INDIAN SCHOOL MUSCAT
HALF YEARLY EXAMINATION 2023
ENGINEERING GRAPHICS (046)

CLASS : XI

DATE: 20-09-2023

TIME ALLOTED : 3 HRS.

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 millimetres.

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)

1. Draw a square, pentagon, hexagon, heptagon and an octagon upon a common base side of 30 mm — 7

2. Inscribe 5 equal circles in a pentagon of side 30 mm, each circle touching two sides of the pentagon. — 10

3. Inscribe four equal circles in a square of side 40 mm each circle to touch two sides of square and two other circles. — 5

4. Draw the orthographic projections of the following points- — 4
   a. Point 'F' in HP and 40 mm behind VP.
   b. Point 'G' 40 mm below HP and 25 mm in front of VP.
   c. Point 'H' in VP and 40 mm below HP.
   d. Point 'J' in both HP and VP.

5. A pentagonal lamina of edge 45 mm is parallel to HP and 20 mm above it. One of its edges is parallel and nearer to VP. This parallel edge is 25 mm away from VP. Draw its orthographic projections — 4

6. A 60° set square of 100mm longest side is so kept that the longest side is in the HP, making an angle of 30° with the VP and the set square itself inclined at 45° to the HP. Draw the projections of the set square. — 10

7. A hexagonal prism, base 40 mm side and height 65 mm is resting on HP on one of its base edges. The rectangular face containing the base edge on which the prism is resting is inclined at 45° to VP. Draw its orthographic projections. — 10

8. Three equal spheres of 40 mm diameter are resting on HP so that each touch the other two and the line joining the centers of two of them is parallel to VP. A fourth sphere of 50 mm diameter is placed on top of three spheres so as to form a pile. Draw the front view, top view and left side view of the arrangement. — 15

9. Construct an ellipse of major axis 110 mm and minor axis 70 mm by construction of arcs method. — 5

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