SET



## INDIAN SCHOOL MUSCAT FIRST PRELIMINARY EXAMINATION ENGINEERING GRAPHICS

CLASS: XII Subject Code: 046 Time Allotted: 3 Hrs

17.01.2019 Maximum Marks: 70

## **General Instructions:**

- (i) All dimensions are in millimeters.
- (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).
- 1. Answer the following Multiple-Choice questions. Print the correct choice on your drawing sheet.
  - I. An external thread is represented by
    - a) Discontinuous, Minor diameter circle.
    - b) Continuous, Minor diameter circle.
    - c) Discontinuous, Major diameter circle.
    - d) Continuous, Major diameter circle.
  - II. The length of a bolt is its total length
    - a) Including the height of bolt head.
    - b) Excluding the width of chamfering circle.
    - c) Including the thickness of bolt head
    - d) Excluding the height and thickness of bolt head
  - III. Which is the modified form of square thread?
    - a) V-Thread.
    - b) Metric Thread.
    - c) Knuckle Thread.
    - d) B.S.W Thread
  - IV. In first angle projection the order of object, plane and observer, as viewed from the front is
    - a) Object Plane and Observer
    - b) Object, Observer and Plane
    - c) Plane, Observer and Object
    - d) Observer, Object and Plane
  - V. Name the portion between the rim and the hub of a cast iron pulley
    - a) Shaft
    - b) Gap
    - c) Bush
    - d) Web
- 2. a) Construct an isometric scale of length 110 mm

b) Construct an isometric projection of the frustum of a cone, having its axis perpendicular to the HP. The top diameter = 40 mm and base diameter = 50 mm and height of frustum is 70 mm. Give all dimensions. Draw the axis.

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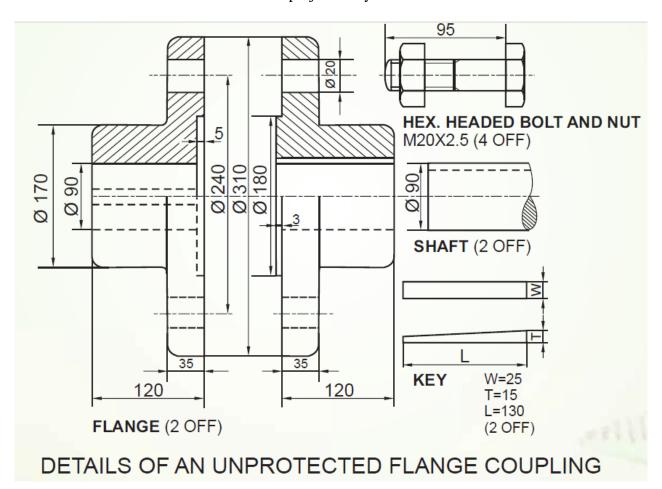
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- 3. Draw to scale 1:1, the front and side view of an assembly of a SQUARE HEADED BOLT (Across 8 flats) of nominal diameter, d= 30mm, with a hexagonal nut (Across corners) and a washer, keeping the axis horizontal. Length of the bolt = 120 mm, threaded portion of bolt = 80 mm and thickness of washer = 4 mm. Give all the standard dimensions.
- 4. Sketch freehand the front view and the top view of a round head machine screw of diameter = 20, 5 keeping its axis vertical. Give all the standard dimensions.
- 5. Figure shows the parts of an unprotected flange coupling (having socket and spigot arrangement).

  Assemble these parts correctly and then draw the following views to a scale full size:
  - i. Front view, upper half in section.
  - ii. Right hand side view.

Print the title and the scale used. Draw the projection symbol.



**End of the Question Paper**