

Total No. of Questions : 8]

SEAT No. :

P-9680

[Total No. of Pages : 2

[6179]-327

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

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

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Answer 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) *Assume suitable data wherever necessary.*

Q1) a) What is Geometry & Topology? Also differentiate between Sweep & Loft? **[8]**

b) What is sweep representation in solid modeling? Explain any four types with neat sketches. **[9]**

OR

Q2) a) What do you mean by assembly modeling? Also differentiate between bottom up assembly and top down assembly. **[8]**

b) Explain the concept of feature based modeling with its advantages and disadvantages. **[9]**

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) What is the transformation? Explain it in details with classification? **[9]**

OR

Q4) a) What is Geometric Projection? Explain any two types of projections in details. **[10]**

b) Write a short note on any two with neat sketch. **[8]**

i) Model Coordinate System (MCS)

ii) Working Coordinate System (WCS)

iii) Screen Coordinate System (SCS)

P.T.O.

- Q5) a)** Explain the any two file formats with its significance and advantages. [10]
b) Explain Data Interoperability with its issues encountered for implementing in CAD? [7]

OR

- Q6) a)** Explain the concept of Multi-Body Dynamics with suitable example? [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)** Explain CAD Automation with types and suitable examples? [9]
b) Explain Application Programming Interface in details with its advantages & disadvantages. [9]

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