Roll Number		

SET B

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) *Attempt all the questions.*
(ii) Use both sides of the drawing sheet, if necessary.
(iii) All dimensions are in millimeters.
(iv) Missing and mismatching dimensions, if any, may be suitably assumed.
(v) Follow the SP:46-2003 revised codes (with first angle method of projection).
(vi) In no view of question2, are hidden edges or lines required.
(vii) In question 4, hidden edges or lines are to be shown in views without section.
(viii) Number your answers according to questions.

1. Answer the following Multiple-Choice questions. Print the correct choice on your drawing sheet. 5

   I. In a single riveted lap joint, if 't' is the thickness of the plates, then the empirical formula for calculating of the diameter 'd' of the rivet will be?
      a) $4\sqrt{t}$
      b) $6\sqrt{t}$
      c) $2\sqrt{t}$
      d) $3\sqrt{t}$

   II. Which operations are used in a riveted joint to make it leak proof?
      a) Fullering
      b) Hammering
      c) Sketching
      d) None of these

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

IV. 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.

V. The ratio of the isometric length to the true length is

a) 3:2
b) 0.816: 1
c) 0.92:1
d) 1:2

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

b) Draw an isometric projection of a cylinder of height of 75 mm and diameter of 50 mm resting on its base keeping the axis parallel to VP. 7

c) Draw an isometric projection of a right circular cone resting vertically and centrally on the top horizontal rectangle of a pentagonal prism having its axis parallel to H.P and V.P both. Side of pentagon = 34 mm, length of the prism = 80 mm, diameter of the cone = 44 mm and height of cone =60 mm. 14

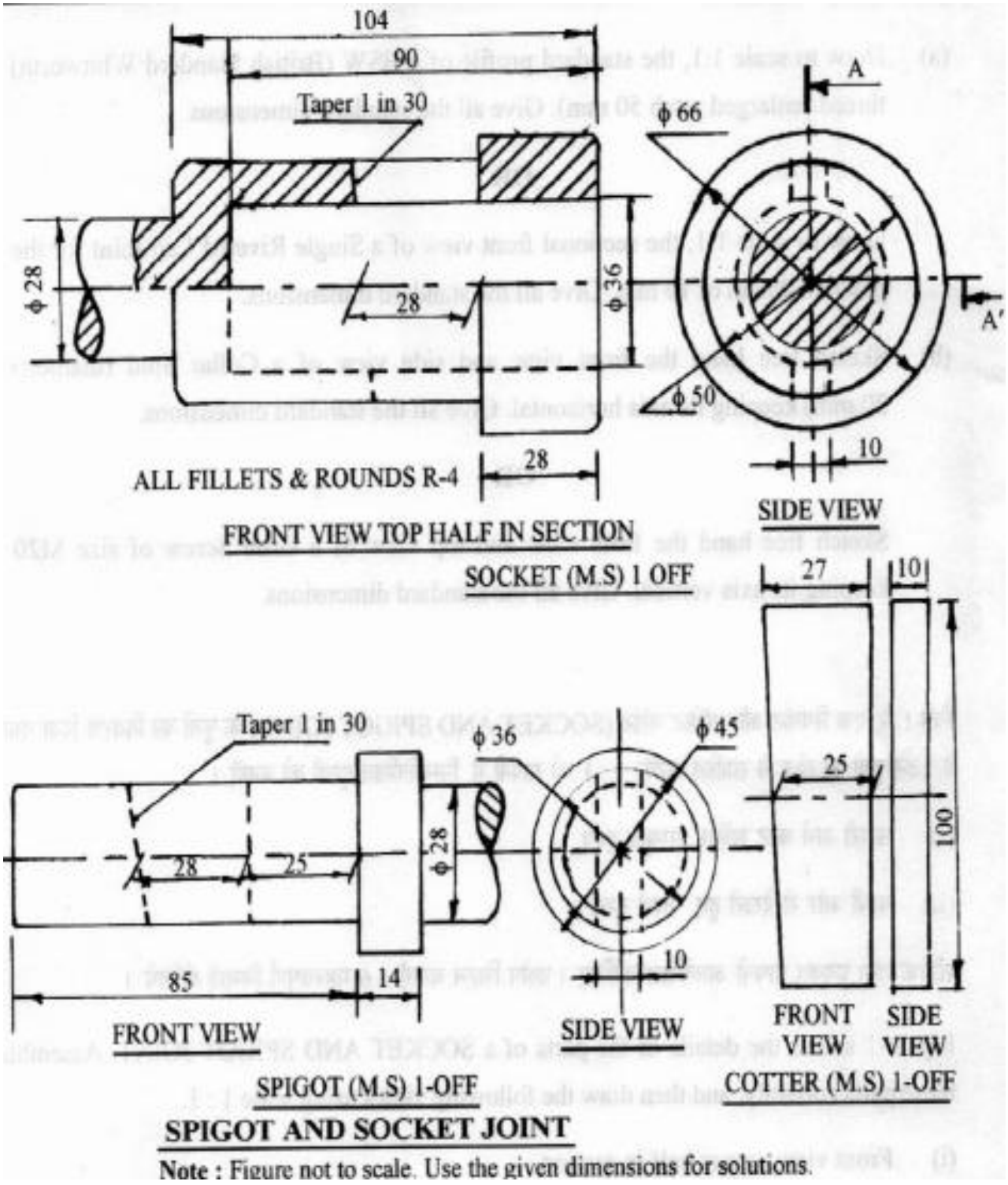
3. Draw to scale 1:1, the front view, top view and side view of a hexagonal headed bolt of diameter 25 mm with hexagonal nut and washer, keeping the axis parallel to H.P and V.P. 8

4. Sketch freehand a woodruff key in position, on a shaft of diameter, 48 mm, keeping the axis of the shaft parallel to H.P and V.P. Give standard dimensions. 5

5. Figure shows the details of the parts of a SOCKET AND SPIGOT JOINT. Assemble these parts correctly, and the draw the following views using scale 1:1 28

i. Front view, lower half in section.
ii. Right hand side view.

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



End of the Question Paper