

**SAMPLE QUESTION PAPER**  
**MARKING SCHEME**  
**XII – (2022-23)**  
**ENGINEERING GRAPHICS (046)**

*Time Allowed: 3 hours*

*Maximum Marks: 70*

**SECTION – A**

**Value Points**

- |  |   |
|--|---|
| 1. d) Orthographic Projection  | 1 |
| 2. a) A cone filled with ice-cream   | 1 |
| 3. b)  | 1 |
| 4. b) check leakage of fluid in pipes  | 1 |
| 5. b) Turn Buckle / Tie Rod Joint  | 1 |
| 6. a) Centre to centre distance  | 1 |
| 7. d) Pitch circle diameter  | 1 |
| 8. c) 1 in 30  | 1 |
| 9. b) The pentagonal ends are parallel to VP   | 1 |
| 10. c) Axis of cone is perpendicular to HP, axis of prism is perpendicular to VP   | 1 |
| 11. d) A pentagonal prism is resting on top of hexagonal disc. Axis of prism is parallel to VP and that of disc is perpendicular to HP | 1 |
| 12. c) Two vertical solids with one base edge of the pyramid away from observer and parallel to VP                                     | 1 |
| 13. b) The length of common axis is iso 65mm   | 1 |
| 14. b) A horizontal solid placed on a horizontal solid   | 1 |
| 15. c) A is true but R is false  | 1 |
| 16. c) Temporary Fastener  | 1 |
| 17. a) Headless Bolt   | 1 |
| 18. a) Collar  | 1 |
| 19. d) 1.5 d   | 1 |
| 20. c) 20mm  | 1 |

**SECTION – B**

21. (a) ISOMETRIC SCALE	<b>5</b>
(i) Drawing 45° inclined line showing true lengths	1
(ii) Projections on 30° inclined line showing isometric length with 1mm subdivisions in one part	3
(iii) Writing titles, sub titles and angles	1
21. (b) ISOMETRIC PROJECTION OF PENTAGONAL PRISM	<b>10</b>
(i) Helping figure	1
(ii) Drawing both the iso-pentagons	4
(iii) Drawing four face edges	3
(iv) Dimensions	1
(v) Indicating the axis and direction of viewing	1
22. METRIC THREAD (INTERNAL)	<b>8</b>
(i) Distance equal to pitch, and angles of 60°	2
(ii) Flat edges and curves for threads	2
(iii) Side edges / flanks	2
(iv) Dimensions	2

**OR**

HEXAGONAL NUT	<b>8</b>
(i) Drawing front view with details	3
(ii) Drawing top view with details	3
(iii) Dimensions and titles	2

**23. ASSEMBLY OF OPEN BEARING**

<b>(a) FRONT VIEW RIGHT HALF IN SECTION</b>	<b>13</b>
(i) Drawing right half body with hole	4
(ii) Drawing left half body	2 <sup>1/2</sup>
(iii) Hatching in body	1
(iv) Drawing right half bush	1 <sup>1/2</sup>
(v) Drawing left half bush.	3
(vi) Hatching in bush	1
 <b>(b) TOP VIEW</b>	 <b>8</b>
(i) Drawing outline of body with two vertical lines	2
(ii) Drawing two holes with center lines	2
(iii) Drawing bush	2
(iv) Hidden lines	1 <sup>1/2</sup>
(v) Cutting plane	1/2
 <b>(c) OTHERS</b>	 <b>6</b>
(i) Important Dimensions	3
(ii) Printing title, Projection symbol and Scale used	3

**OR**

**DIS-ASSEMBLY OF GIB AND COTTER JOINT**

<b>(a) FORK END</b>	
(i) FRONT VIEW UPPER HALF IN SECTION	<b>9</b>
a. Drawing body with conventional end	6
b. Drawing hole (2) and hatching in upper half	3
(ii) Top View.	<b>6</b>
a. Drawing body with two vertical lines	4
b. Drawing hole	2

