

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

Time Allowed: 3 hours

Maximum Marks: 70

SECTION – A

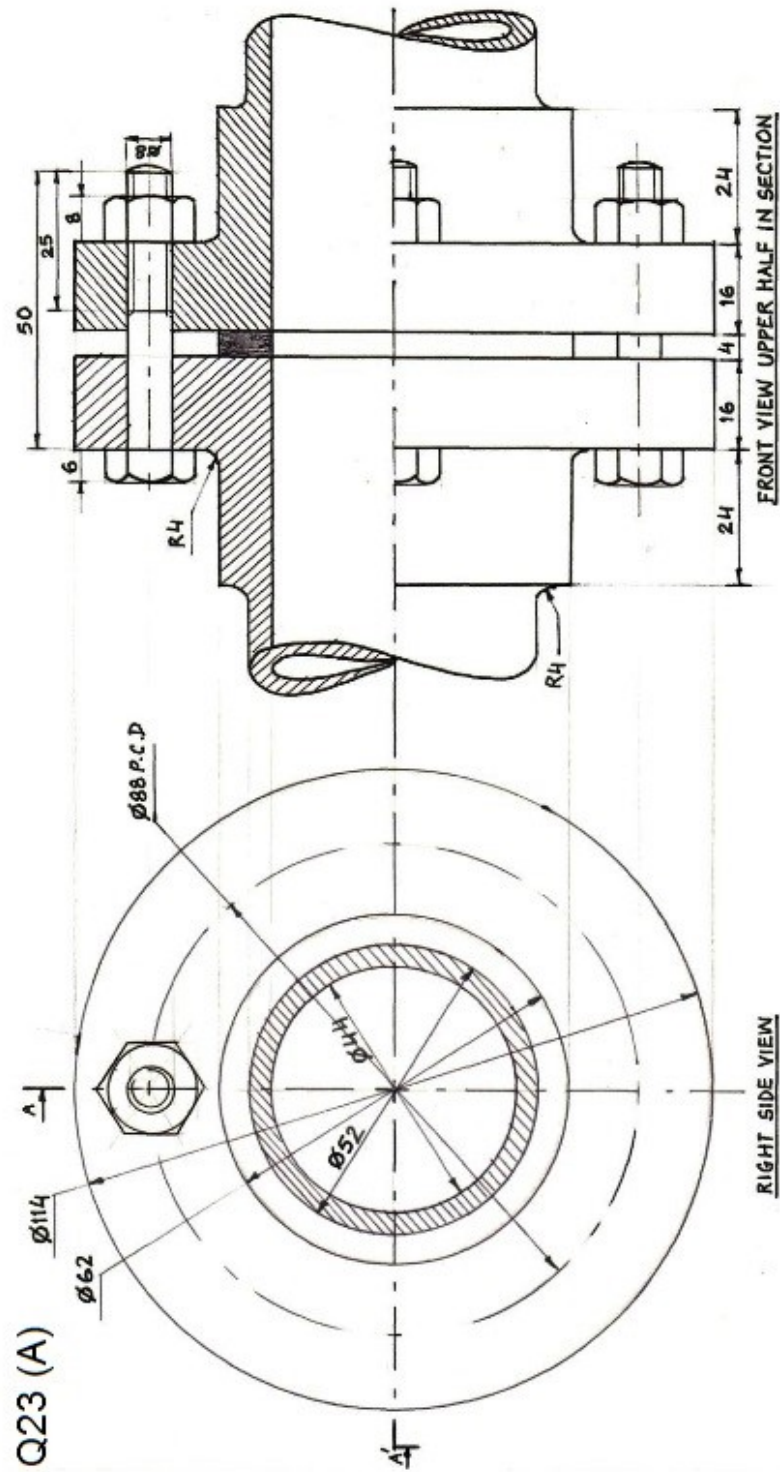
Value Points

- | | |
|---|---|
| 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) ASSEMBLY OF FLANGE PIPE JOINT	
(a) FRONT VIEW UPPER HALF IN SECTION	13
(i) Drawing the upper half correctly	8
(ii) Drawing the lower half correctly	5
(b) RIGHT SIDE VIEW	8
(i) Drawing circles	5
(ii) Drawing bolt-nut, hatching and cutting plane	3
(c) OTHERS	6
(i) Six Important Dimensions	3
(ii) Printing title, Projection symbol and Scale used	3



