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FOR CBSE CLASS 12 PREPARATION

CBSE Class 12 Sample Paper 2027 Solution (Marking Scheme) for Engineering Graphics

EXAM	YEAR	TYPE	SUBJECT
CBSE Class 12	2027	Solutions	Engineering Graphics

ENGINEERING GRAPHICS – Code No. 046

MARKING SCHEME

CLASS - XII – (2026-27)

Time Allowed: 3 hours *Maximum Marks: 70*

SECTION – A

Value Points

1.	(b) or Behind the object	1
2.	(d) or Hatching Lines	1
3.	(c) or $\sqrt{2} : \sqrt{3}$	1
4.	(c) or 3	1
5.	(b) or D = 0.50 P	1
6.	(c) or (iii) & (iv)	1
7.	(b) or (ii) & (iii)	1
8.	(b) or 1 Sleeve, 2 Rods and 2 Cotters	1
9.	(d) or A-(iv) B-(iii) C-(i) D-(ii)	1
10.	(c) or (ii) & (iv)	1
11.	(d) or d	1
12.	(b) or A-(i) B-(iv) C-(ii) D-(iii)	1
13.	(a) or (i) & (iii)	1
14.	(a) or A-(iv) B-(iii) C-(ii) D-(i)	1

SECTION – B

15.	(c) or Equal	1
16.	(b) or Perpendicular to HP and parallel to VP	1
17.	(a) or Sectional view	1
18.	(c) or Cylinder and Cone	1
19.	(b) or Bolts and Nuts	1
20.	(c) or Stud	1
21.	(b) or One side only	1
22.	(b) or Soft metal	1

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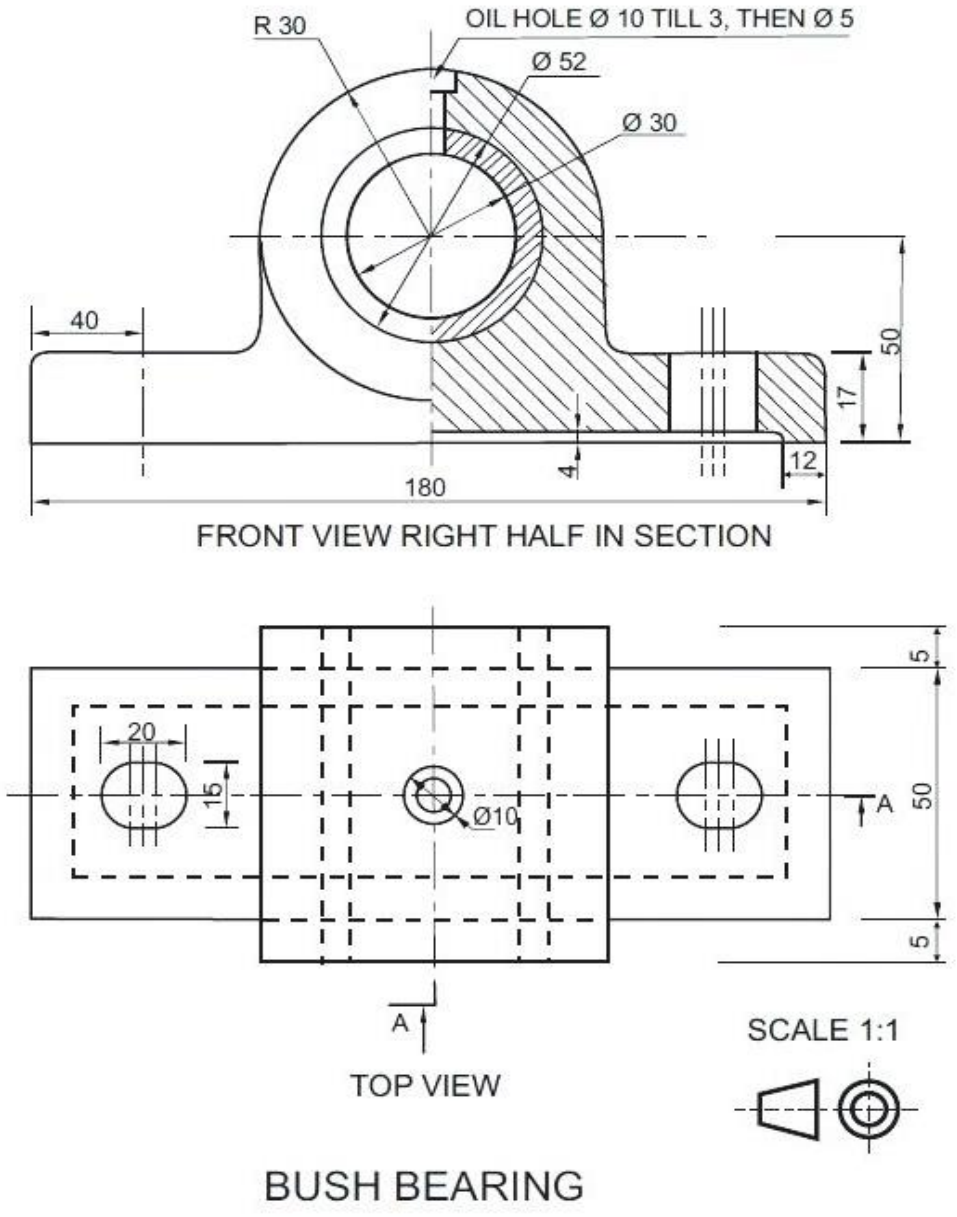
23. (A) **ASSEMBLY OF BUSH BEARING**