**(b) GIB**

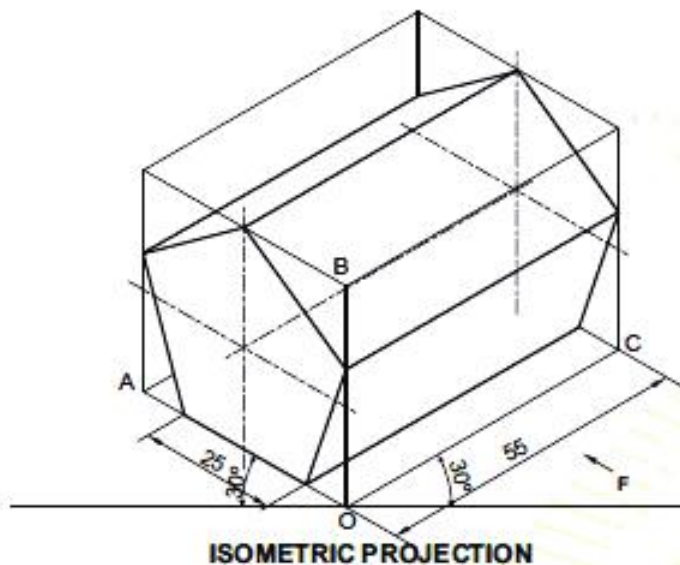
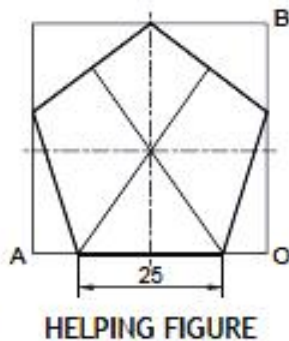
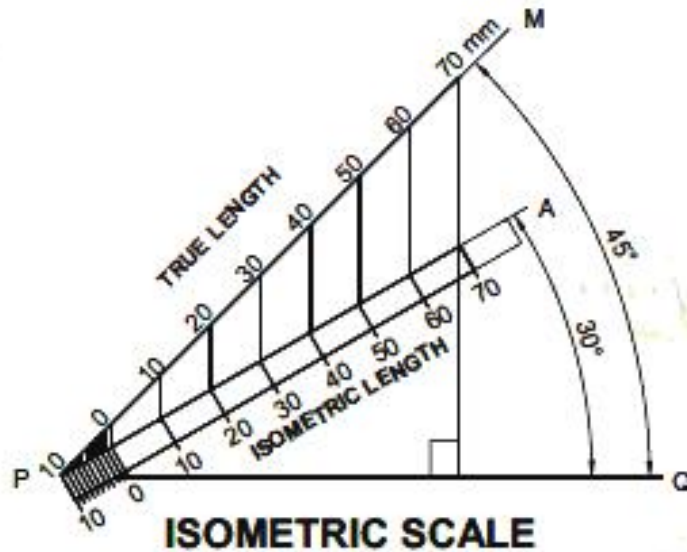
(i) Front View 4  
 a. Drawing body (2) and taper (2) 4

