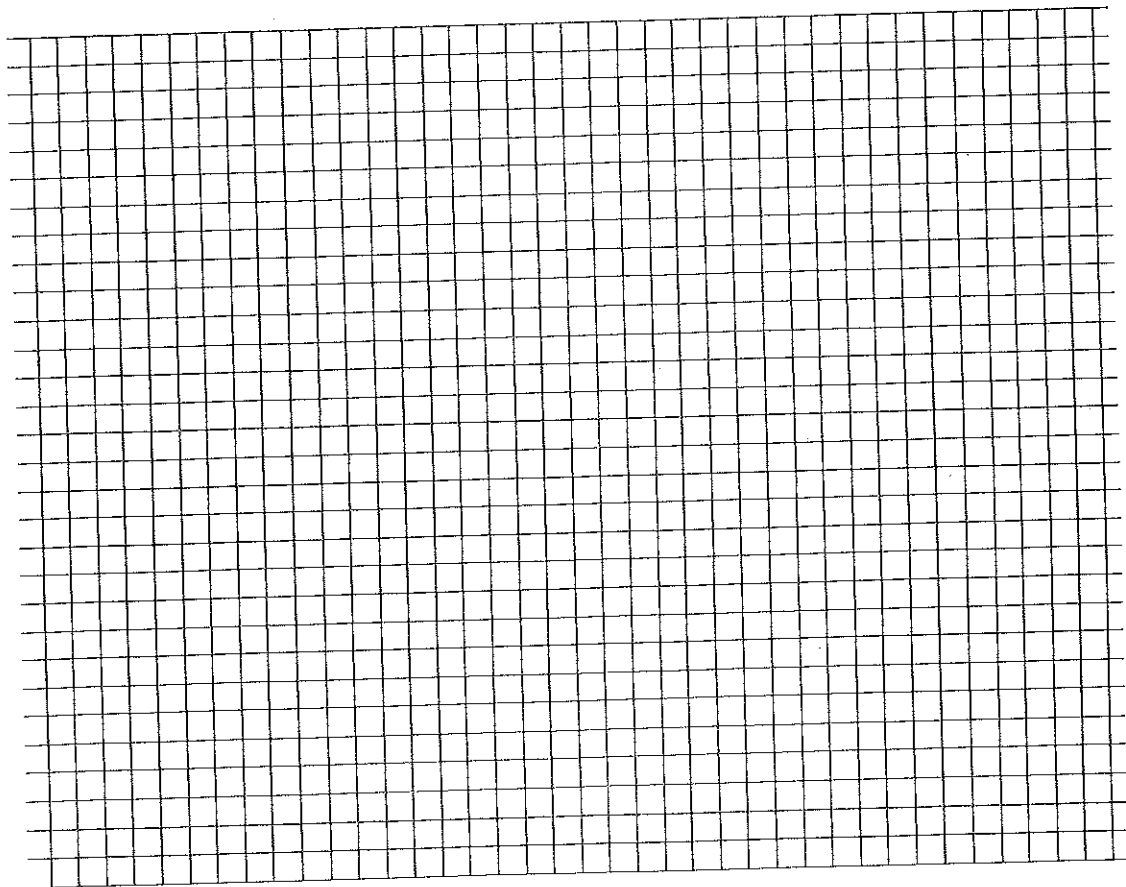


Figure Qa-5



6. *Figure Qa-6* shows three orthographical views of an object in first angle projection. Draw the isometric view of the object to a scale of full size within the given space by object taking the near points as shown by the arrows.

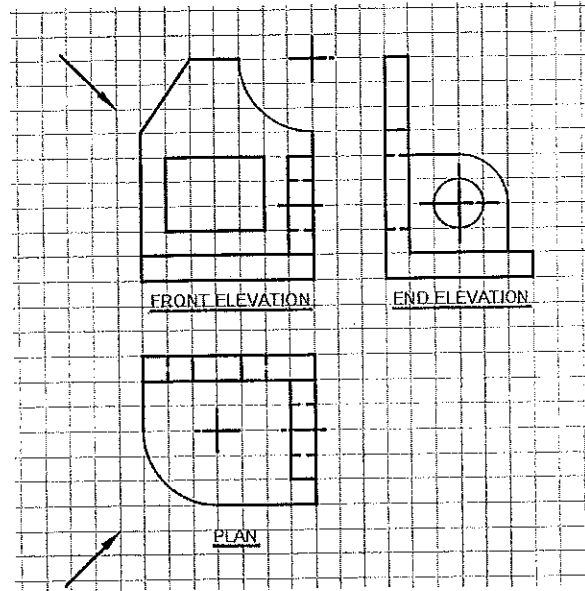
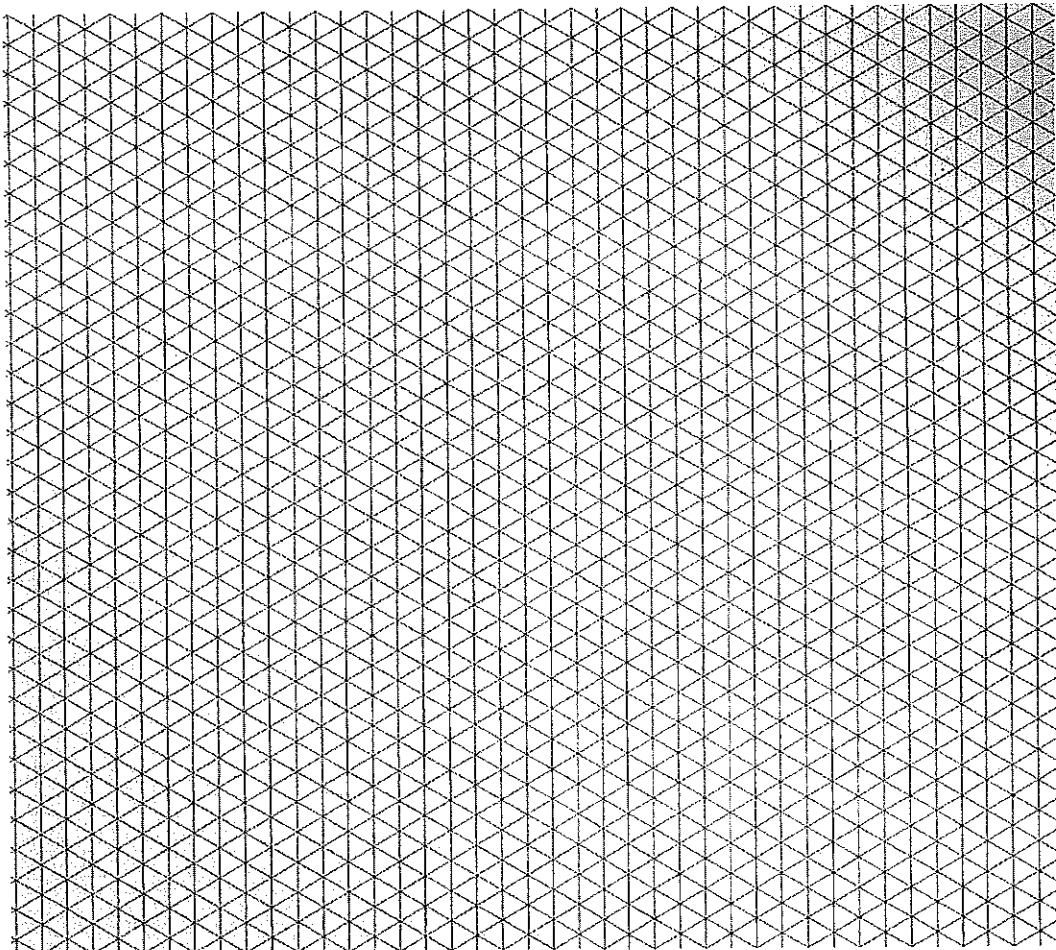


