

Annual Examinations for Secondary Schools 2014

FORM 5 GRAPHICAL COMMUNICATION MARKING SCHEME

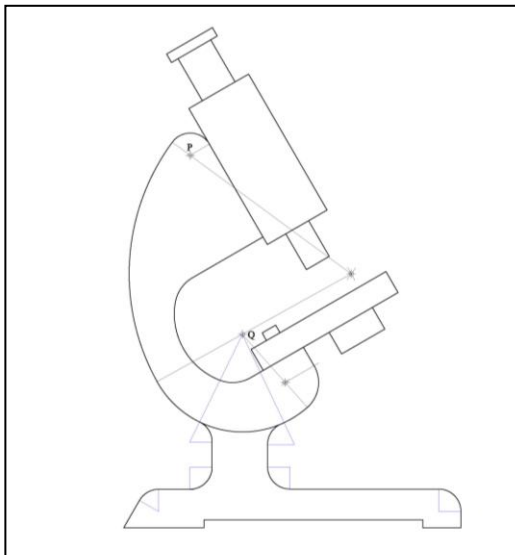
Question No. 1 Tangential Arcs

drawing arc R10 centre P	1	
drawing arc R44 centre Q	1	
locating centre and drawing the R100 arc blending with arcs P and Q	2	
locating centre and drawing arc R15 blending with arc Q and given line	2	
locating centres and drawing arcs R10 blending with arc Q and vertical lines	2	
drawing line at 60° to the left-hand side of the base	1	
constructing the angled radiused corner R10 of the base plate	1	
constructing the right-angled radiused corner R10 of the base plate	1	
neatness and accuracy	1	
Total marks for question No.1		12

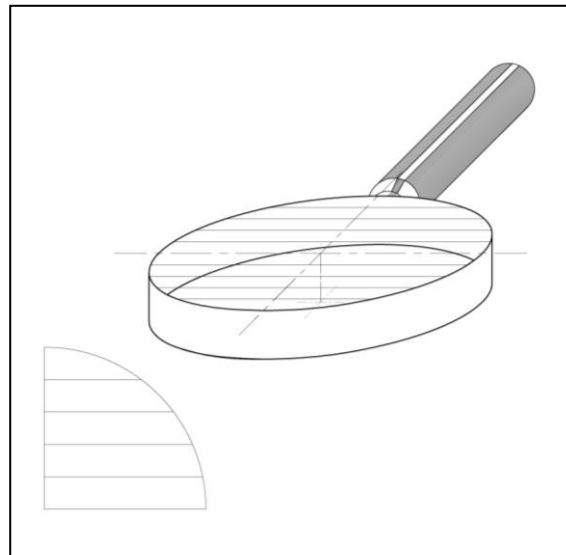
Question No. 2 Oblique Circles

drawing a semi-circle or quadrant R50 in the available space	1	
slicing into a number of vertical or horizontal lines (coordinates)	1	
bisecting the coordinates	1	
transferring the coordinates to the oblique axis	2	
locating the points of the oblique circle	2	
lining in the points by drawing a smooth curve	2	
completing the lower oblique circle	2	
neatness and accuracy	1	
Total marks for question No. 2		12

Question No.1



Question No. 2



Question No. 3 Elliptical pierced hole

Method (a) constructing ellipse

determining the dimensions of the major and minor axis (60mm x 30mm)	2	
locating points of the ellipse using any approved method of construction	6	
lining in with a smooth curve	2	
neatness and accuracy	2	
Total marks for question No. 3 method (a)		12