ASSEMBLY OF FLANGE PIPE JOINT

OR

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

(a) BODY

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

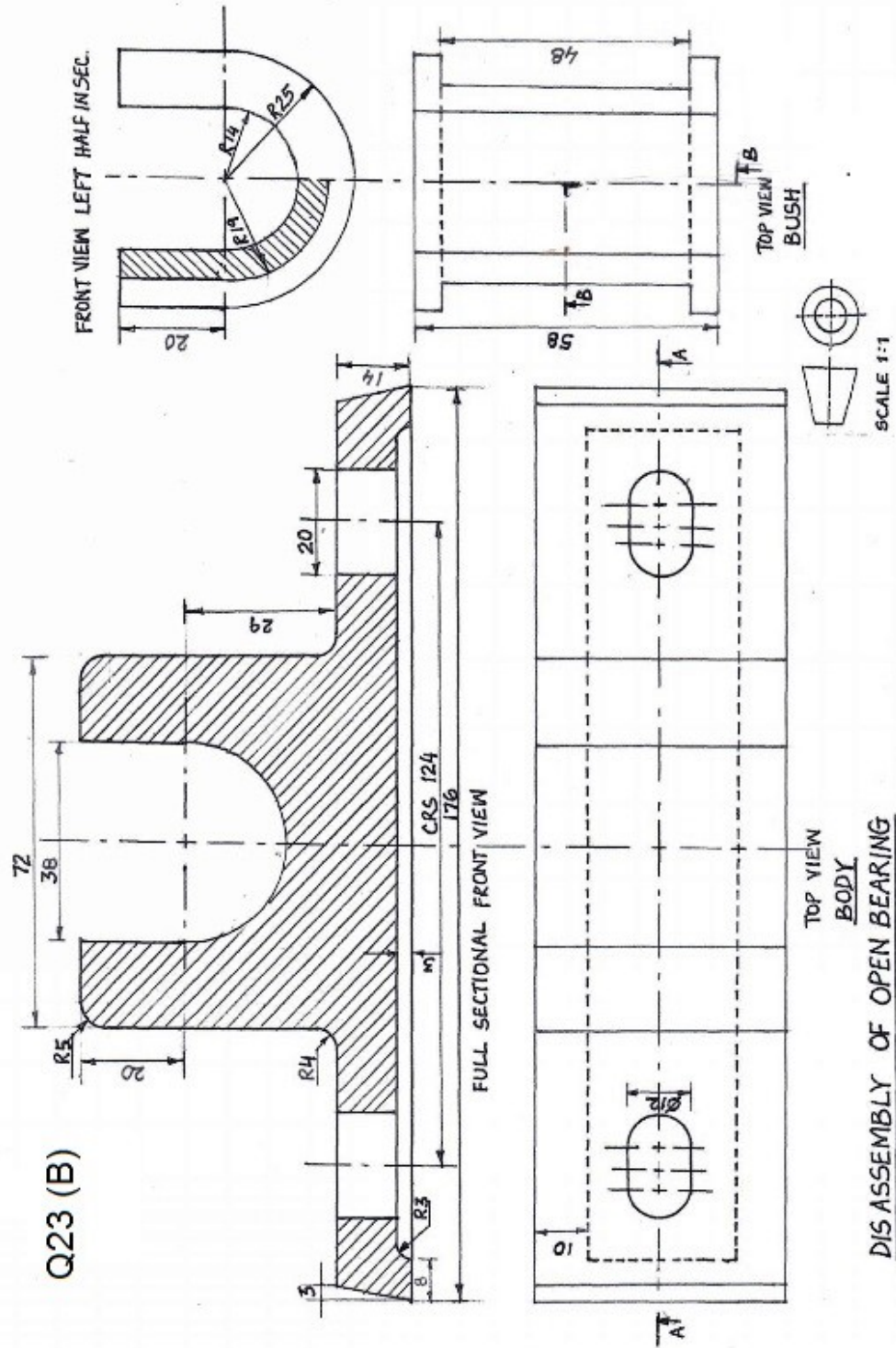
(b) BUSH

- | | |
|-------------------------------------|----------|
| (i) Front view left half in section | 4 |
|
(ii) Top View | 3 |

(c) OTHERS **6**

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

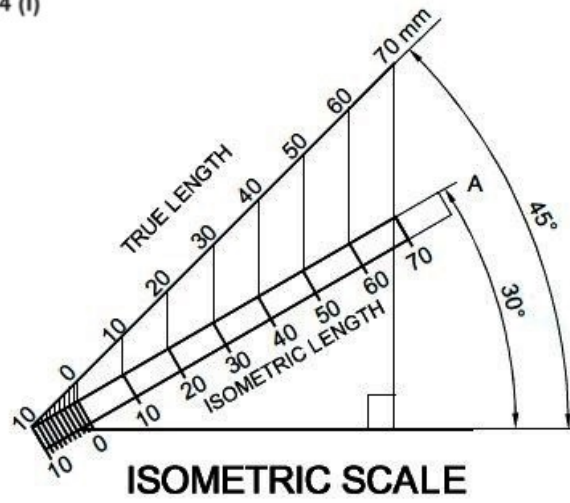
Q23 (B)



