

FIRST YEAR KGCE EXAMINATION
ENGINEERING DRAWING
 MODEL QUESTION PAPER – ANSWER KEY
 COMMON TO ALL KGCE PROGRAMS

(Time: 3 hours)

(Maximum Marks: 60)

PART-A

(Maximum Marks: 20x1 Marks = 20 Marks)

- I. Answer the following questions by choosing the correct answer from the options given below. Each question carries 1 mark.

Q No	Question	Answer
1	Which of the following is the lightest pencil?	d) H
2	To draw a smooth curve of any nature drawing instrument used is?	b) French curve
3	A title block is normally drawn at _____ of a drawing.	b) Bottom right corner
4	The smallest std drawing sheet is designated as _____	d) A4
5	The length to height ratio of a closed filled arrow head is _____?	b) 3:1
6	A simple octagon has ___ no of sides?	d) 8
7	Sectional portion of an object is represented by _____?	c) Hatching lines
8	The width across the corners of a hexagonal nut is represented in terms of 'd' is?	c) 2d
9	Hatching lines are usually drawn at an angle of _____?	c) 45°
10	Minimum possible interior angle in a regular polygon is?	c) 60°
11	For orthographic projection, the engineering custom Bureau of Indian Standards dictates the use of?	a) 1 st angle projection
12	In 1 st angle projection, the object is assumed to be situated in?	a) 1 st quadrant
13	In 1 st angle projection, the top view will be drawn _____?	b) Below front view
14	In orthographic projection, the object is assumed to be placed _____?	a) Between observer and the plane of projection
15	A cylinder is placed vertically in a horizontal plane (axis perpendicular to the horizontal surface). Shape of its plan view (top view) will be? (Assume 1 st angle projection)	c) Circle
16	The principle views associated with orthographic projection are?	d) All of these

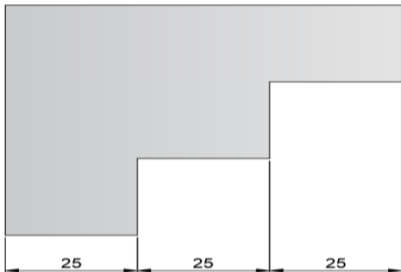
17	Methods of dimensioning and tolerances in technical drawings are given by IS code?	d) 10718-1983
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Q No	Question	Answer
18	The angle between the isometric axes is?	d) 120°
19	A circle will appear in an isometric drawing as a ___?	b) Ellipse
20	A kind of drawing which provides complete details for the production/ fabrication is known as?	a) Shop floor drawing

PART-B

(Maximum Marks: 8x5 Marks = 40 Marks)

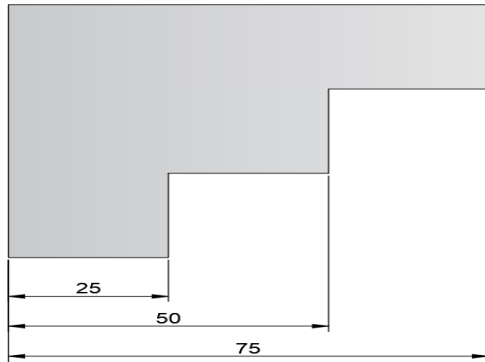
II. Answer *any eight* questions from the following. Each question carries marks.5 Marks.

Q No	Question
1	<p>List various instruments used in engineering drawing with their uses?</p> <ol style="list-style-type: none"> <u>Drawing sheet</u> - Drawing sheet is a white paper on which an object is drawn which is available in various sizes. <u>Drawing board</u> - Drawing board is generally made of soft wood and it is in rectangular shape. It is used to support drawing sheet, <u>Mini drafter</u> - Mini drafter is used for drawing horizontal lines, vertical lines, inclined lines, angles, parallel lines, perpendicular lines etc. <u>T square</u> - T square is used to draw horizontal and vertical lines on drawing sheet. It made of wood or plastic and in T shape <u>Compass</u> - Compass is used to draw an arc or circle with known dimensions on engineering drawing. <u>Divider</u> - This is used to divide a line or curve into equal parts. It is also used to check the measurements. <u>Set squares</u> - Set squares are used to draw lines with an angle between them. In most of the structures, 30, 45, 60 and 90-degree lines are most common. <u>Protractor</u> - Protractor is used to draw and measure the angles of lines in the drawing. It is transparent and made of plastic. <u>French curves</u> - French curves are made of plastic and they are in irregular shape. <u>Pencils</u> - Pencil is used to draw on the paper. Different grades of pencils are used for different line thicknesses. <u>Eraser</u> - Eraser is used to remove the lines or spots which drawn by mistake or with wrong measurements. <u>Paper holders</u> - To fix the drawing sheet to the board paper holders are used.
2	<p>Draw examples for different types of dimensioning methods used?</p> <p>The different methods, arrangement and the indication of dimension are</p> <ul style="list-style-type: none"> Chain or continuous Dimensioning 

