

**SAMPLE QUESTION PAPER**  
**MARKING SCHEME**  
**XII – (2024-25)**  
**ENGINEERING GRAPHICS (046)**

*Time Allowed: 3 hours*

*Maximum Marks: 70*

**SECTION – A**

**Value Points**

- |   |   |
|---|---|
| 1. (D) or a rhombus of foreshortened length             | 1 |
| 2. (C) or (i) & (iii)                                   | 1 |
| 3. (C) or in front of, above                            | 1 |
| 4. (C) or They are located by determining its endpoints | 1 |
| 5. (C) or Square  | 1 |
| 6. (A) or the major diameter is 20mm and pitch is 2mm   | 1 |
| 7. (B) or a-(ii) b-(i) c-(iv) d-(iii)                   | 1 |
| 8. (D) or (a)-(i) (b)-(iv) (c)-(ii) (d)-(iii)           | 1 |
| 9. (A) or 26 mm   | 1 |
| 10. (D) or (ii) & (iii)                                 | 1 |
| 11. (D)   | 1 |
| 12. (B) or Gib and Cotter Joint                         | 1 |
| 13. (B) or (iii) & (iv)                                 | 1 |
| 14. (B) or a-(iii) b-(iv) c-(ii) d-(i)                  | 1 |

**SECTION – B**

- |  |   |
|--|---|
| 15. (B) or Representing three-dimensional objects  | 1 |
| 16. (C) or Engineering and design  | 1 |
| 17. (A) or It simplifies and helps in better visualization of complex parts of the project | 1 |
| 18. (D) or Equally foreshortened the true dimensions                                       | 1 |

19. (B) or Even distribution of load	1
20. (B) or To join steel structures of bridges	1
21. (A) or Sectioning	1
22. (B) or 2d	1
23. (A) <b>ASSEMBLY OF FLANGE PIPE JOINT</b>	
<b>(a) FRONT VIEW UPPER HALF IN SECTION</b>	<b>13</b>
(i) Drawing the upper half correctly	8
(ii) Drawing the lower half correctly	5
<b>(b) RIGHT SIDE VIEW</b>	<b>8</b>
(i) Drawing circles	5
(ii) Drawing bolt-nut, hatching and cutting plane	3
<b>(c) OTHERS</b>	<b>6</b>
(i) Six Important Dimensions	3
(ii) Printing title, Projection symbol and Scale used	3



## 23. (B) DIS-ASSEMBLY OF OPEN BEARING

### (a) BODY

- |   |          |
|---|----------|
| (i) Full sectional front View   | <b>8</b> |
| a. Drawing the outline of the body, drawing two bolt holes indicating CRS, recess | 7        |
| b. Hatching lines   | 1        |
| <br>  |          |
| (ii) Top View.  | <b>6</b> |
| a. Drawing the outline of the body  | 3        |
| b. Holes and recess   | 2½       |
| c. Cutting plane  | ½        |

### (b) BUSH

- |                                     |          |
|-------------------------------------|----------|
| (i) Front view left half in section | <b>4</b> |
| <br>                                |          |
| (ii) Top View                       | <b>3</b> |

### (c) OTHERS **6**

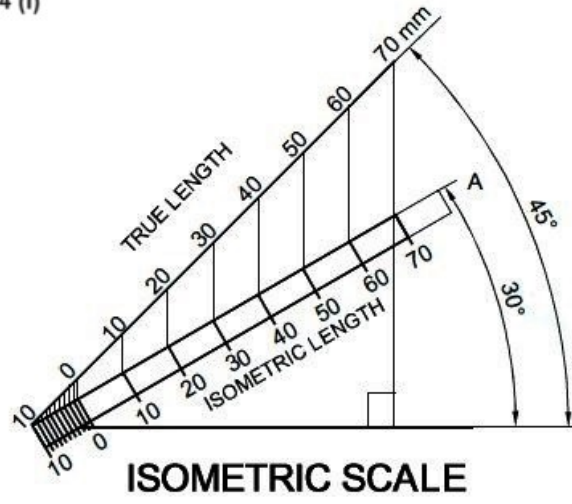
- |  |   |
|--|---|
| (i) 6 Important Dimensions.                                | 3 |
| (ii) Printing titles, Symbol of Projection and Scale used. | 3 |



