

ENGINEERING GRAPHICS – Code No. 046

MARKING SCHEME

CLASS - XII – (2026-27)

Time Allowed: 3 hours

Maximum Marks: 70

SECTION – A

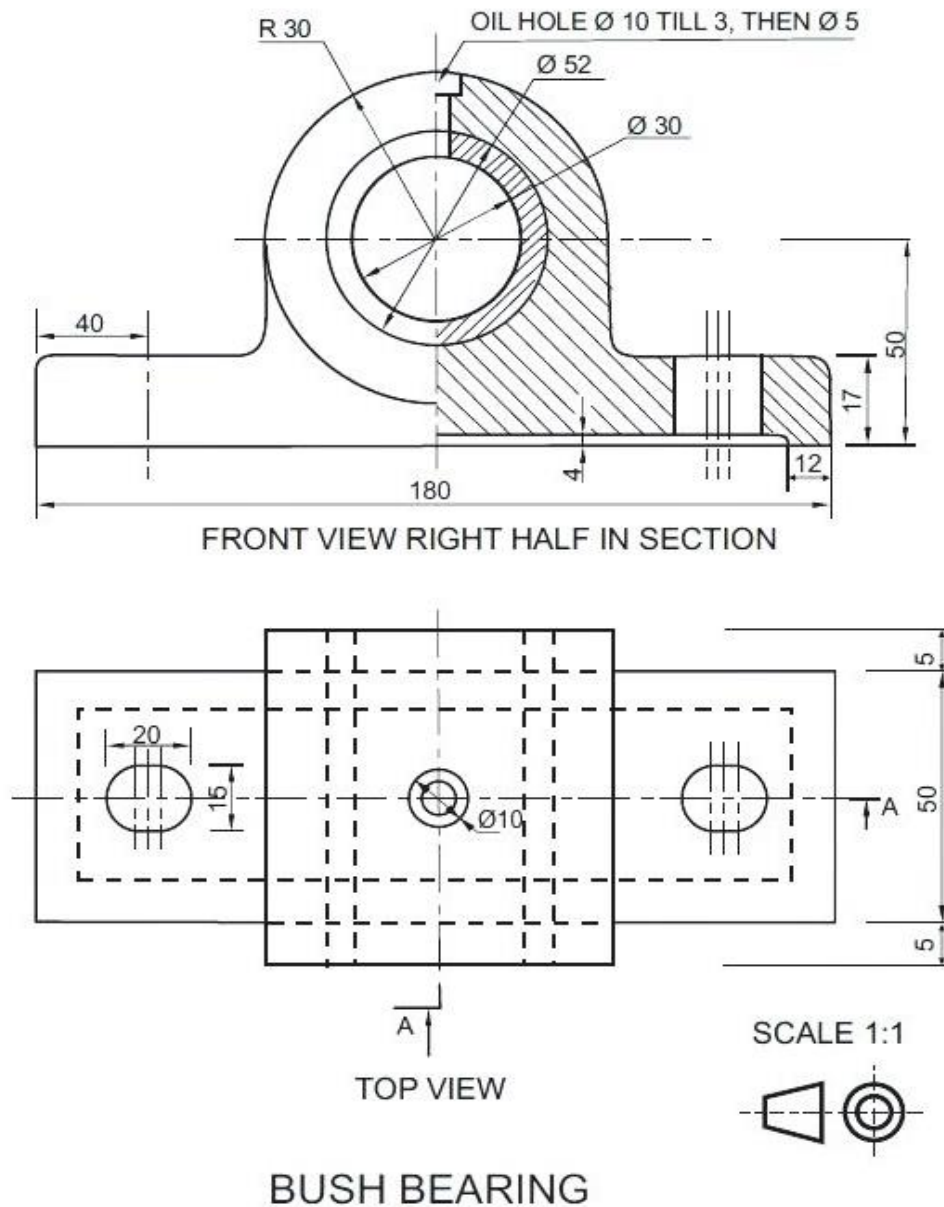
Value Points

- | | |
|--|---|
| 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 |

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

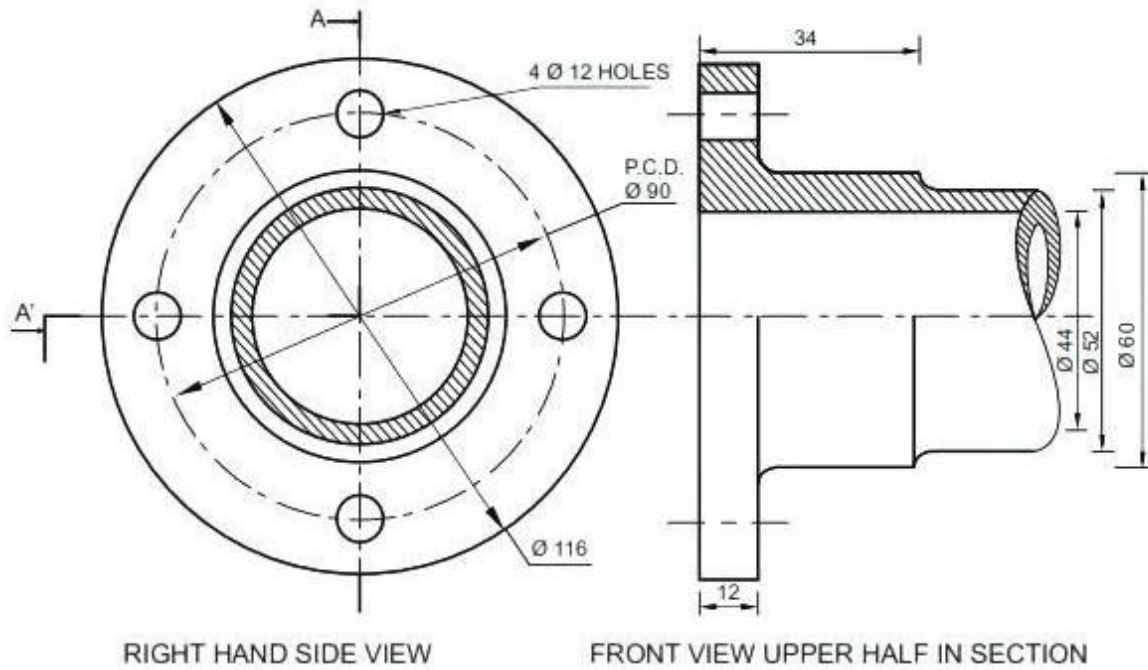
- (i) Front View upper half in section **8**
 - a. Drawing the lower half and conventional end 3
 - b. Drawing the upper half including hole of $\varnothing 12$ mm and conventional end with hatching lines 5
