SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY SURAT

Civil/Mechanical Engineering Department

B.Tech. (Divisions A-G) Semester-I

Mid-Semester Examination, January 2021 (Mode of Exam: Open Book System)

Subject: Engineering Drawing (CEME 105)

Date: 23/01/2021 **Duration:** 2 Hours (11.30 am – 01.30 pm) **Max. Marks:** 30

Instructions:

i) Figures to the right indicate full marks for the question.
ii) Assume suitable data if necessary and mention clearly the same.
iii) Answer sheets must be in .pdf format and submitted as per your teacher instructions.
iv) All pages of the answer sheets must contain your enrolment No. and name at top.

Q. 1 A stone is thrown from a 4 *m* high building and its highest flight, the stone just crosses the top of a 10 *m* high tree from the ground. Trace the path of the projectile, if the horizontal distance between the building and the tree is 5 *m*. **(07)**

Q. 2 A 50 *mm* diameter circle rolls outside a circle of diameter 180 *mm* for one revolution. Trace the path of a point lying on the circumference of the rolling circle. Name the curve. **(07)**

Q. 3 Draw an Archimedean spiral 1.5 of convolutions within a circle having 90 mm radius. Also, draw a tangent and a normal to the curve at a point 50 mm from the pole. **(07)**

Q. 4 (a) A 65 *mm* long line PQ, has its end P 25 *mm* above the HP and 20 *mm* in front of the VP. The line is inclined at 45^o to the HP and 30^o to the VP. Draw its projections. **(06)**

(b) A 70 *mm* long line AB laying on the HP is inclined at 30^o to the VP. Its end P is 20 *mm* in front of the VP. Draw the projections of the line and determine its traces. **(03)**

OR

Q. 4 A hexagonal plane of side 25 *mm* has a corner on the ground. Its surface is inclined at 50^o to the HP and top view of the diagonal through the corner which is in the HP makes an angle of 55^o with the VP. Draw its projections. **(09)**

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