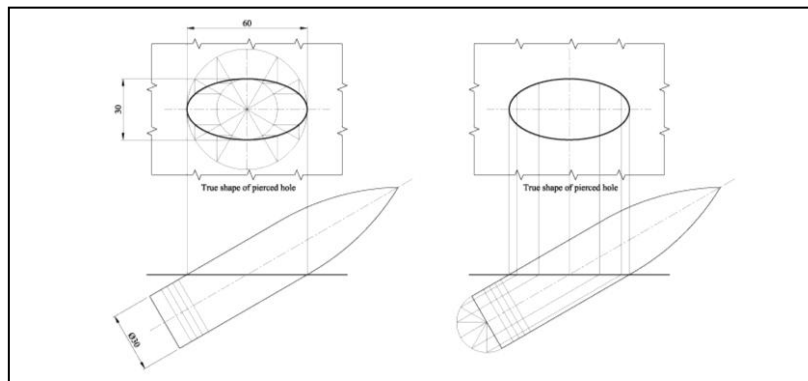
Method (b) projecting true shape of cut

drawing a semi-circle attached to the base of the bullet	1	
dividing the semi-circle into six equal parts	1	
projecting generators from the circle to the cylindrical part of the bullet	2	
projecting lines from intersections between generators and the cutting plane	2	
locating points of true shape of cut and lining in with a smooth curve	5	
neatness and accuracy	1	
Total marks for question No. 3 method (b)		12

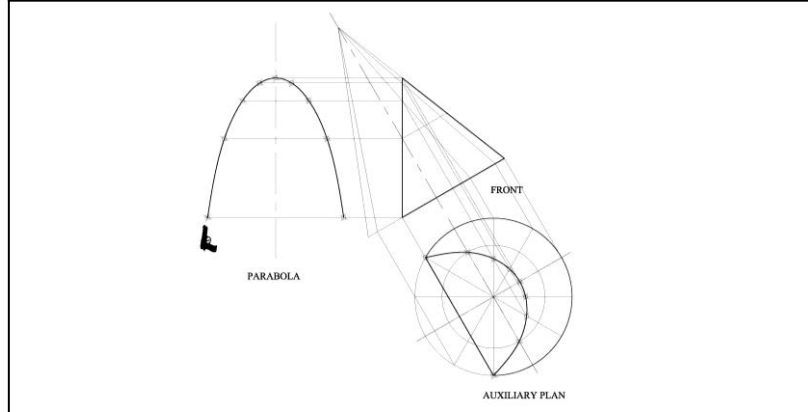
Question No. 4 Conic Section - Parabola

dividing auxiliary plan into 12 equal parts	1	
projecting generators from plan to the front elevation	1	
projecting intersections between generators and cutting plane to the plan	2	
completing the cut as seen in the plan	3	
locating points to form the parabolic curve	2	
lining in with a smooth curve	2	
neatness and accuracy	1	
Total marks for question No. 4		12

Question No. 3
methods (a) and (b)