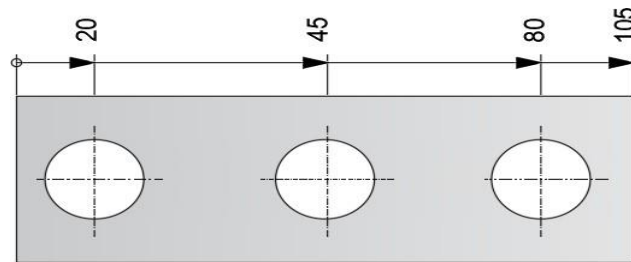
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Question

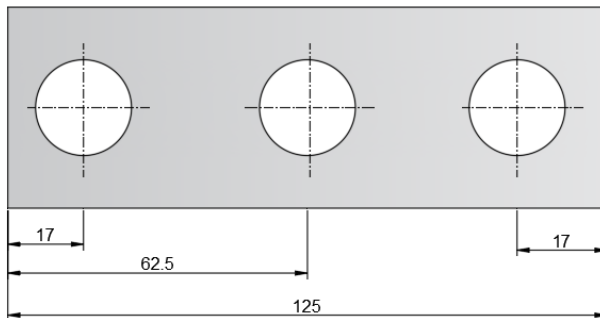
- Parallel Dimensioning



- Super imposed running dimensioning



- Combined Dimensioning



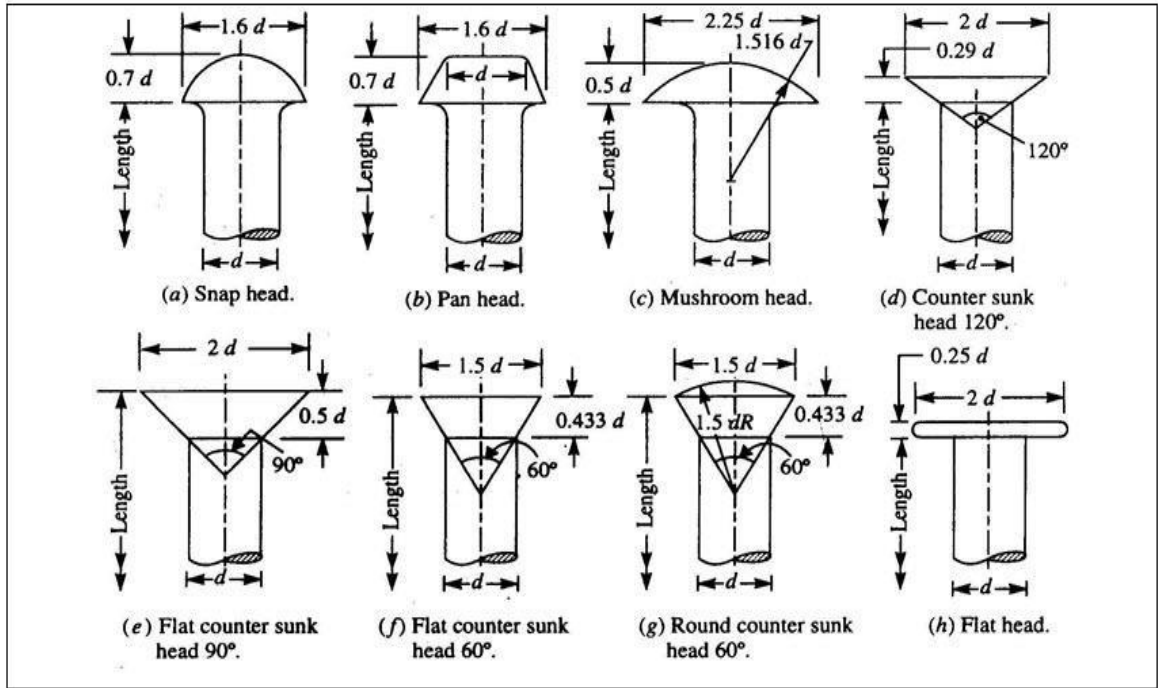