(I) FRONT VIEW RIGHT HALF IN SECTION ***13***

(i) Drawing the left half of base and bush correctly 4
(ii) Drawing the right half of base correctly including oil hole, mounting hole and recess of 4 mm with section lines 6
(iii) Drawing right half of bush correctly including oil hole with section lines 3

(II) TOP VIEW ***8***

(i) Drawing base and bush including hidden lines 4
(ii) Drawing mounting holes, oil hole and cutting plane 4

(III) OTHERS ***6***

(i) Six Important Dimensions 3
(ii) Printing title, Projection symbol and Scale used 3

OR

23. (B) **DIS-ASSEMBLY OF FLANGE PIPE JOINT**

(I) FLANGE B

(i) Front View upper half in section ***8***
   a. Drawing the lower half and conventional end 3
   b. Drawing the upper half including hole of ⌀12 mm and conventional end with hatching lines 5

(ii) Right Side View. **7**
   a. Drawing the circles of Ø116, Ø60, Ø52, Ø44 and four holes of Ø12 mm 5

   b. Drawing the pitch circle of Ø90 mm, cutting plane and hatching lines of conventional end of pipe 2

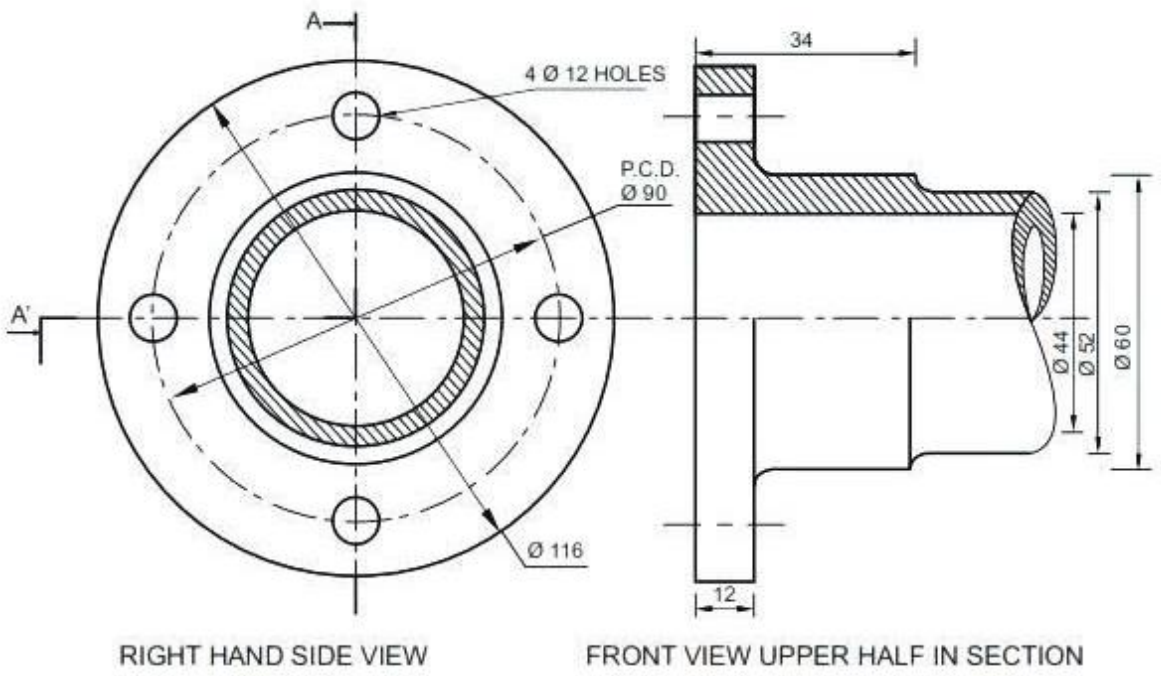
(II) GASKET

(i) Full sectional front view ***3***
   a. Sectional front view with shading to show rubber 3

