**INDIAN SCHOOL AL WADI AL KABIR**

| Class: XII | Department: SCIENCE | Date: 30.01.2024 |
|---|---|---|
| MARKS: 70 | REHEARSAL II<br>**ENGINEERING GRAPHICS (046)**<br><br>**MARKING SCHEME** | DURATION :3 HOURS |

**General Instructions:**

(i) Attempt all the questions.
(ii) Use both sides of the drawing sheet, if necessary.
(iii) All dimensions are in millimeters.
(iv) Missing and mismatching dimensions, if any, may be suitably assumed.
(v) Follow the SP: 46 – 2003 revised codes. (with first angle method of projection)
(vi) In no view of question 21, are hidden edges or lines required.
(vii) In question 23, hidden edges or lines are to be shown in views without section.

**20 x 1 = 20**

## SECTION – A

| Q.NO | ANSWERS |
|---|---|
| 1 | c) Multiview Orthographic projection |
| 2 | b) Visible lines |

| | |
|---|---|
| **3** | c) P/4 |
| **4** | d) 60 degree |
| **5** | d) Spherical dimensions are not foreshortened in isometric projection. |
| **6** | d) The solid is inverted with its axis perpendicular to HP and parallel to VP. |
| **7** | a) A cylinder is placed centrally on a hemisphere with its common axis perpendicular to HP. |
| **8** | d) 1-ii, 2-iii, 3-iv, 4-i |
| **9** | d) (iii) only |

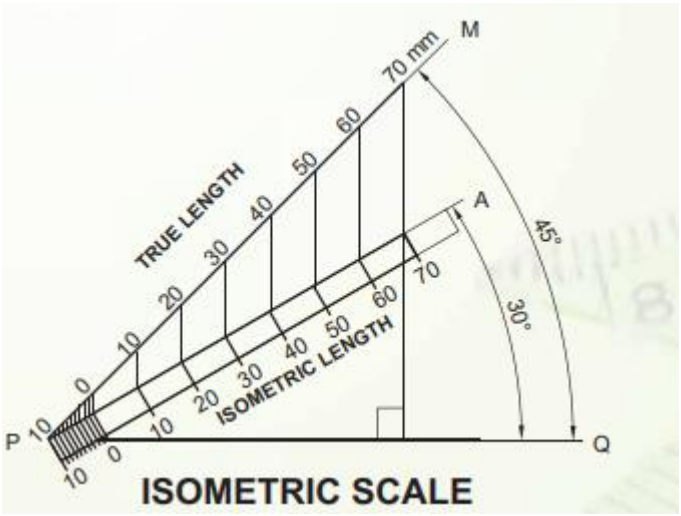
| | |
|---|---|
| | |
| **10** | c) Nine |
| **11** | b) Square nut |
| **12** | c) Top |
| **13** | c) Flange pipe joint |
| **14** | c) Gib and cotter joint |
| **15** | c) C, A, D, E, B |
| **16** | b) Machine screws are temporary fasteners whereas rivets are permanent fasteners |
| **17** | a) 2d+6 |

| | |
|---|---|
| | |
| **18** | b) 30 |
| **19** | b) Cheese head screw |
| **20** | d) two visible circles. |