- Dimensioning by Co-ordinates

	X	Y	Ø
1	20	50	15
2	25	20	18
3	35	50	18
4	45	20	25
5	65	50	18

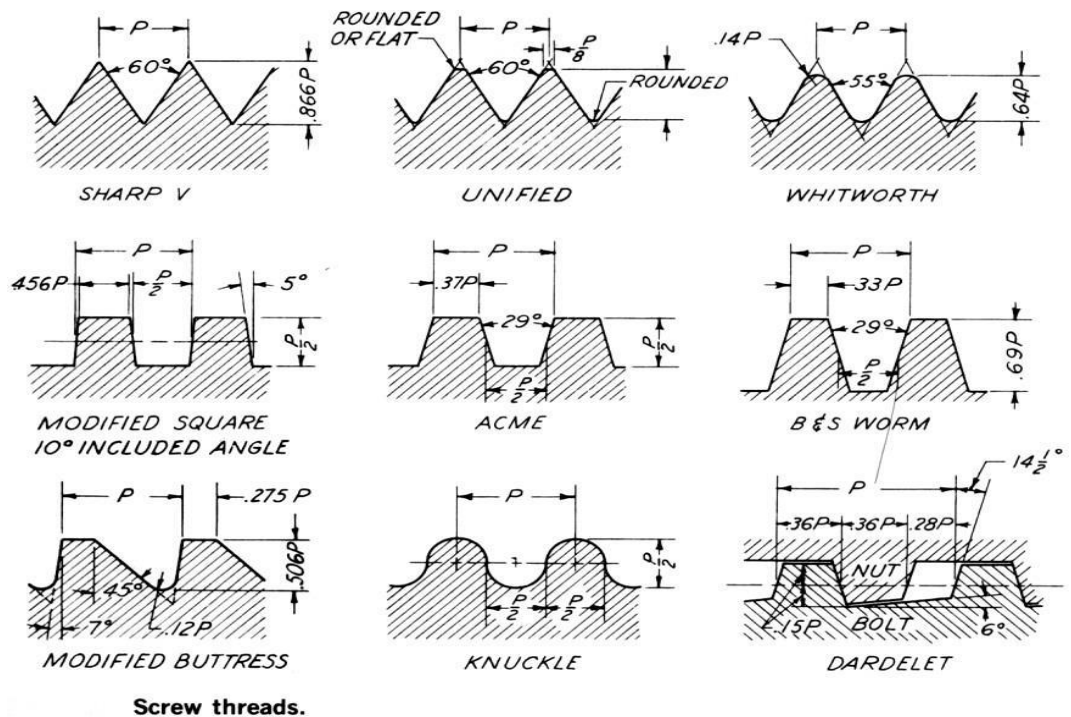
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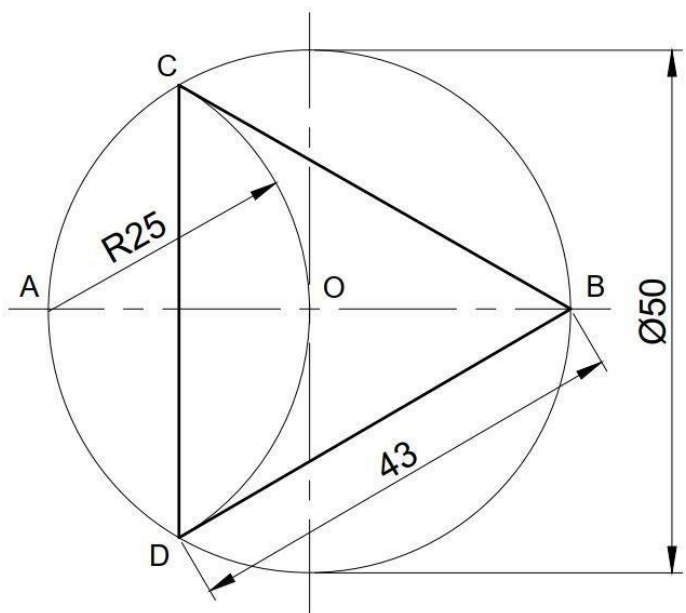
3 Draw freehand sketch of any four types of rivet heads?

