Total No. of Questions : 8]

SEAT No. :

PB-4463

[Total No. of Pages : 2

[6261]-125

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

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, if 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) Write note on any two of the following. **[8]**

i) Design for Manufacturing (DFM)

ii) Design for Assembly (DFA)

iii) Design for Safety (DFS)

Q3) a) Given a square with coordinate with coordinates points A (0,3), B (3,3), C (3,0) and D (0,0). Apply the translation with distance 1 towards X axis and 1 with towards Y axis. Obtain the new coordinates of the square. **[9]**

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

OR

P.T.O.

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]**

Q5) a) Explain CAD conversion with its advantages and disadvantages? **[9]**

b) Explain CAD Kernels in details with its different types. **[9]**

OR

Q6) a) Explain Computer Aided Engineering with its benefits and applications. **[9]**

b) Explain the concept of CAD Geometry Clean-up with suitable example? **[8]**

Q7) a) Explain the concept of Product and Manufacturing Information in details with neat sketch? **[9]**

b) Explain CAD customization with advantages, disadvantages and applications. **[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 process working and advantages. **[8]**

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