

SAMPLE QUESTION PAPER (2017-18)

ENGINEERING GRAPHICS (046)

Time Allowed: 3 hours

Maximum Marks: 70

Note:

- (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 2, are hidden edges or lines required.
- (v) In question 4, hidden edges or lines are to be shown in views without section.

Q1. Answer the following multiple choice questions. Print the correct choice on your drawing sheet. 5

- (i) The angle between the flanks of a metric thread is
 - a) 55°
 - b) 90°
 - c) 60°
 - d) 75°
- (ii) Which one among the following represents a permanent fastener?
 - a) Nut
 - b) Rivet
 - c) Screw
 - d) Bolt
- (iii) In isometric projection, the four centre method is used to construct
 - a) an ellipse
 - b) an involute
 - c) a parabola
 - d) a hyperbola

- (iv) The convexity provided on the rim of the solid web cast iron pulley is called
- Bending
 - Curving
 - Crowning
 - Riveting
- (v) The number of cotters used in an assembly of sleeve and cotter joint are
- One
 - Two
 - Three
 - Four

Q.2 (a) Construct an isometric scale. 4

(b) Draw the isometric projection of a pentagonal prism (base edge 25 mm, axial length 55mm) resting on its rectangular face with its axis parallel to H.P. and V.P. both. Indicate the direction of viewing. Give all the dimensions. 7

(c) Draw an Isometric Projection of a triangular pyramid (base edge = 34 mm, height = 50 mm) with one base edge, at the back, parallel to V.P. is placed centrally on the top face of a hexagonal prism (base edge = 30mm, height = 60 mm) having two of its rectangular faces parallel to V.P. The common axis is perpendicular to the H.P. Draw the isometric projection of the combination. Give all the dimensions and indicate the direction of viewing. 13

Q.3 (a) Draw to scale 1:1, the standard profile of the **B.S.W. thread (External)** with the enlarged pitch = 50mm. Give standard dimensions. 8

OR

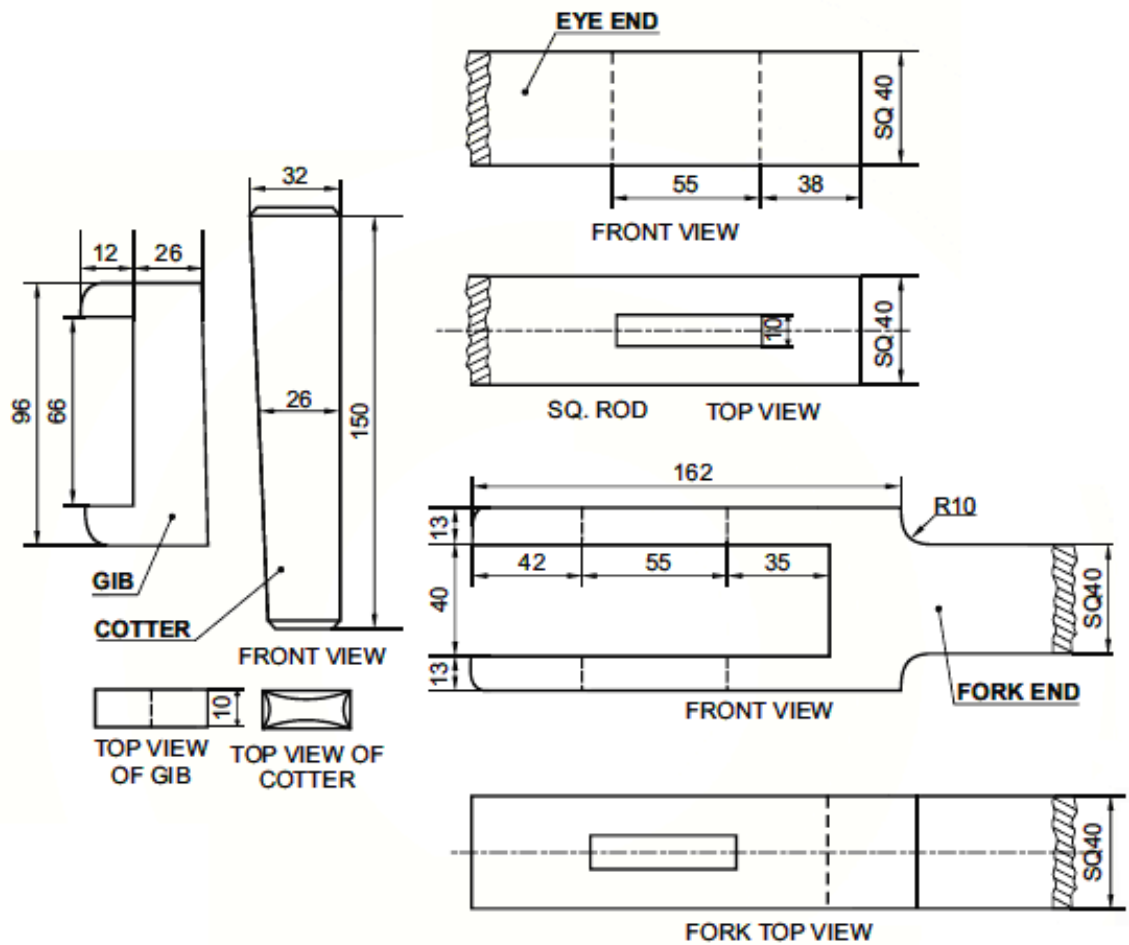
Draw to scale 1:1, the Front View and Side View of a **Tee headed bolt** with diameter 25mm, keeping its axis parallel to both V.P and H.P. Give standard dimensions.