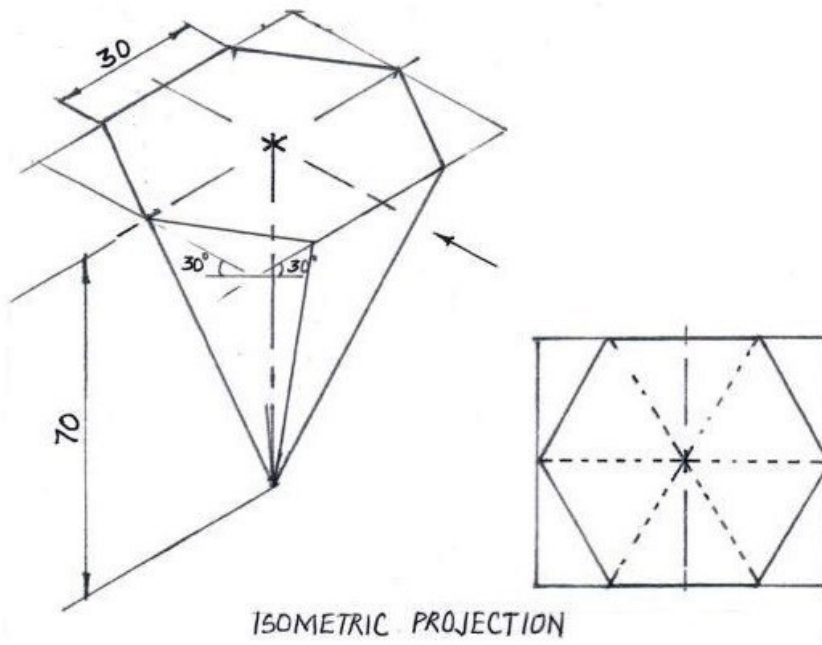
## SECTION – C

24. I.) ISOMETRIC SCALE	<b>4</b>
a. Drawing 45° inclined line showing true lengths	1
b. Projections on 30° inclined line showing isometric length with 1mm subdivisions in one part	2
c. Writing title, sub titles and angles	1
24. II.) ISOMETRIC PROJECTION OF INVERTED HEXAGONAL PYRAMID	<b>9</b>
a. Helping figure	1
b. Drawing upper isometric hexagon	3
c. Drawing slant edges	3
d. Dimensions	1
e. Indicating the axis and direction of viewing	1

Q24 (I)



Q 24 (II)



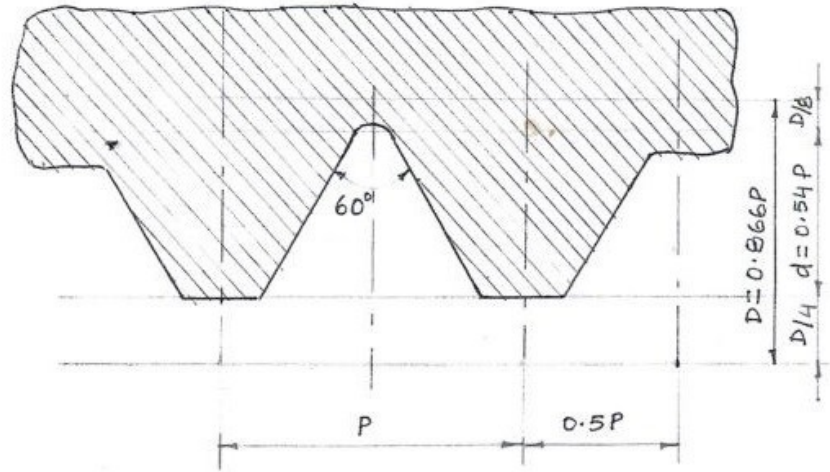
25. (A) METRIC THREAD INTERNAL	<b>8</b>
(i) Distance equal to pitch and other ratios	2
(ii) Crest, roots and slant edges	3
(iii) Hatching lines with conventional break	1
(iv) Standard dimensions	2

**OR**

25. (B) HEXAGONAL NUT	<b>8</b>
(i) Front view	3
(ii) Top view	3
(iii) Standard dimensions	2



Q25 (A)



P	0.5P	D = 0.866P	D/4	D/8	d = 0.54P
40	20	34.64 = 35	8.66 = 9	4.33 = 4	21.60 = 22

METRIC THREAD INTERNAL  
(OR)

Q25 (B)