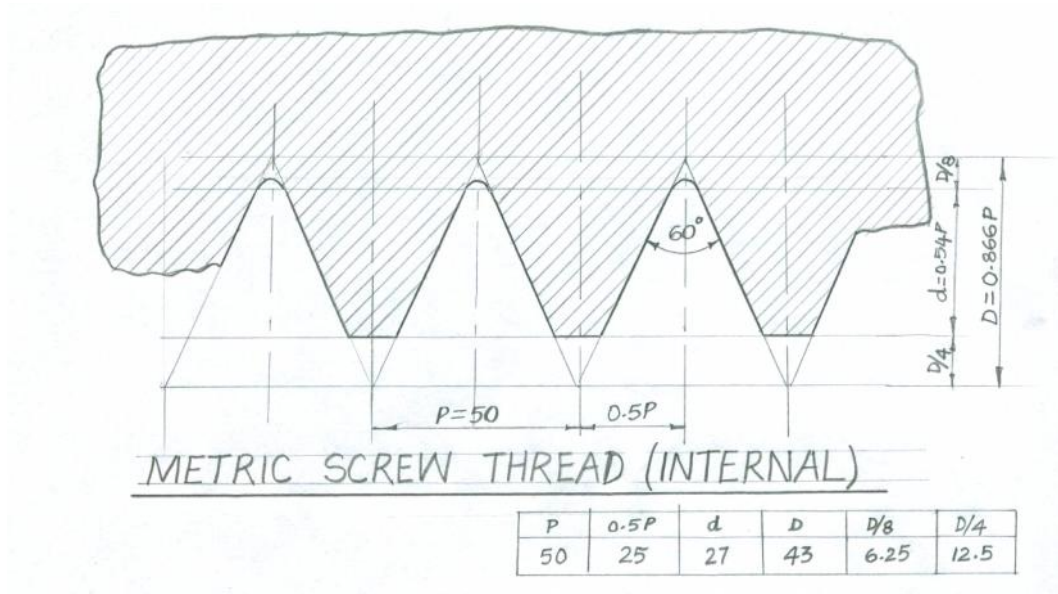
(ii) Side View 2

**(c) OTHERS** 6

(i) Important Dimensions. 3

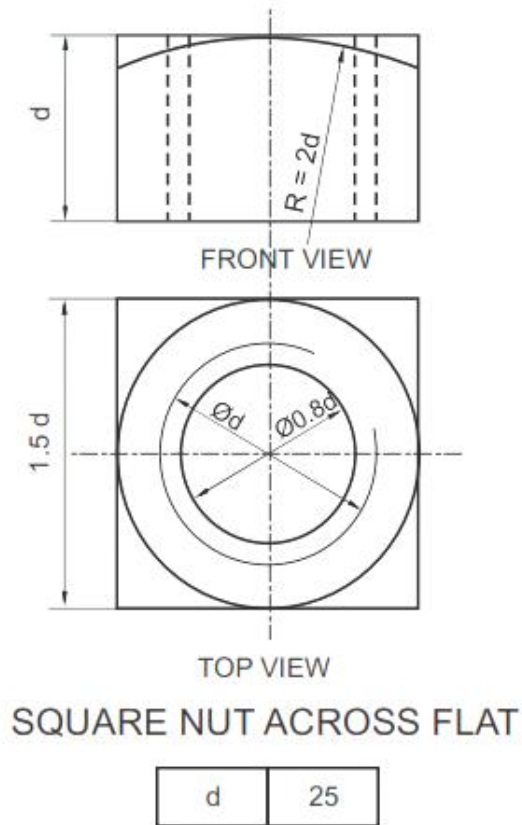
(ii) Titles, Symbol of Projection and Scale used. 3

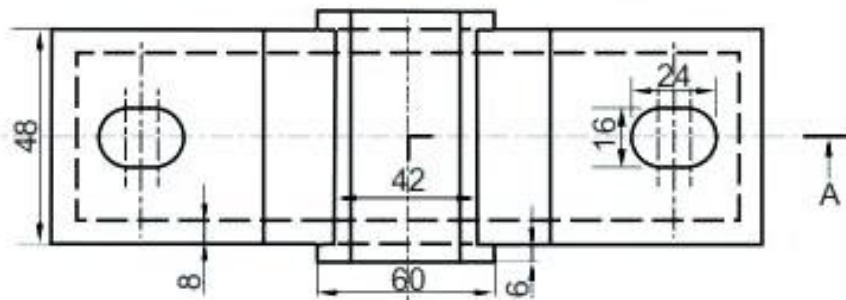
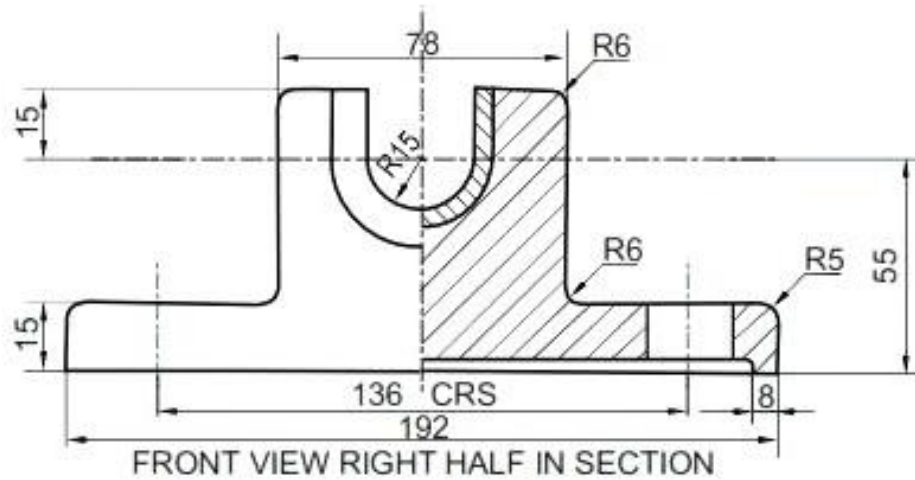




