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SET A



**INDIAN SCHOOL MUSCAT
SECOND PRE-BOARD EXAMINATION
ENGINEERING GRAPHICS**

CLASS: XII

Sub. Code: 046

Time Allotted: 3 Hrs.

14.04.2021

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 of 100mm length. 04
- B. Draw the isometric projection to isometric scale, of a hexagonal pyramid of side 25 mm and height 55 mm resting on HP on its base with one of the base edges parallel to VP and closer to it. Mark all dimensions and indicate the direction of view. 07
- C. Draw the isometric projection to isometric scale, of combination of a sphere (diameter 50 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. Mark all dimensions and indicate the direction of view. 13
- Q2 a. Draw the front elevation and plan of combination of a hexagonal bolt, a square nut and washer of nominal diameter 30 mm keeping its axis vertical, with two opposite sides of the hexagon and square parallel to VP. Give standard dimensions. 08
- b. Sketch freehand the front view and left side view of a 60° CSK RIVET of size M20, keeping its axis parallel to both VP and HP. Give standard dimension 05
- Q3 Answer the following Multiple Choice Questions and Print them on your answer sheet- 05
- A) has only one point of contact with the plane of rest.
- a. Cylinder
 - b. Cone
 - c. Sphere
 - d. Pyramid

B) fasteners are temporary fasteners.

- a. Threaded
- b. Welded
- c. Riveted
- d. Forged

C) threads are used for power transmission.

- a. Triangular
- b. Square
- c. Metric
- d. B.S.W

D) is used where sufficient space for the bolt is not available.

- a. Rivet
- b. Nut
- c. Washer
- d. Stud

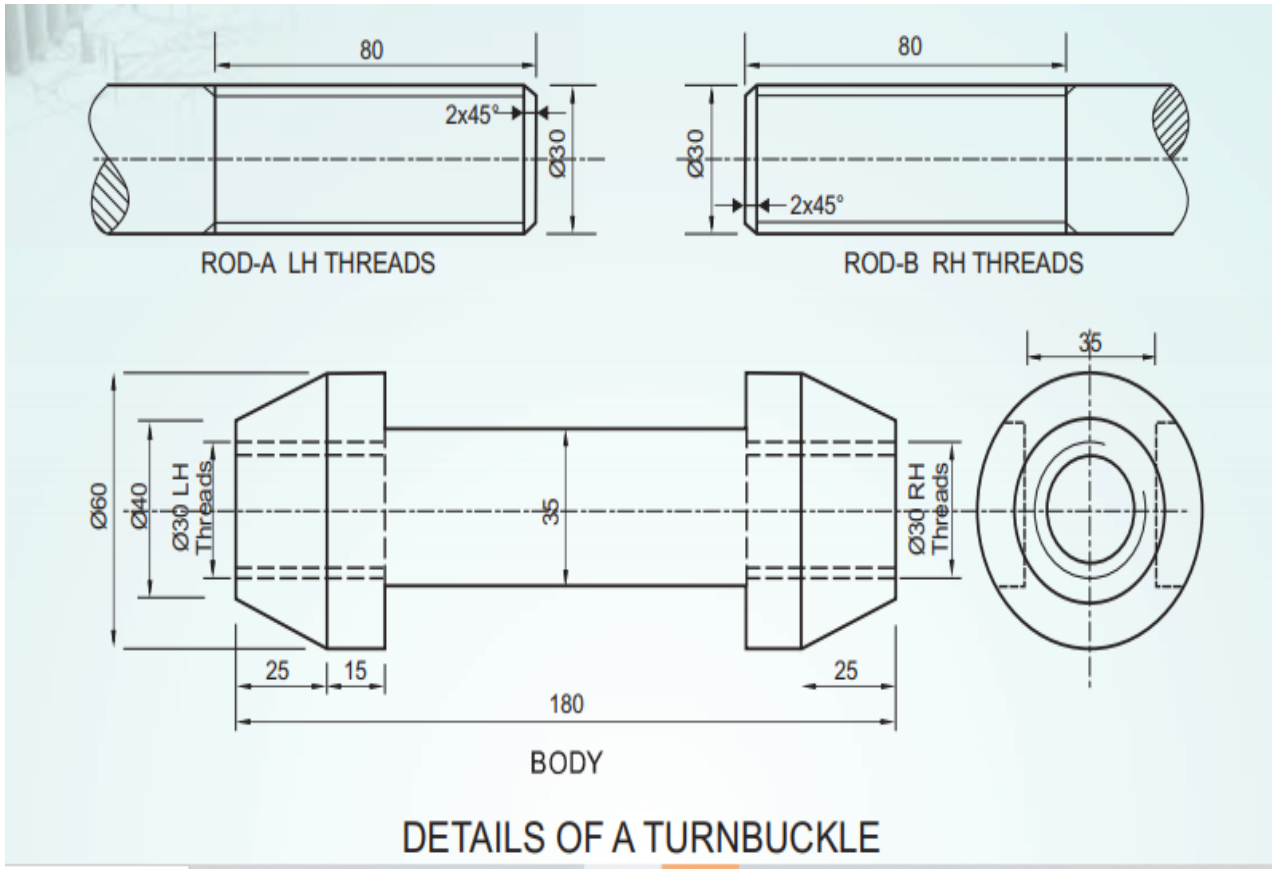
E) The taper in the cotter, keeps the joint alive even after some wear that takes place in the joint as

- a. The gap generated is automatically filled by the self-travel of the cotter.
- b. The taper prevents the sliding of the cotter when inserted in the rods.
- c. It connects the two rods rigidly in the direction of their length.
- d. All of the above.

Q4 The figure shows the details of the **TURN BUCKLE** .Inserting 55mm of the threaded portion of the rods, assemble the parts correctly and draw the following views to scale 1:1 28

- a. Front view, lower half in section.
- b. Right side view

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



End of the Question Paper