## SECTION B

**1 x 5 = 5**

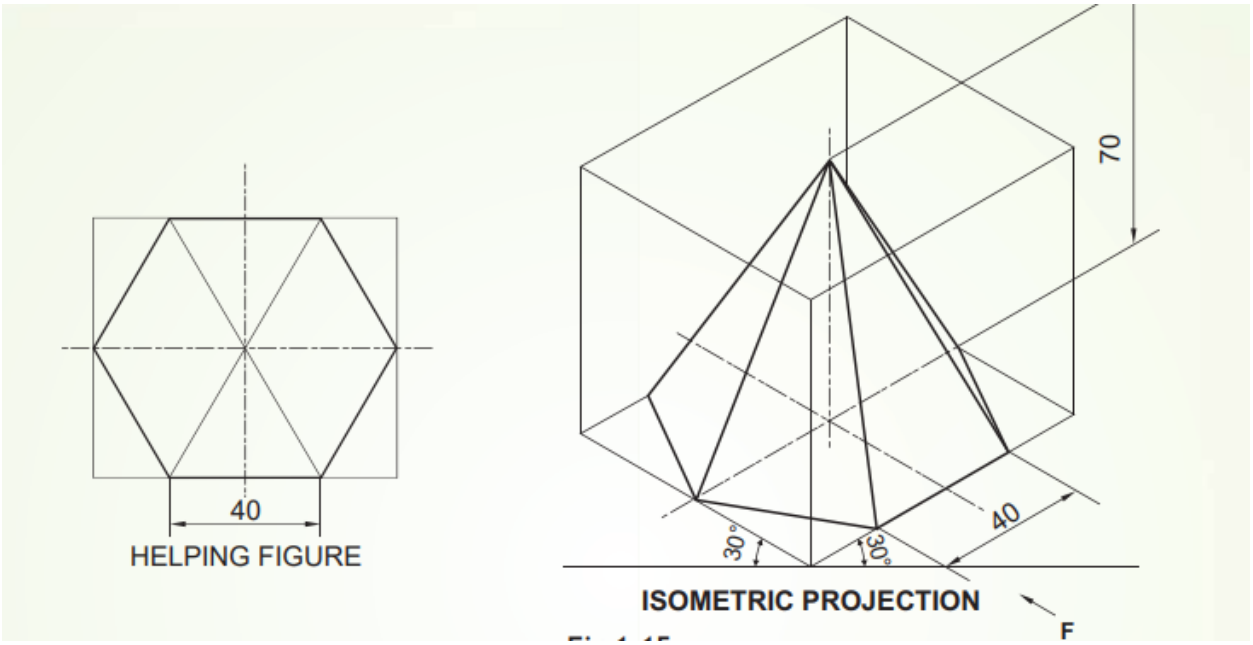
**21**.a) Construct an isometric scale of 80 mm.



ISOMETRIC SCALE

**1x10 =10**

**21** b). Draw the isometric projection of a hexagonal pyramid having base edge of 40 mm and axis 70 mm resting on its base keeping two of its base side parallel to the V.P.