Figure Qa-6



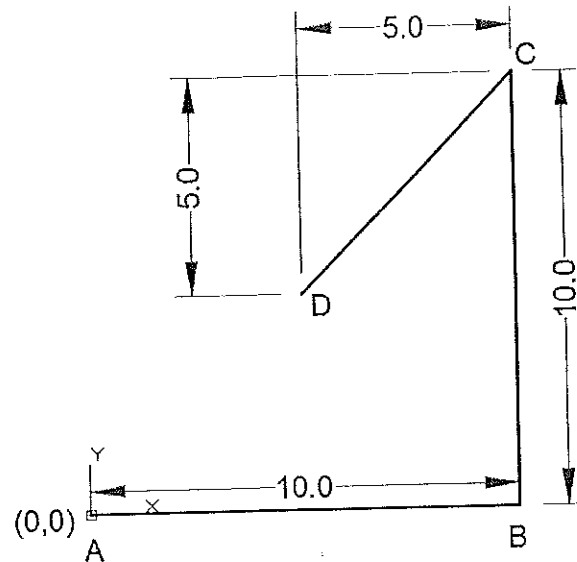
Part B**Computer Aided Drafting using AutoCAD**

Figure Qb-1-2

1. What are the absolute coordinates of point C?

2 Marks

2. What are the relative coordinates of point D with respect to point C?
.....

2 Marks

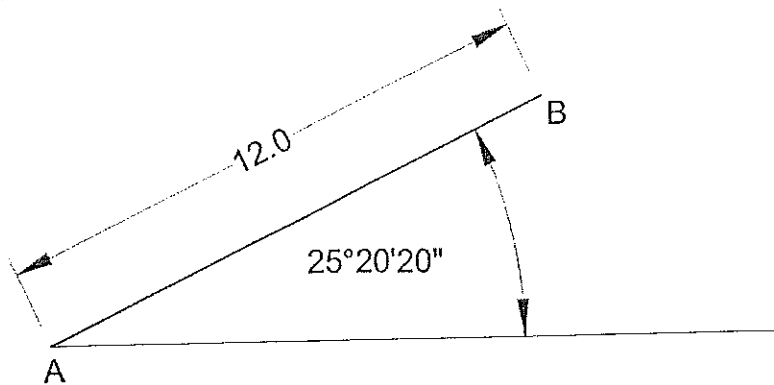


Figure Qb-3

3. What are the relative-polar coordinates of point B with respect to point A?
.....

2 Marks

4. Write down the names of the commands associated with the following icons.

8 Marks









5. Write down the AutoCAD command used to obtain the *required figure* from the *given figure*.

10 Marks

Given Figure	Command	Required Figure

Figure Qb-5

6. What are the **object snaps** that should be used to draw the AB line, in Figure-Qb-6?

2 Marks

.....



Figure-Qb-6

7. What is the **option of the circle command** used to draw the circle which goes through the points P, Q and R respectively, as shown in Figure Qb-7?

2 Marks

.....

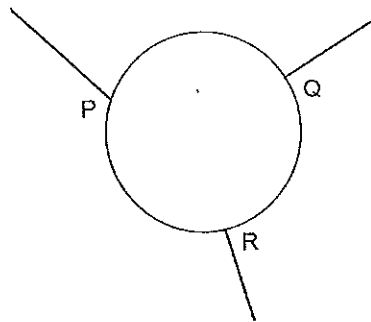


Figure -Qb-7

8. What is the layer control operation which allows you to make the objects in the layer visible, but not editable?

2 Marks

-----End of Paper-----