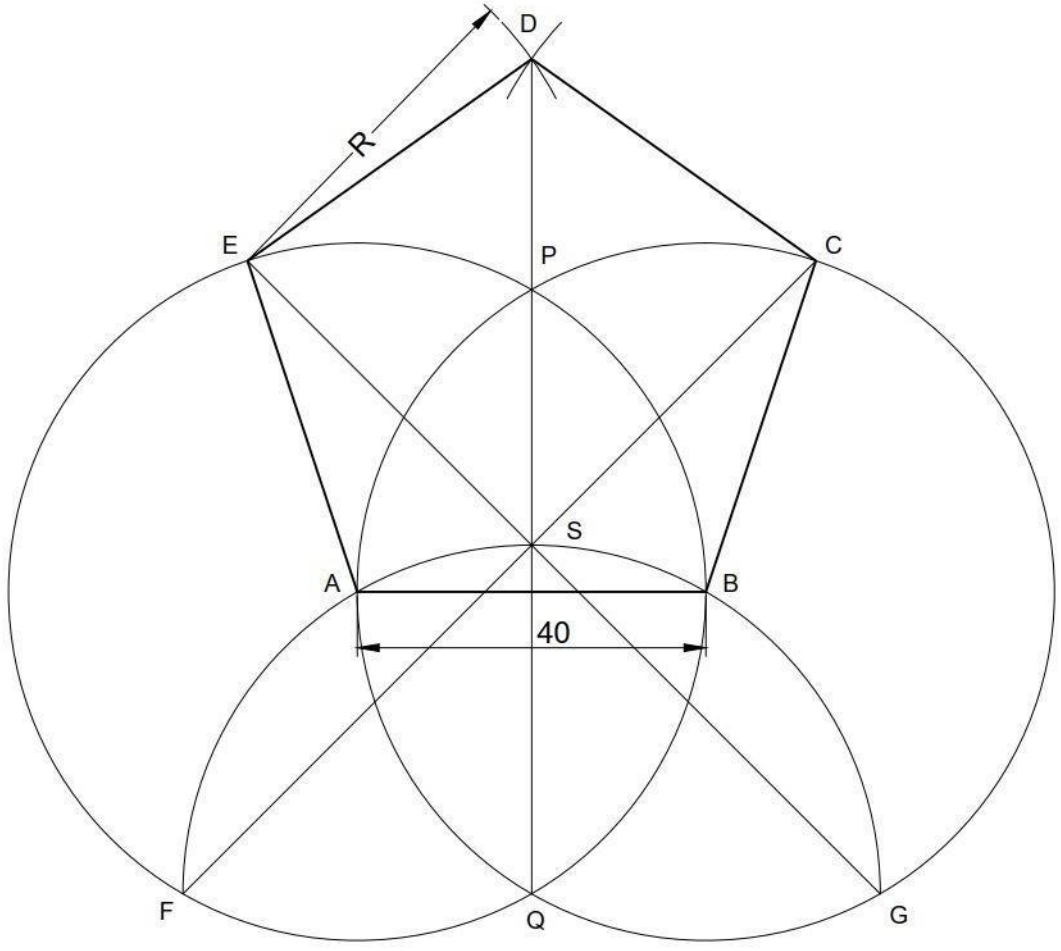


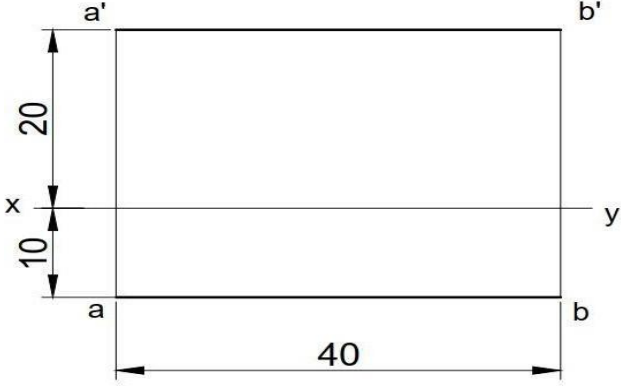
4 Draw freehand sketch of ISO metric, Buttress & Square threads?