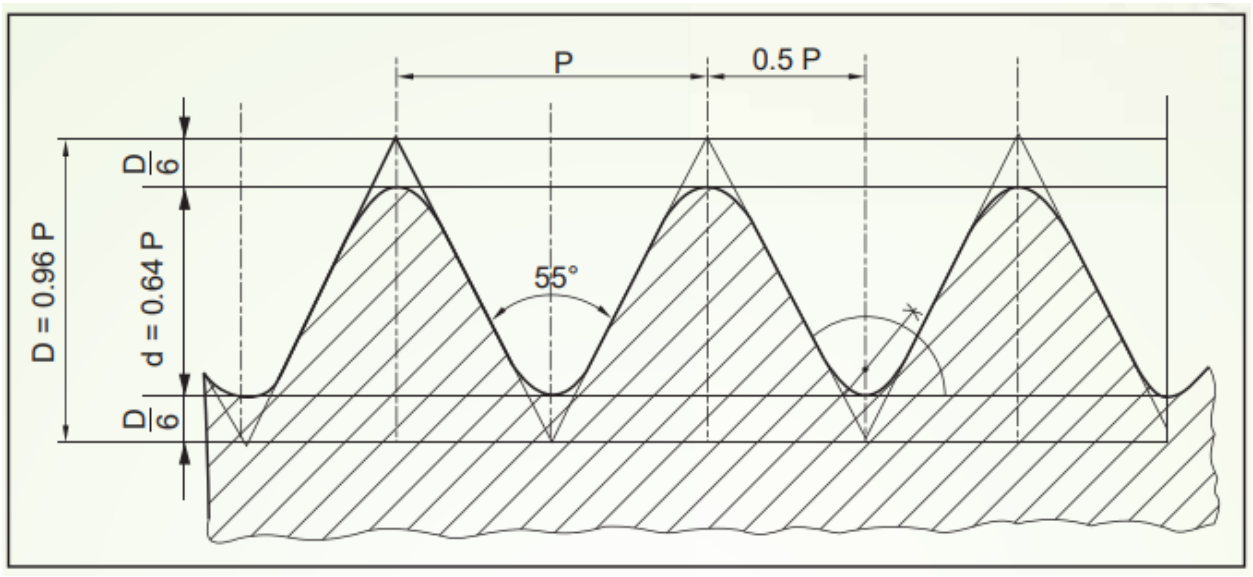


HELPING FIGURE

ISOMETRIC PROJECTION

**1 x 8= 8**

**22.** Draw to scale 1:1, standard profile of B.S.W. thread, taking pitch = 50 mm. Give standard dimensions.

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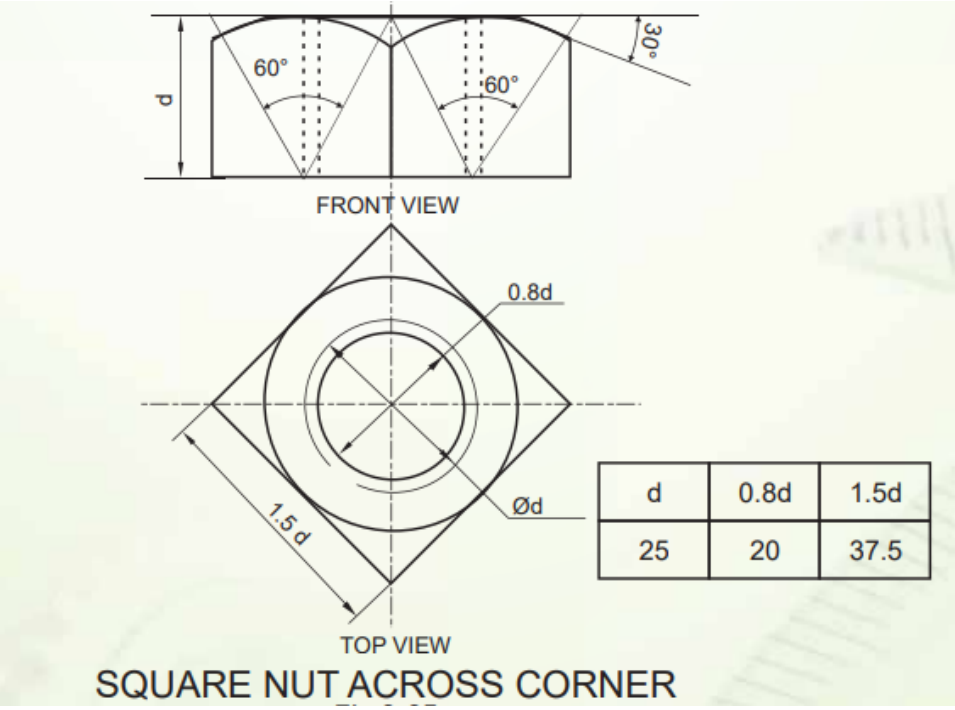
| P | D = 0.96P | d = 0.64P | D/6 |
|---|---|---|---|
| 50 | 48 | 32 | 8 |

