

Class XII
Engineering Graphics (046)
Marking Scheme 2018-19

Time allowed: 3 Hours

Max. Marks: 70

Section-A		
1	Multiple choice questions	
	(i) d OR Using the co-ordinates	1
	(ii) b OR Key	1
	(iii) a OR 55 ⁰	1
	(iv) d OR External thread	1
	(v) c OR Extension lines	1
2	(a) ISOMETRIC SCALE	
	(i) Marking of divisions of 10mm, including division of first part of 1mm on true length	1
	(ii) Projections from scale 1:1 to get points on isometric scale, construction of isometric scale	2
	(iii) Printing 'True length / Scale 1:1', Isometric length / Isometric scale' and marking angles of 30 ⁰ and 45 ⁰	1
	(b) ISOMETRIC PROJECTION OF A SPHERE, PLACED CENTRALLY ON A HEXAGONAL PRISM	
	(i) Drawing Isometric squares	3
	(ii) Drawing slant edges	2
	(iii) Drawing the axis and direction of viewing	1
	(iv) Dimensions	1
	(c) ISOMETRIC PROJECTION OF A SPHERE, PLACED CENTRALLY ON A HEXAGONAL PRISM	
	SPHERE	
	(i) Locating the centre with isometric radius	1
	(ii) Drawing the circle with true radius	3
	(iii) Marking the vertical axis	1
	(iv) Dimensions	1
	HEXAGONAL PRISM	
	(i) Drawing helping figure	1
	(ii) Drawing isometric hexagons	2
	(iii) Drawing edges	2
	(iv) Marking axis ($\frac{1}{2}$) and direction of viewing ($\frac{1}{2}$)	1
	(v) Dimensions	1

3	(a) KNUCKLE THREAD PROFILE	3	
	(i) Distance, equal to pitch, marked correctly.	2	
	(ii) Semi-circular profile for threads (minimum two), drawn correctly	3	
	(iii) Dimensions and hatching lines		
	OR		
	<u>SQUARE NUT</u>		
<u>FRONT VIEW :</u>	2		
(i) Boundary lines with hidden lines showing threads with axis vertical and two opposite edges parallel to V.P.	1		
(ii) Drawing arc with radius R.			
<u>TOP VIEW :</u>	2		
(i) Drawing three circles as per convention.	1		
(ii) Square, circumscribing chamfer circle.			
<u>DETAILS :</u>	2		
Dimensions.			
(b) <u>PAN HEAD RIVET</u>			
(i) Front view with its axis vertical.	2½		
(ii) Top view.	1½		
(iii) Dimensions.	1		
OR			
<u>COLLAR STUD</u>			
(i) Front view with its axis horizontal.	2½		
(ii) Side view.	1½		
(iii) Dimensions.	1		
4	SOCKET AND SPIGOT COTTER JOINT (ASSEMBLY)		
	(i) FRONT VIEW, UPPER HALF IN SECTION	7	
	(a) Drawing the upper half portion of socket and spigot arrangement, clearance on both sides of cotter and 4mm clearance between inner walls	3	
	(b) Drawing the lower half portion of socket and spigot arrangement	2	
	(c) Drawing the cotter	2	
	(d) Drawing the hatching lines		
(ii) LEFT SIDE VIEW			
(a) Drawing 5 circles	5		
(b) Drawing the hatching lines	1		
(c) Drawing cotter	½		
(d) cutting Plane	½		

DETAILS (i) Titles (ii) Scale used (iii) Projection Symbol (iv) 6 important dimensions	1 1 1 3
OR	
BUSHED BEARING (DISASSEMBLY) (i) BODY (a) FRONT VIEW, LEFT HALF IN SECTION (a) Drawing the left half with hatching lines (b) Drawing the right half portion (c) Drawing hole ,circle (d) Drawing the oil hole and hatching lines (b) SIDE VIEW (a) Drawing the entire boundary with bush (b) Drawing holes and oil hole	3 2 2 2 5 2
(ii) BUSH (a) Side view in section (b) Front view with cutting plane DETAILS (i) Titles of both (ii) Scale used (iii) Projection Symbol (iv) 6 important dimensions	3 3 1 1 1 3