Question No. 4



Question No. 5

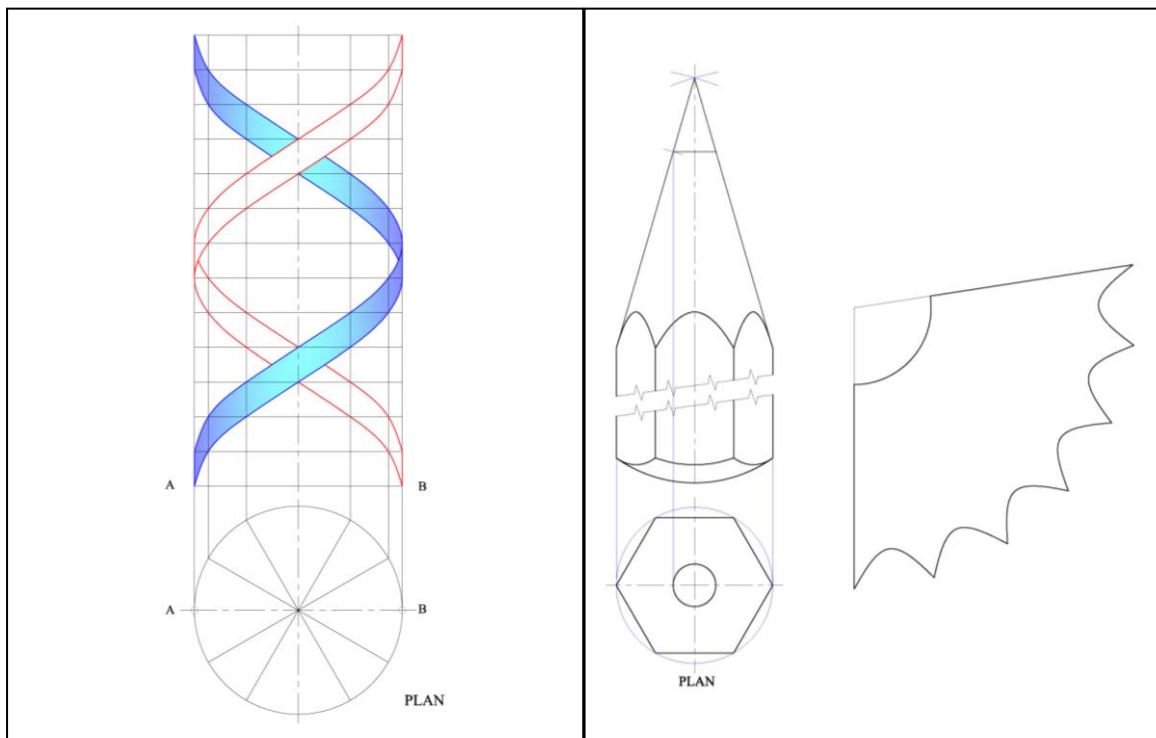
Helix

dividing the plan into a number of equal parts	1	
marking the pitch on the front elevation and drawing rectangle	1	
dividing the pitch into 12 equal parts	1	
projecting construction lines from the plan to the front view	1	
locating the correct intersecting points to form the helical curves	2	
lining in the helices with smooth curves	2	
locating the necessary points to draw the helical ribbons	1	
lining in the ribbons with smooth curves	2	
colouring and shading ribbon A	2	
neatness and accuracy	1	
Total marks for question No. 5		14

Question No. 6

Surface Development/Geometric Construction

a) determining, from the surface development, the slanting height of the cone and marking an arc on the centerline of the front elevation	2	
drawing the conical top of the pencil	2	
determining the height of the graphite tip and drawing a horizontal line	2	
b) projecting lines from front elevation to plan to construct the hexagon	1	
constructing the hexagon	3	
projecting and drawing the circle representing the graphite tip	1	
neatness and accuracy	1	
Total marks for question No. 6		12



Question No. 5

Question No. 6

Question No. 7

Sectional Front Elevation

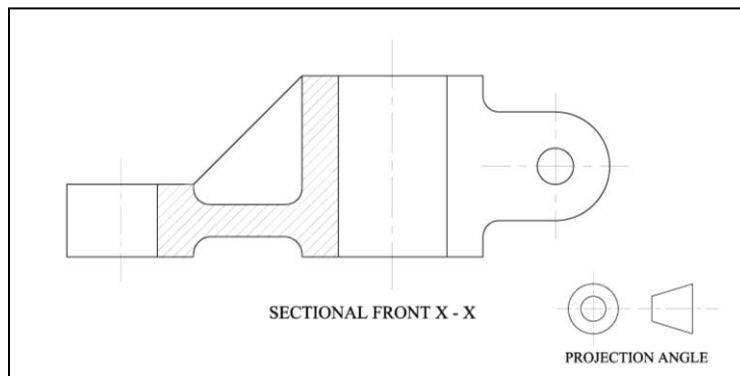
projecting lines from the plan to the front elevation	1	
drawing centre lines	1	
drawing the vertical hole	1	
drawing the hole of the lag	1	
drawing the open-ended semi-circular hole	1	
separating the web	1	
sectioning the appropriate areas	3	
NOTE: If web and saw-cut are shown in section, deduct 2 marks		
drawing the correct projection symbol	1	
Total marks for question No. 7		10

Question No. 8

Auxiliary View

projecting lines from the plan to X ₁ , Y ₁	1	
drawing the base of the sentry	2	
drawing the facets	2	
drawing the semi-circular opening	4	
drawing the thickness of the opening	2	
drawing the roof	4	
presentation, accuracy and neatness	1	
Total marks for question No. 8		16

Question No. 7



Question No. 8