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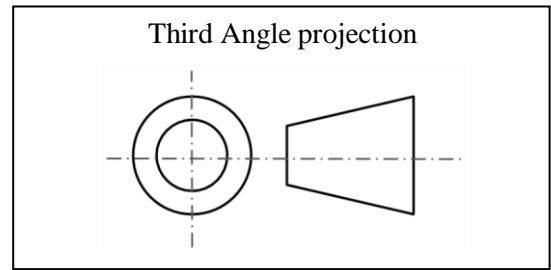
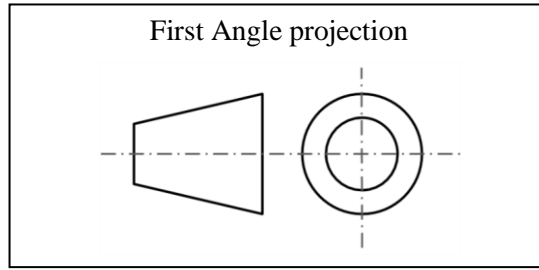
5	<p>Draw an equilateral triangle in a given circle of diameter 50mm?</p> 
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6	<p>Construct a regular pentagon of side 40mm?</p> 
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Q No	Question																												
7	<p>A line AB of 40mm length has its ends A&B 20mm above HP and 10mm in front of VP (1st quadrant, parallel to both HP&VP). Draw its front and top view?</p> 																												
8	<p>What are the differences between first and third angle projection. Show the drawing symbols used in first angle and third angle projection?</p> <table border="1" data-bbox="310 884 1523 1885"> <thead> <tr> <th data-bbox="310 884 402 959">Sl.No</th> <th data-bbox="402 884 963 959">First Angle Projection</th> <th data-bbox="963 884 1523 959">Third Angle Projection</th> </tr> </thead> <tbody> <tr> <td data-bbox="310 959 402 1079">1</td> <td data-bbox="402 959 963 1079">The object is placed in the first quadrant.</td> <td data-bbox="963 959 1523 1079">The object is placed in the third quadrant.</td> </tr> <tr> <td data-bbox="310 1079 402 1199">2</td> <td data-bbox="402 1079 963 1199">The object is placed between the plane of projection and observer.</td> <td data-bbox="963 1079 1523 1199">The plane of projection is placed between the object and observer.</td> </tr> <tr> <td data-bbox="310 1199 402 1278">3</td> <td data-bbox="402 1199 963 1278">The plane of projection is opaque.</td> <td data-bbox="963 1199 1523 1278">The plane of projection is transparent.</td> </tr> <tr> <td data-bbox="310 1278 402 1398">4</td> <td data-bbox="402 1278 963 1398">Front view is at the top of the horizontal axis.</td> <td data-bbox="963 1278 1523 1398">Front view at the bottom of the horizontal axis.