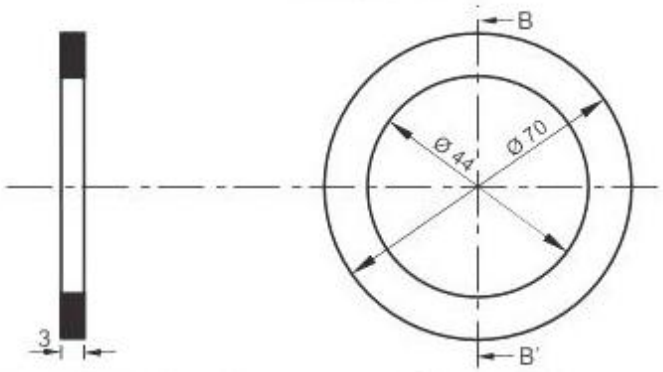
(ii) Left Side View ***3***
   a. Both circles with cutting plane 3

(III) **OTHERS** ***6***

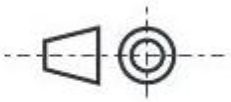
(i) 6 Important Dimensions. 3
(ii) Printing titles, Symbol of Projection and Scale used. 3



FLANGE-B



GASKET

SCALE 1:1 

FLANGE PIPE JOINT DIS ASSEMBLY

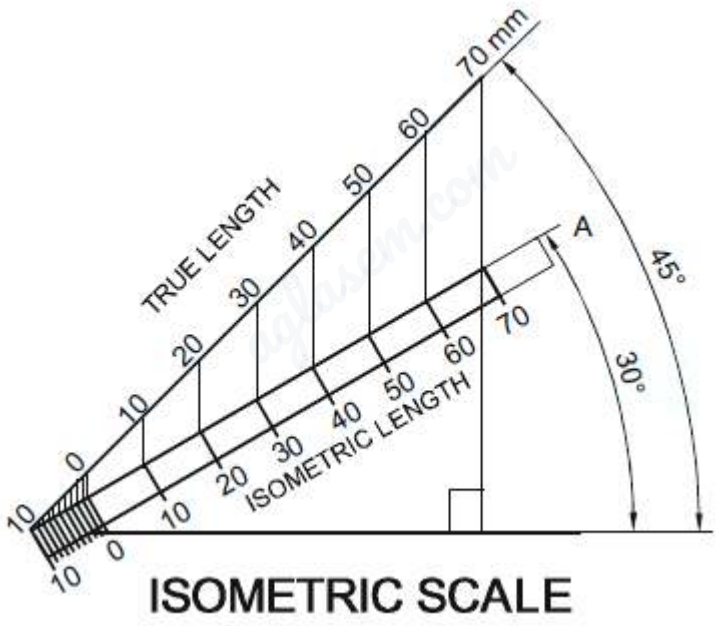
SECTION – C

24. (I) ISOMETRIC SCALE **4**

(i) Drawing 45º inclined line showing true lengths 1

(ii) Projections on 30º inclined line showing isometric length with subdivisions in one part 2 1mm