**FIG - 1.4**

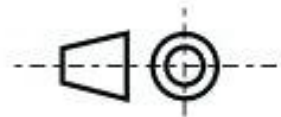
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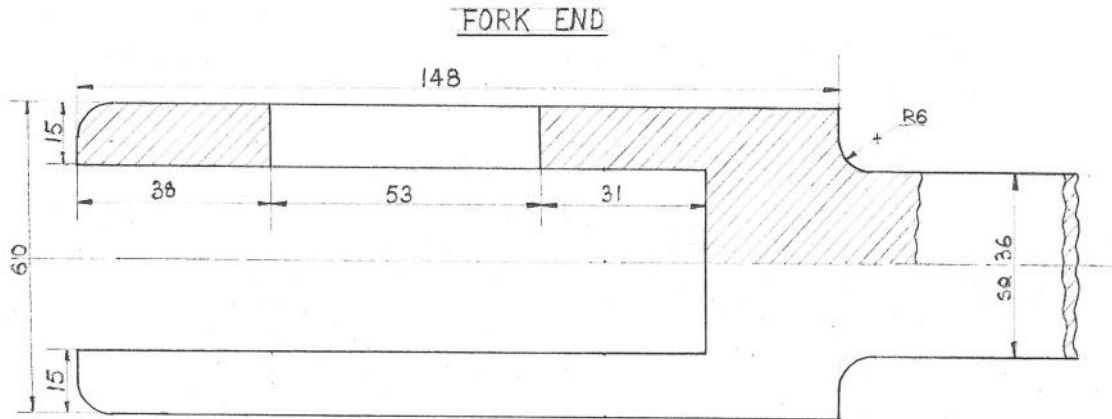




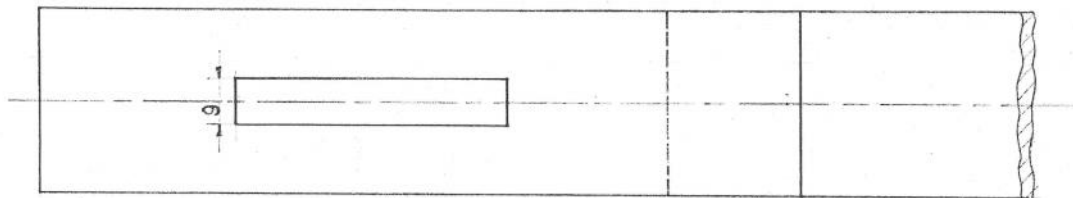
OPEN BEARING

SCALE 1:1

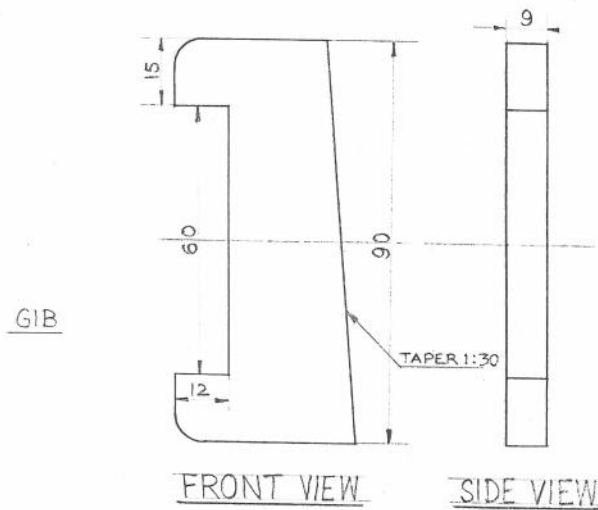




UPPER HALF SECTIONAL FRONT VIEW



TOP VIEW



SCALE 1:1

