SET: C

INDIAN SCHOOL MUSCAT
FIRST PRE-BOARD EXAMINATION
ENGINEERING GRAPHICS

CLASS: XII   Sub. Code: 046   Time Allotted: 3 Hrs.
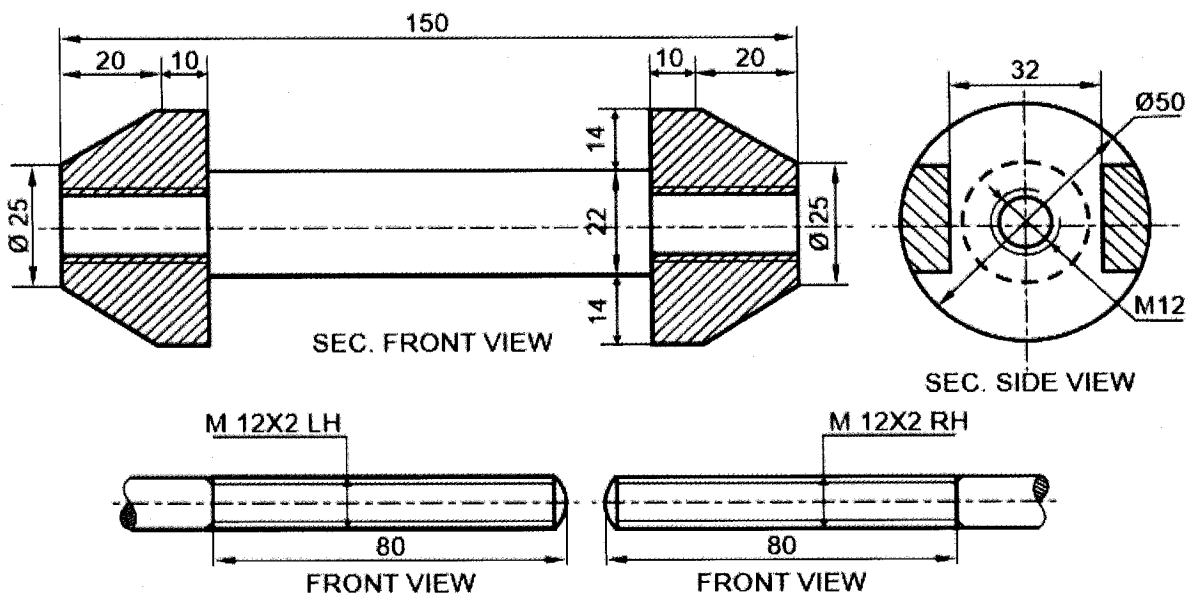
14.03.2021   Max. Marks: 70

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.   a) Construct an isometric scale of length 110 mm.   3

b) Draw the isometric projection of a frustum of a pentagonal pyramid having   7
longer base side 40 mm and shorter base side 30 mm with axis of 70 mm resting
on its longer base side base keeping one of its base side parallel to the V.P. and
nearer to the observer.

c) Draw an isometric projection of a vertical regular hexagonal pyramid resting   14
vertically and centrally having two of its base edge's perpendicular to V.P on the
top rectangular face of a horizontal square prism with its square end's
perpendicular to V.P. Side of the square = 50 mm, length of the prism = 100 mm,
side of the hexagon = 30 mm and height of the pyramid = 60 mm.

2.   Draw to scale 1:1, the standard profile of metric screw thread (internal) taking   8
enlarged pitch as 50 mm. Give standard dimensions.

3.   Sketch freehand the front view and top view of a collar stud, keeping the axis   5
perpendicular to H.P. Take nominal diameter = 20 mm. Give standard dimensions.

4.   I.   In Knuckle thread section (profile), if Radius = R for drawing a semicircular   5
curve, then the depth of the thread 'd' is equal to?
        a) 2R   b) R/2   c) 3R   d) R

II.   To show the threaded hole in a nut, the axial view consists of?
        a) Two thick circles
        b) Internal circle thick and the external as dotted
        c) Internal circle thick and the external circle as thin and broken
        d) Internal circle thin and the external as thick and broken

III. Which key is used to prevent slackening of the joint besides holding the jaws of strap from opening wide when the cotter is used?
   a) Woodruff key
   b) Rectangular Taper key
   c) Double headed feather Gib key
   d) Cotter key

IV. What is the purpose of an Open Bearing?
   a) To join two pipes
   b) To support the moving shaft
   c) To join two shafts
   d) To support the pipes

V. The portion of the shaft which rotates in the sleeve / bush of a bushed bearing is called as
   a) Journal
   b) Axle
   c) Rod
   d) Pipe

5. Figure shows the details of the parts of a TURN BUCKLE. Assemble these parts correctly, and the draw the following views using scale 1:1 i. Front view, lower half in section. ii. Right hand side view. Print the title and the scale used. Draw the projection symbol.   28

DETAILS OF A TURNBUCKLE

End of the Question Paper