

Total No. of Questions : 8]

SEAT No. :

P977

[Total No. of Pages : 2

[5869]-212

S.E. (Automobile & Mechanical Engineering / Automation & Robotics & Mechanical Sandwich)

**SOLID MODELING AND DRAFTING
(2019 Pattern) (Semester - II) (Theory)**

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Use of programmable calculator is not permitted.
- 5) Assume suitable data, if necessary.

- Q1)** a) Explain B-rep-CSG? [8]
b) What is solid modeling? Explain it with types and advantages? [6]
c) What is feature based modeling? Explain in brief? [4]

OR

- Q2)** a) What is Geometry & Topology? Also differentiate between Sweep & Loft? [6]
b) What is parametric modeling? Explain it in brief? [6]
c) Explain Assembly modeling & DFA? [6]

- Q3)** a) What is the transformation? Explain it in details with classification? [6]
b) Given a square with coordinate with coordinates points A (0,3),B (3,3),C(3,0) and D (1,0). App the translation with distance 1 towards x axis and 1 with towards Y axis. obtain the new coordinates of the square. [8]
c) What is scaling? Explain with neat sketch. [4]

OR

- Q4)** a) Differentiate between rotation, translation & Mirror. [6]
b) Given a line segment with starting point as (0,0) and ending points as (4,4) Apply 30 degree rotation anticlockwise direction on the line segment and find out the new coordinates of the line. [8]
c) Explain coordinate system with types in brief? [4]

P.T.O.

- Q5)** a) Explain CAD Kernels with types [6]
b) Explain STEP with scope and Architecture. [6]
c) Explain requirement of CAD file format for CAE. [6]

OR

- Q6)** a) Explain requirement of CAD file format for Multi-Body Dynamics. [6]
b) Explain requirement of CAD file format for computer Aided Inspection (CAI) [6]
c) Explain CAD geometry cleanup and tools used for it. [6]

- Q7)** a) Explain model based definitions (MBD) with advantages. [6]
b) What is CAD customization? Explain it with advantages and disadvantages? [6]
c) State applications of PMI & MBD. [4]

OR

- Q8)** a) Explain Development in part Modeling in CAD Customization. [6]
b) Explain Assembly Modeling CAD Customization. [6]
c) Explain Application programming Interface (API) [4]

