



**INDIAN SCHOOL MUSCAT
HALF YEARLY EXAMINATION
ENGINEERING GRAPHICS**

CLASS: XII

Sub. Code: 046

Time Allotted: 3 Hrs

26.09.2019

Max. Marks: 70

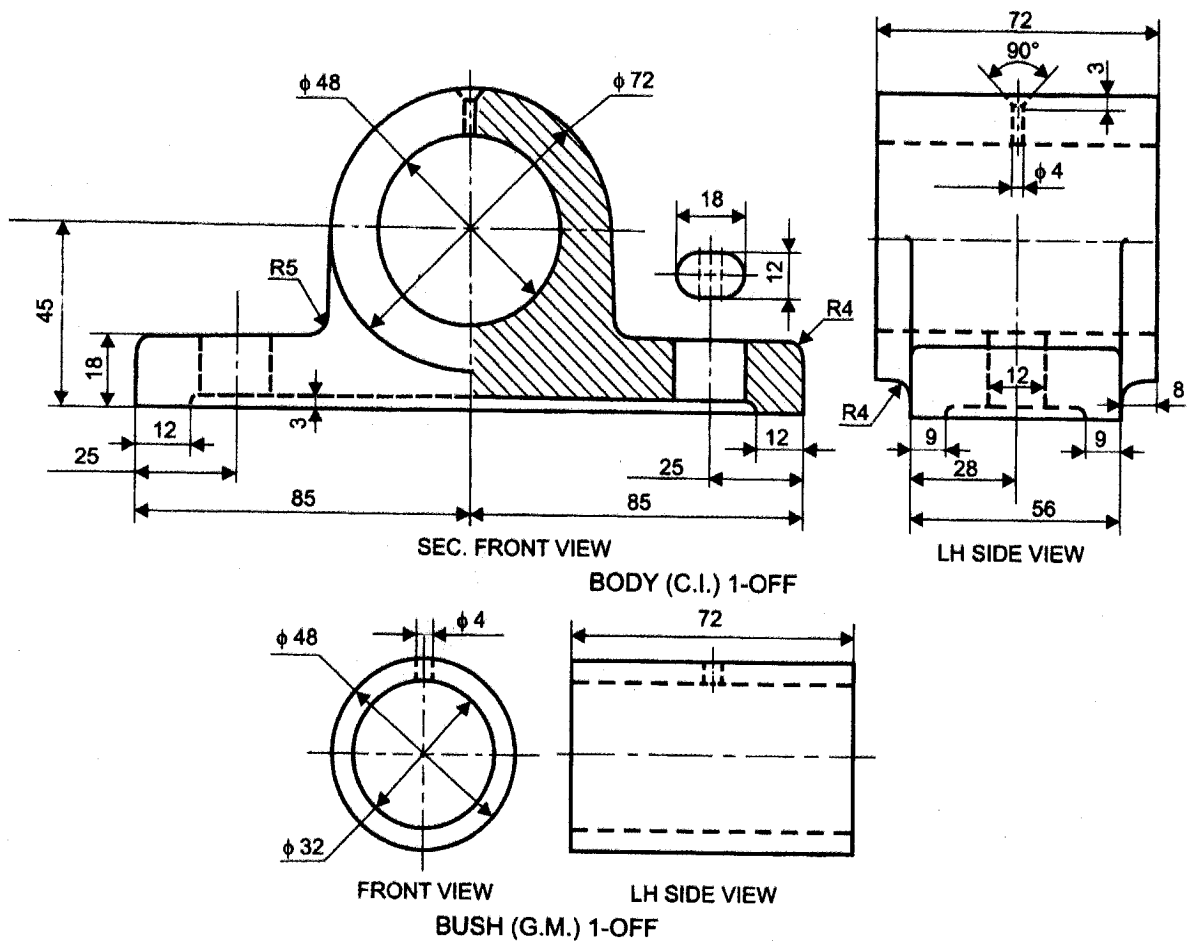
General Instructions:

- (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. 03
- (b) Draw the isometric projection to isometric scale of an inverted triangular pyramid of side 38 mm and height 75 mm, having one of the base sides perpendicular to VP. Indicate the direction of front view and mark all dimensions. 07
- (c) Draw the isometric projection to isometric scale of the combination of frustum of a pentagonal pyramid having one of its sides perpendicular to VP (base side = 30 mm, top side = 45 mm, height = 55 mm), resting vertically and centrally on the rectangular face of a hexagonal prism (side = 45 mm, height = 80 mm). One of the sides of the prism is parallel to VP. Indicate the direction of view and mark all dimensions. 14
- Q2 (a) Draw to scale 1:1, the standard profile of Metric thread (external), taking enlarged pitch as 50 mm. Give standard dimensions. 08
- (b) Sketch freehand the front view and top view of a snap head rivet of diameter 25 mm keeping its axis vertical. Give standard dimensions. 05
- Q3 Answer the following Multiple Choice Questions. Print the correct choice on your answer sheet. 05
1. In parallel keys the thickness
- a. Changes with the length of the key
 - b. Remains same throughout the length of the key.
 - c. Increase along the length
 - d. None of these

2. Isometric view is a kind of
- Perspective projection
 - Oblique projection
 - Axonometric projection
 - None of the above
3. In first angle projection the order of object, plane and observer, as viewed from the front is
- Object, Plane and Observer
 - Object, Observer and Plane
 - Plane, Observer and Object
 - Observer, Object and Plane
4. The width of a key "w" (as per standard dimensions) for a shaft of diameter $d = 60\text{mm}$ is
- 10mm
 - 15mm
 - 20mm
 - 30mm
5. The flank angle for unified thread is
- 45°
 - 55°
 - 30°
 - 60°

- Q4 Fig 1 shows details of **BUSHED BEARING**. Assemble the parts correctly and draw the following views to scale 1:1. 28
- Front view ,left half in section
 - Top view
 - Left side view.
- Print title and scale used. Draw the projection symbol and mark all dimensions.



End of the Question Paper