(b) Sketch free hand the Front View and Top View of a **Feather Key with Gib head at both ends** for a shaft of 50mm diameter. Give all the standard dimensions. 5

OR

Sketch free hand the Front View and Top View of a **60° Counter Sunk Head Rivet** of diameter 20 mm. Keep the axis vertical. Give all the standard dimensions.

- Q.4** Figure - 1 shows the drawing details of different parts of a Gib and Cotter Joint for joining two square rods. Assemble all the parts correctly and draw the following views to scale 1:1;
- (a) Front View, upper half in section. 14
 - (b) Side View looking from the left end. 8
 - (c) Give 6 important dimensions, Title, Projection symbol and Scale. 6



DETAILS OF A GIB AND COTTER JOINT

Figure - 1

OR

Figure - 2 shows the assembly of an 'Open Bearing'. Disassemble the parts correctly and then draw to scale 1:1 its following views of the components. Keep the position of components same with respect to H.P and V.P. both;

(1) BODY

(a) Front view, left half in section. 8

(b) Top view, without section. 7

(2) BUSH

(a) Front view, left half in section. 4

(b) Side view, viewing from left. 3

(3) Print titles of both and the scale used. Draw the projection symbol.

Give 6 important dimensions. 6

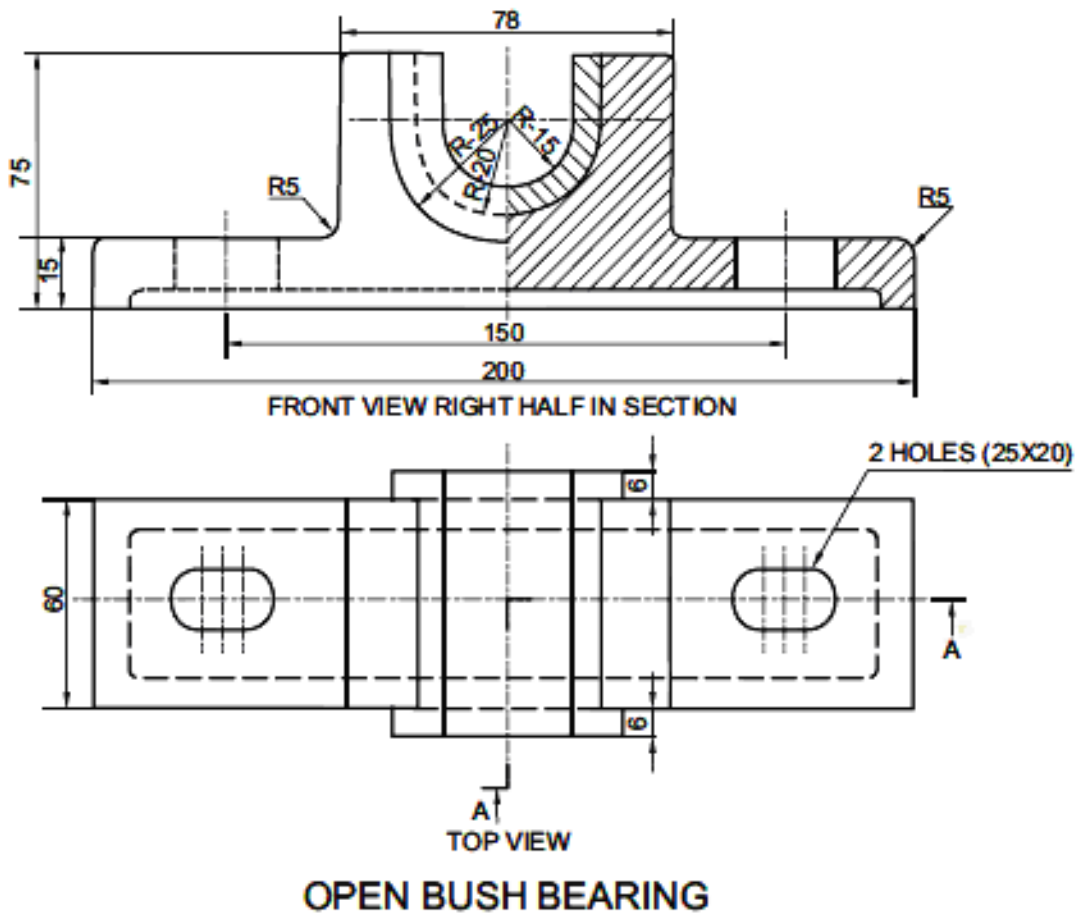


Figure - 2