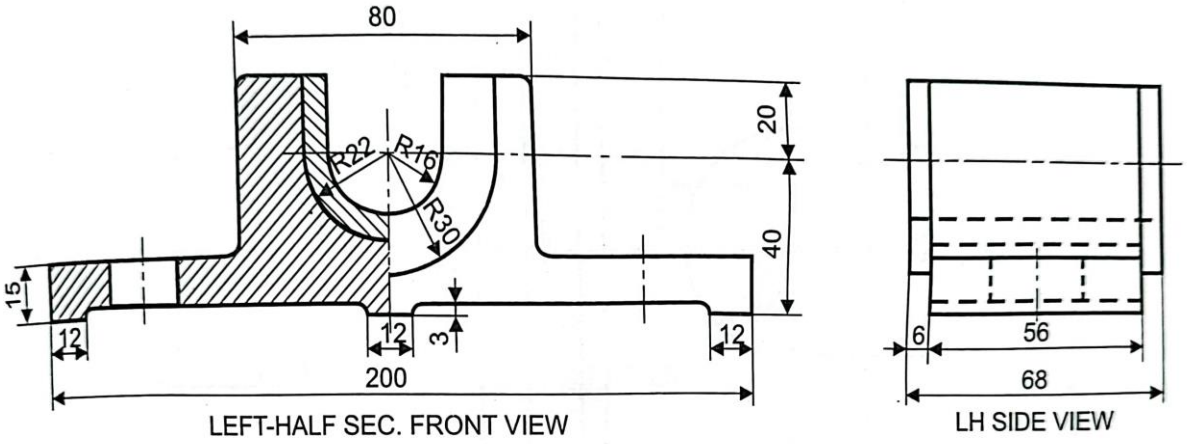
**OR**

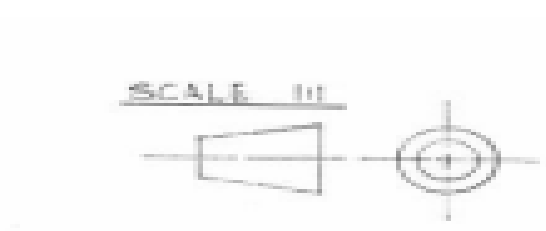
Draw to scale full size the Front View and Top View of a square nut of diameter 25mm, keeping its axis vertical with the diagonal on the square face parallel to V.P.



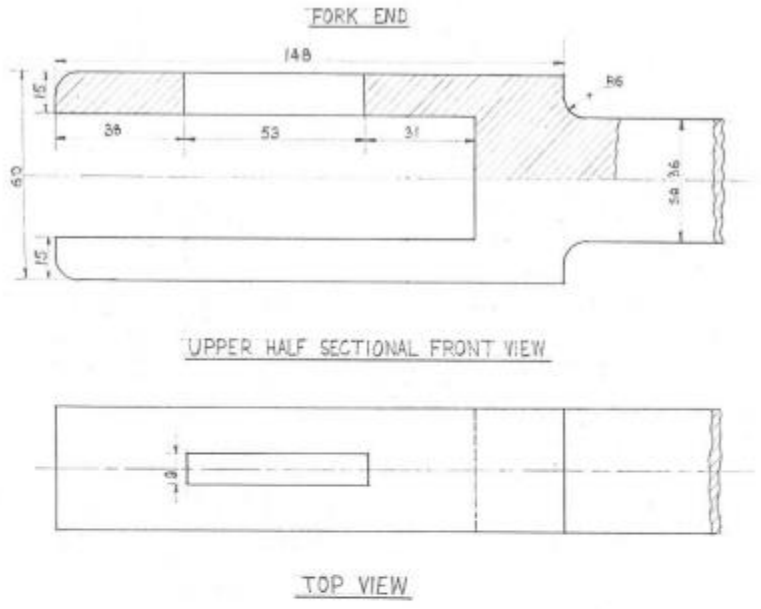

| d | 0.8d | 1.5d |
|---|---|---|
| 25 | 20 | 37.5 |

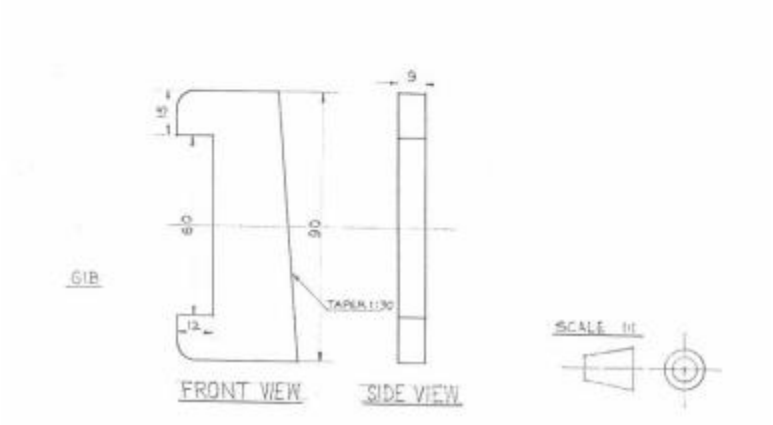
23. **1 x 27 = 27**



**OR**


FORK END
148
R6
15
38
53
31
60
36
36
15
UPPER HALF SECTIONAL FRONT VIEW
10
TOP VIEW


9
15
60
90
GIB
TAPER 1:30
12
FRONT VIEW
SIDE VIEW
SCALE 1:1

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