- (ii) Right Side View. **7**
 - a. Drawing the circles of $\varnothing 116$, $\varnothing 60$, $\varnothing 52$, $\varnothing 44$ and four holes of $\varnothing 12$ mm 5
 - b. Drawing the pitch circle of $\varnothing 90$ mm, cutting plane and hatching lines of conventional end of pipe 2

(II) GASKET

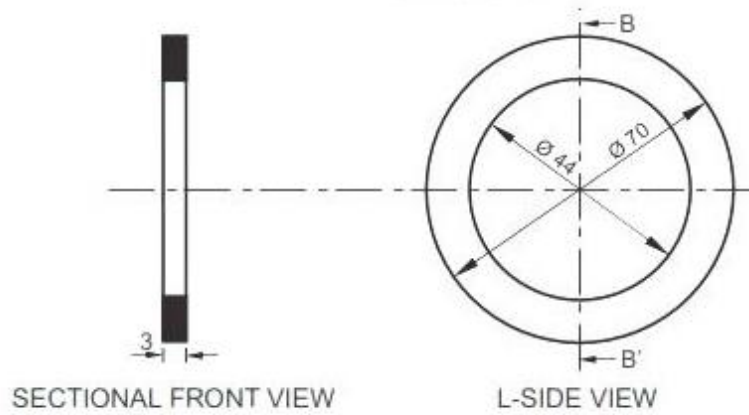
- (i) Full sectional front view **3**
 - a. Sectional front view with shading to show rubber 3
- (ii) Left Side View **3**
 - a. Both circles with cutting plane 3

