



INDIAN SCHOOL MUSCAT FIRST PRE-BOARD EXAMINATION

ENGINEERING GRAPHICS

CLASS: XII

Sub. Code: 046

Time Allotted: 3 HRS

14-03-2021

Max. Marks: 70

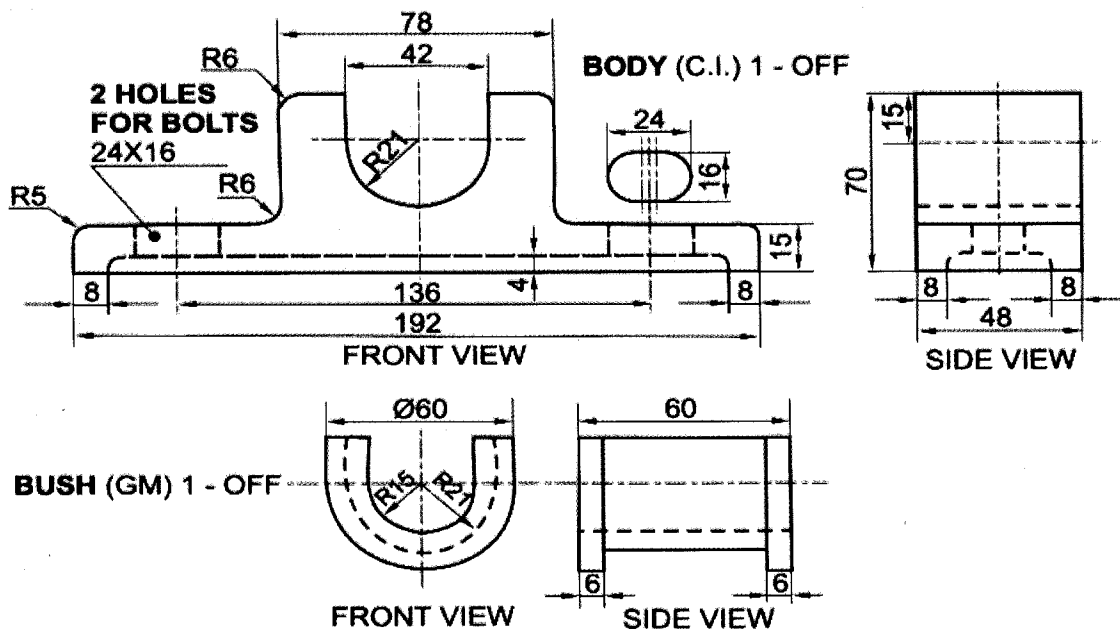
GENERAL INSTRUCTIONS:

- i) Attempt all the questions.
 - ii) Follow the SP: 46-2003 codes. (with first angle method)
 - iii) Missing and mismatching dimension if any may be assumed suitably.
 - iv) All dimensions are in millimeters.
 - v) Use both side of the drawing sheet, if necessary.
1.
 - I. Construct an Isometric scale of length 90 mm. 3
 - II. Draw the isometric projection of a frustum of a regular hexagonal pyramid, base side 25 mm, top side 40 mm and height 65 mm, resting on its hexagonal end of 25 mm side on H.P., with two of sides perpendicular to V.P. Draw the axis and indicate the direction of viewing. Give all dimensions. 7
 - III. A Cylinder, base diameter 90 mm and height 30 mm, is resting on one of the circular ends on HP. A pentagonal prism, base side 20 mm and height 25 mm with its axis perpendicular to V.P and having a rectangular face resting centrally, on the top circular face of the cylinder. Draw the isometric projection of the two solids, placed together, to isometric scale. Draw the axis of both the sides and indicate the direction of viewing. Give all dimensions. 14
 2. Draw to scale 1:1, the front view and side view of the assembly of a square head bolt, having nominal diameter = 30 mm, shank length of the bolt = 120 mm and threaded length = 80 mm, fitted with a hexagonal nut and washer, keeping their common axis parallel to H.P. and V.P. both. Two opposite sides of square head bolt and that of hexagonal nut are parallel to V.P. Give standard dimensions. 8
 3. Sketch freehand the front view and top view of a collar stud, keeping the axis perpendicular to H.P. Take nominal diameter = 20 mm. Give standard dimensions. 5
 4. Answer the following Multiple Choice Questions. 1
 - i. A solid without any edge or vertex, when visualized from any direction appears as a circle is :
 - a) Sphere.
 - b) Cone.
 - c) Cylinder.
 - d) Circle

4. ii. The threads formed on the surface of a cone are called as
- Straight thread.
 - Cylindrical thread.
 - Parallel thread.
 - Taper thread.
- iii. How much taper is provided in the width of a cotter?
- 1:3.
 - 1:10.
 - 1:100.
 - 1:30.
- iv. In the assembly of a Turnbuckle consists of following components:
- One Body and two left hand threaded rods.
 - One Body and two right hand threaded rods.
 - One Body and two square rods.
 - One body, one left hand threaded rod and one right hand threaded rod.
- v. When the cutting plane passes through the whole object centrally then it is known as:
- Half Section.
 - Full Section.
 - Cross Section.
 - Middle Section
5. The figure shows the details of the parts of a Open Bearing. Assemble these parts correctly and then draw its following views to a scale 1:1:
- Front view, left half in section.
 - Side view, viewing from the left.

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Print title and scale used. Draw the projection symbol. Give all dimensions.



DETAILS OF OPEN BEARING

End of the Question Paper