(iii) Writing title, sub titles and angles 1



ISOMETRIC SCALE

24. (II) ISOMETRIC PROJECTION OF PENTAGONAL PYRAMID ***9***

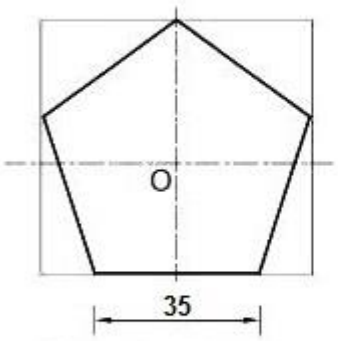
(i) Helping figure 1

(ii) Drawing isometric pentagon 4

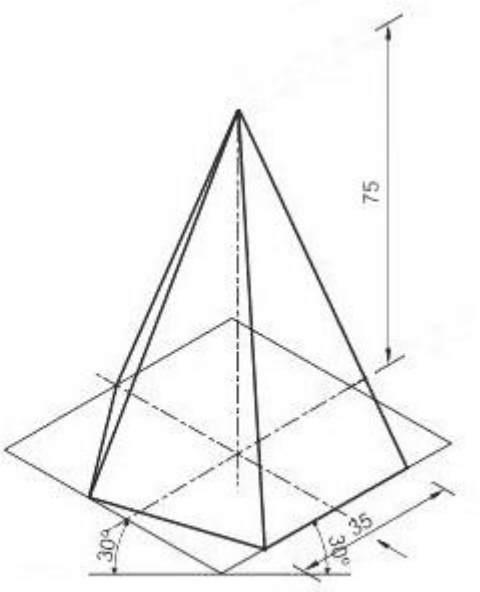
(iii) Drawing face edges 2

(iv) Dimensions 1

(v) Indicating the axis and direction of viewing 1



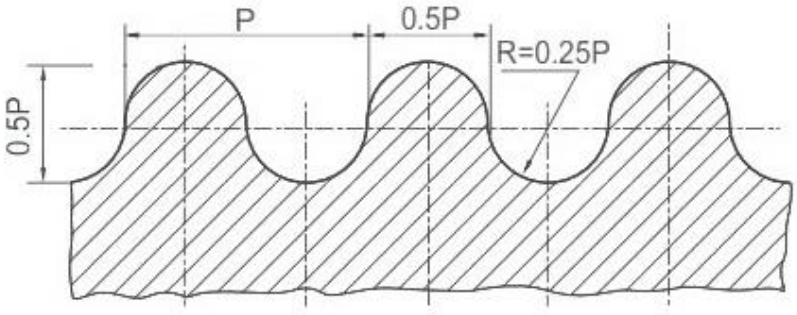
HELPING FIGURE



ISOMETRIC PROJECTION

25. (A) KNUCKLE THREAD PROFILE ***8***

(i)	Distance equal to half pitch	2
(ii)	Crest and roots	3
(iii)	Hatching lines with conventional break	1
(iv)	Standard dimensions	2



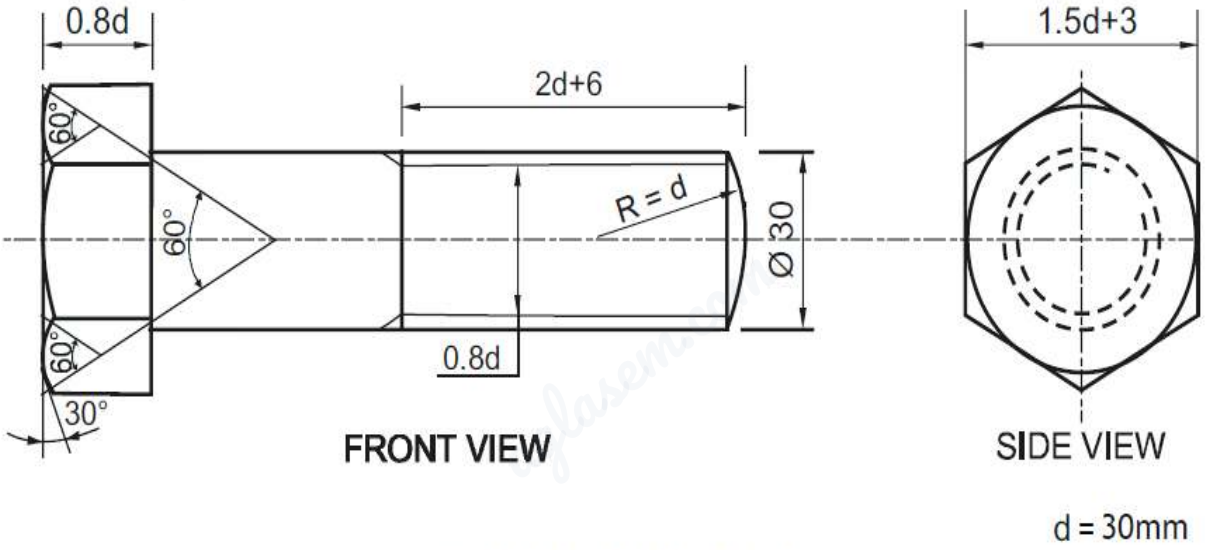
P	0.5P	0.25P
60	30	15

KNUCKLE THREAD PROFILE

OR

25. (B) HEXAGONAL BOLT ***8***

(i) Front view	3
(ii) Side view	3
(iii) Standard dimensions	2



HEXAGONAL BOLT