

Roll Number

SET A



INDIAN SCHOOL MUSCAT  
FINAL EXAMINATION  
ENGINEERING GRAPHICS

CLASS: XII

Sub. Code: 046

Time Allotted: 3 Hrs.

01.02.2021

Max. Marks: 70

**General Instructions:**

- (i) All dimensions are in millimetres.
- (ii) Missing and mismatching dimensions, if any, may be suitably assumed.
- (iii) Follow the SP: 46, 2003 revised codes. (with First angle method of projection)
- (iv) In no view of question 1, are hidden edges or lines required.
- (v) In question 4, hidden edges or lines are to be shown in views without section.

- Q1 A. Construct an isometric scale. 04
- B. Draw the isometric projection to isometric scale of a hexagonal prism of side 35 mm and height 65mm resting on HP on its base with one of the base edges parallel to VP. Mark all dimensions and indicate the direction of view. 07
- C. Draw the isometric projection to isometric scale of combination of a cylinder (diameter 30 mm and height 60 mm) resting horizontally and centrally on the pentagonal face of a pentagonal prism (side 40 mm and height 50 mm). One of the sides of the prism is perpendicular to VP. The axis of the cylinder is perpendicular to VP. Mark all dimensions and indicate the direction of view 13
- Q2 a. Draw the front elevation and left side view of hexagonal bolt of nominal diameter 30 mm keeping its axis horizontal. Give standard dimensions. 08
- b. Sketch freehand the front view and top view of a 60° CSK RIVET of size M20, keeping its axis perpendicular to HP. Give standard dimension 05
- Q3 Answer the following Multiple Choice Questions and Print them on your answer sheet- 05
1. .... is a modified form of a square thread
- a. V-thread      b. Knuckle      c. B.S.W      d. Metric
2. In isometric projection the three principal axes appear to be inclined to each other at an angle equal to.....
- a. 120°      b. 60°      c. 30°      d. 45°

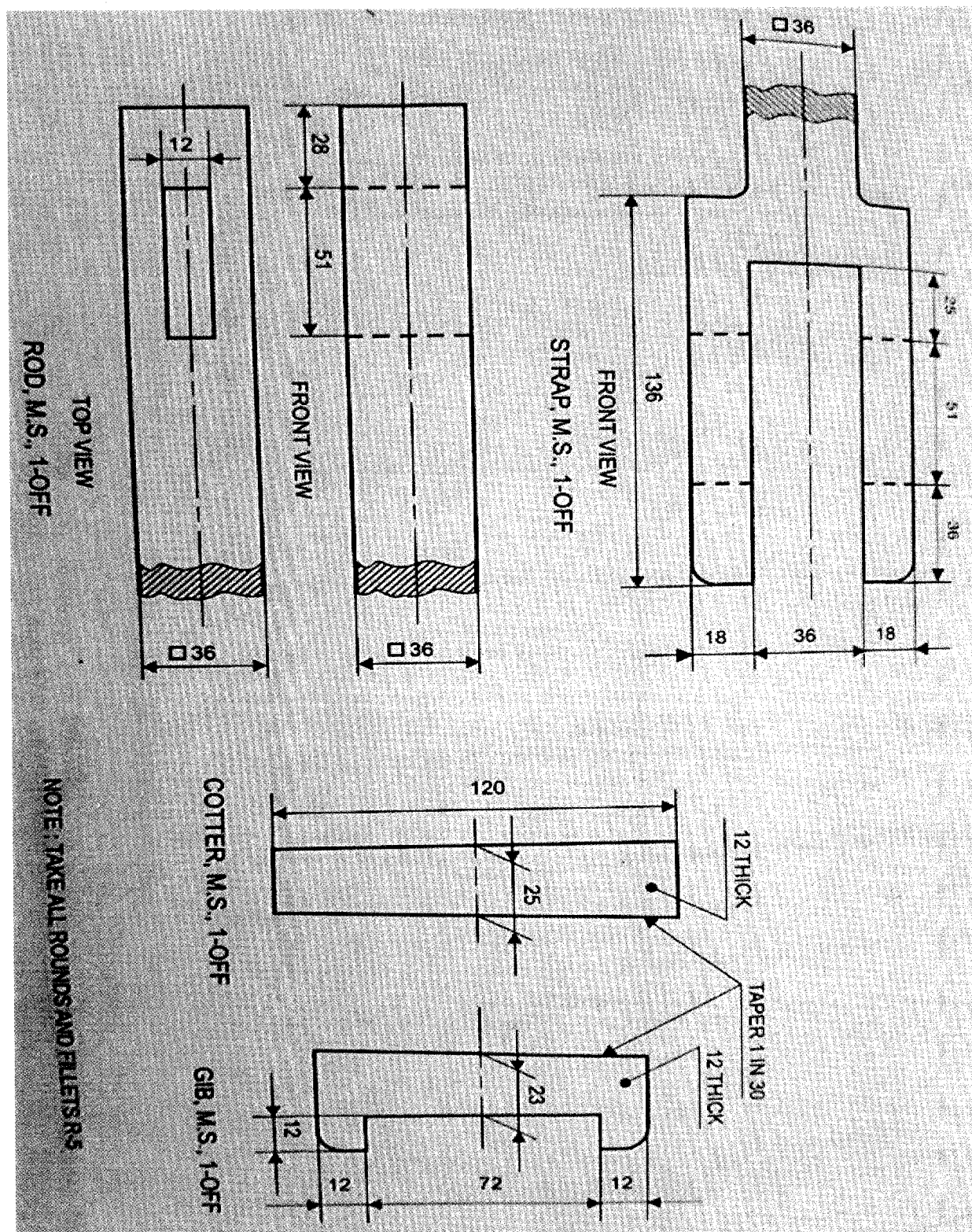
3. A ..... is a cylindrical piece of metal having threads at both ends.
- a. Rivet      b. Bolt      c. Nut      d. Stud
4. The flanges are made thicker than pipe- walls for .....
- a. Strength      b. Stability      c. Alignment      d. All of the above
5. .... kind of the joint is subject to push and pull action.
- a. Gib and cotter      b. Flange pipe      c. Tie-rod      d. Sleeve and cotter

Q4 The figure shows the details of the **GIB AND COTTER ROD JOINT** .Assemble the parts correctly and draw the following views to scale 1:1

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- a. Front view, full section  
b. Right side view

Print title, draw projection symbol and scale used. Mark all dimensions.



End of the Question Paper