(III) OTHERS **6**

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



FLANGE-B



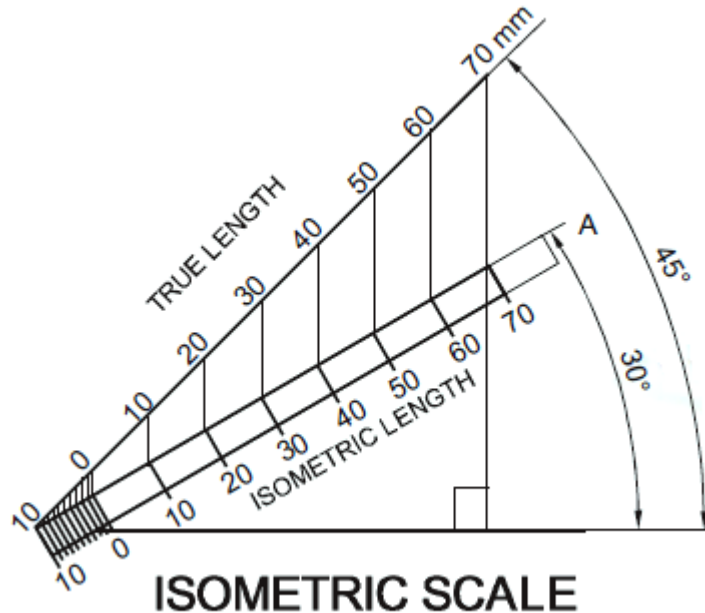
GASKET

SCALE 1:1

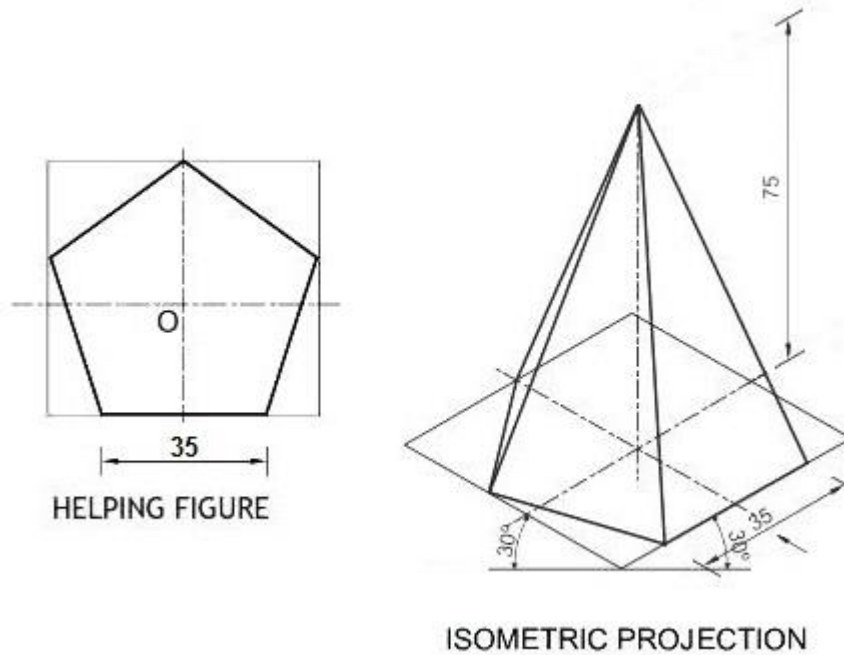
FLANGE PIPE JOINT DIS ASSEMBLY

SECTION – C

24.(I) ISOMETRIC SCALE	4
(i) Drawing 45° inclined line showing true lengths	1
(ii) Projections on 30° inclined line showing isometric length with subdivisions in one part	2
(iii) Writing title, sub titles and angles	1



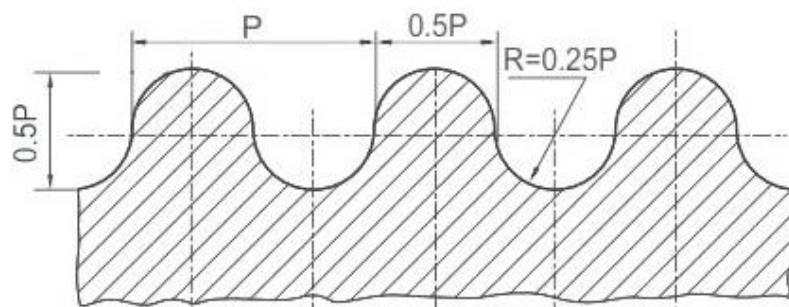
24.(II) ISOMETRIC PROJECTION OF PENTAGONAL PYRAMID	9
(i) Helping figure	1
(ii) Drawing isometric pentagon	4
(iii) Drawing face edges	2
(iv) Dimensions	1
(v) Indicating the axis and direction of viewing	1



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

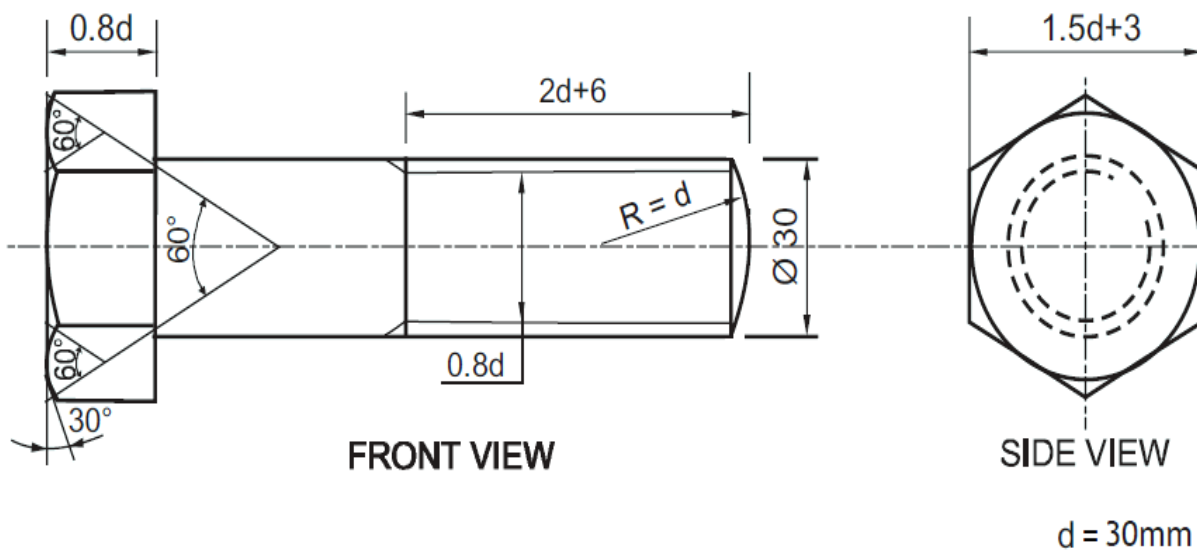
3

(ii) Side view

3

(iii) Standard dimensions

2



HEXAGONAL BOLT