</td> </tr> <tr> <td data-bbox="310 1398 402 1518">5</td> <td data-bbox="402 1398 963 1518">Top view at the bottom of the horizontal axis.</td> <td data-bbox="963 1398 1523 1518">Top view at the top of horizontal axis.</td> </tr> <tr> <td data-bbox="310 1518 402 1638">6</td> <td data-bbox="402 1518 963 1638">Right view is at the left side of vertical axis.</td> <td data-bbox="963 1518 1523 1638">Right view is at the right side of vertical axis.</td> </tr> <tr> <td data-bbox="310 1638 402 1757">7</td> <td data-bbox="402 1638 963 1757">Left view is at the right side of vertical axis.</td> <td data-bbox="963 1638 1523 1757">Left view is at the left side of vertical axis.</td> </tr> <tr> <td data-bbox="310 1757 402 1885">8</td> <td data-bbox="402 1757 963 1885">It is widely used in Europe, India, Canada.</td> <td data-bbox="963 1757 1523 1885">It is widely used in United State and Australia.</td> </tr> </tbody> </table>		Sl.No	First Angle Projection	Third Angle Projection	1	The object is placed in the first quadrant.	The object is placed in the third quadrant.	2	The object is placed between the plane of projection and observer.	The plane of projection is placed between the object and observer.	3	The plane of projection is opaque.	The plane of projection is transparent.	4	Front view is at the top of the horizontal axis.	Front view at the bottom of the horizontal axis.	5	Top view at the bottom of the horizontal axis.	Top view at the top of horizontal axis.	6	Right view is at the left side of vertical axis.	Right view is at the right side of vertical axis.	7	Left view is at the right side of vertical axis.	Left view is at the left side of vertical axis.	8	It is widely used in Europe, India, Canada.	It is widely used in United State and Australia.
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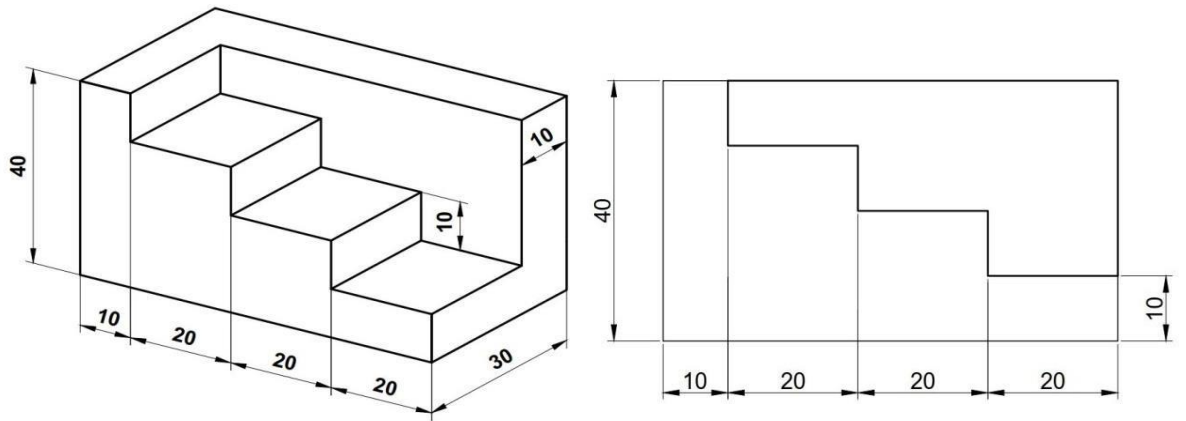
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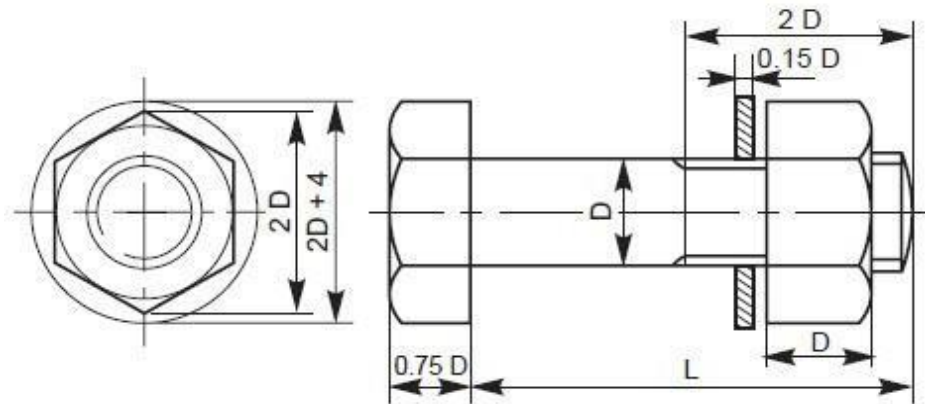
9