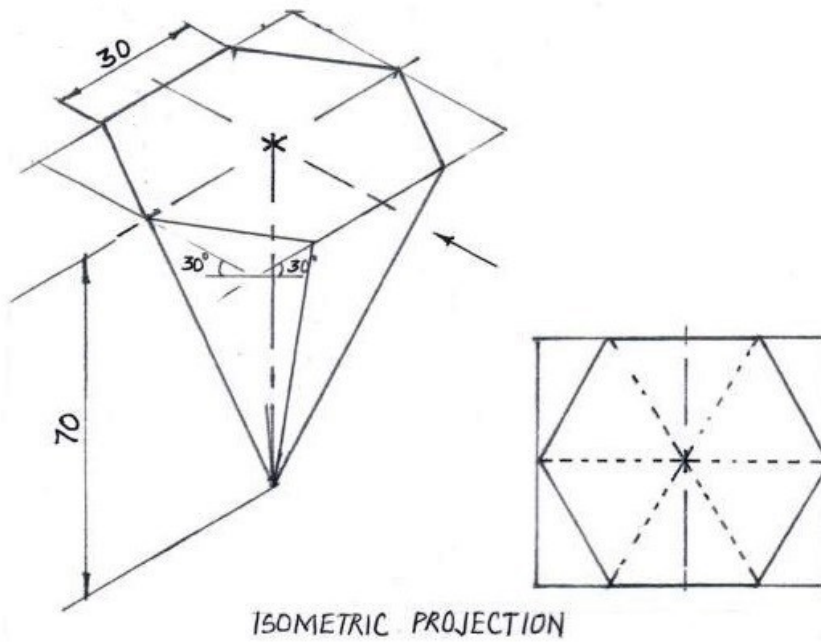
SECTION – C

24. I.) ISOMETRIC SCALE	4
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	 9
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 **8**

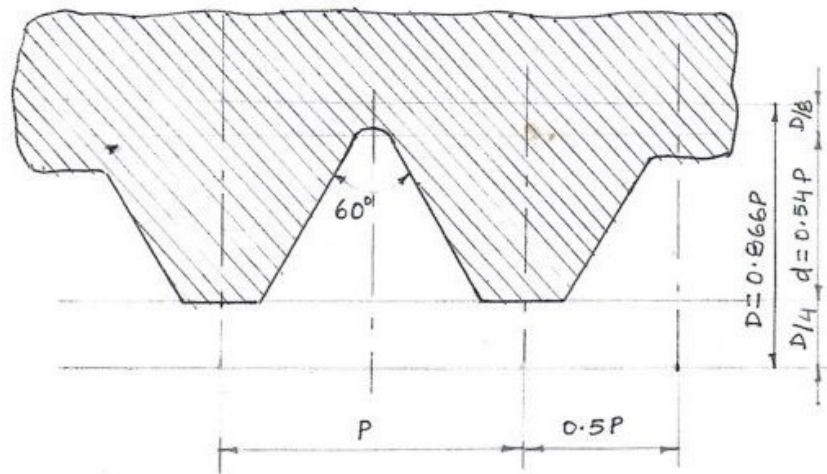
- (i) Distance equal to pitch and other ratios **2**
- (ii) Crest, roots and slant edges **3**
- (iii) Hatching lines with conventional break **1**
- (iv) Standard dimensions **2**

OR

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

- (i) Front view **3**
- (ii) Top view **3**
- (iii) Standard dimensions **2**

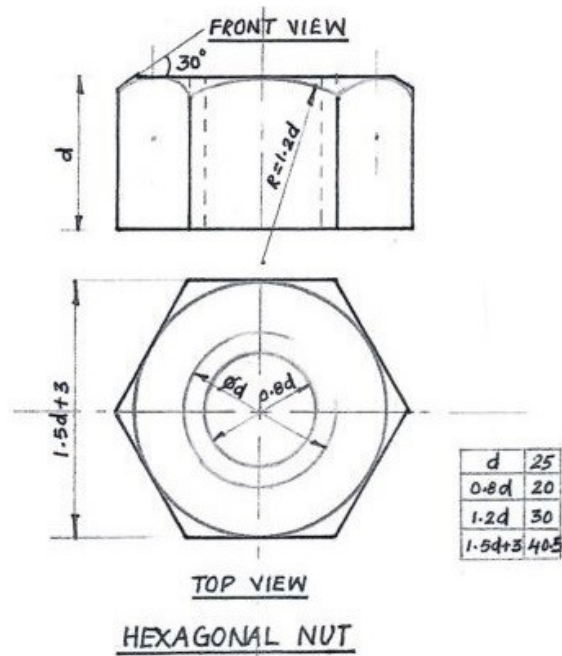
Q25 (A)



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)



d	25
0.8d	20
1.2d	30
1.5d + 3	40.5