

Total No. of Questions : 8]

SEAT No. :

PE-4351

[Total No. of Pages : 2

[6582]-125

**S.E. (Automobile & Mechanical/Automation & Robotics/
Mechanical Sandwhich)**

**SOLID MODELING & DRAFTING
(2019 Pattern) (Semester - III) (202042)**

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Answer Q1 or Q2, Q3 or Q4, Q.5 or Q.6, Q.7 or Q.8*
- 2) *Figures to the right indicate full marks.*
- 3) *Neat diagrams must be draw, wherever necessary.*
- 4) *Assume suitable data wherever necessary.*

Q1) a) Explain Constructive Solid Geometry in detail with advantages and disadvantages. **[9]**

b) What is Geometry & Topology? Also differentiate between Sweep & Loft? **[8]**

OR

Q2) a) Explain the concept of Parametric Solid Modeling with its advantages and disadvantages? **[9]**

b) What do you mean by assembly modeling? Also differentiate between bottom up assembly and top down assembly. **[8]**

Q3) a) Given a triangle with corner coordinates (0, 0), (1, 0) and (1, 1). Rotate the triangle 90 degree anticlockwise direction and find out the new coordinates. **[9]**

b) Compare between translation, scaling, rotation. **[9]**

OR

Q4) a) Explain with neat sketches the any two types of coordinate system? **[8]**

b) What is Geometric Projection? Explain any two types of projections in details. **[10]**

P.T.O.

- Q5) a)** Explain CAD conversion with its advantages and disadvantages? [8]
- b)** Explain CAD Kernels in details with its different types. [9]

OR

- Q6) a)** Explain Computer Aided Engineering with its benefits and applications. [8]
- b)** What is Additive Manufacturing? Explain the 3D printing with principal of working, advantages and disadvantages? [9]

- Q7) a)** Explain in detail Model Based Definitions (MBD). How the MBD approach is different from the traditional approach? [9]
- b)** What is CAD customization? Explain Need for CAD Customization. [9]

OR

- Q8) a)** Write a short note on any two of the following. [10]
- i) Application Programming Interface (API)
 - ii) Coding/Scripting for customization.
 - iii) CAD API and macros.
- b)** Explain CAD Automation with types and suitable examples? [8]