A stepped block is shown in below fig. Draw its front view?

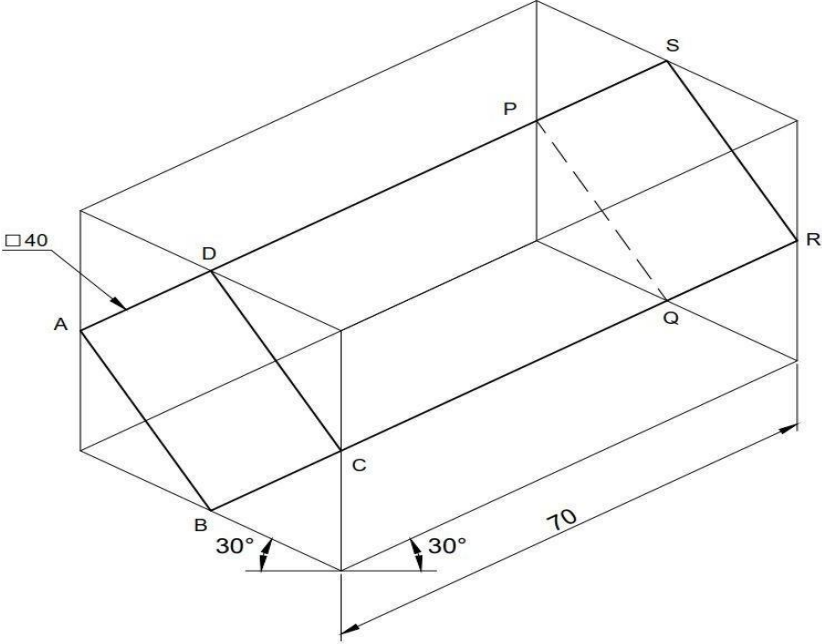


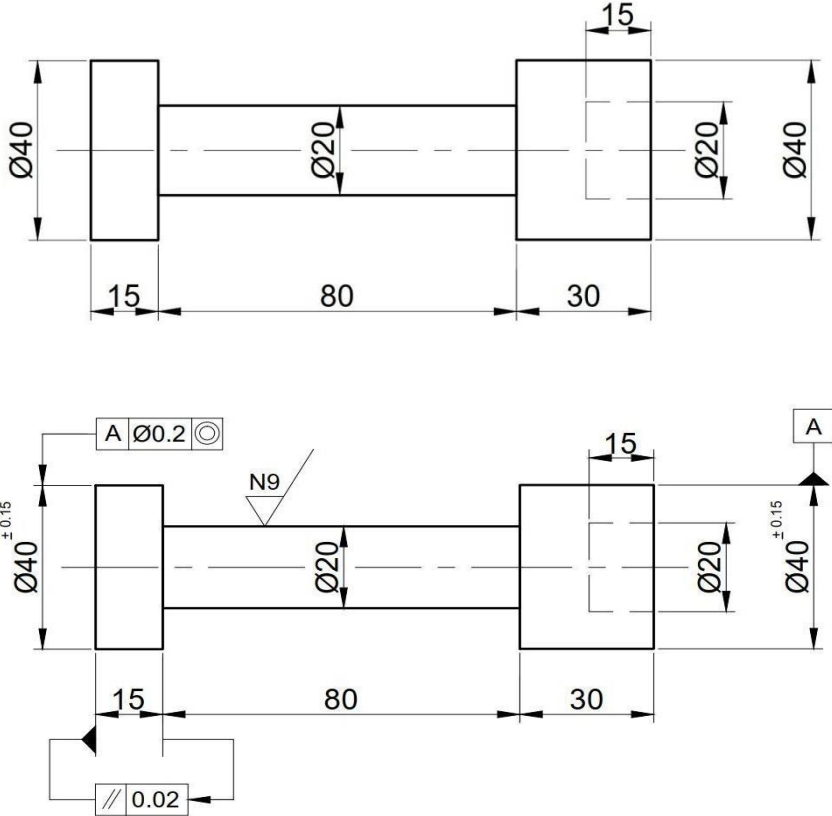
10

Draw a hexagonal nut and bolt assembly for size M24?



Q No	Question
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11	<p>Draw isometric view of a square prism, side of base 40mm and length 70mm when the axis of the prism is horizontal. Assume that the adjacent side of the base is equally inclined to vertical and horizontal planes?</p> 
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12	<p>A simple machine pin is given in the below drawing. Prepare a shop floor drawing of the same by showing surface roughness, dimensional tolerance, geometrical tolerance (as a minimum) by assuming required data?</p> 
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