

Code: 9A03806

R09

B.Tech IV Year II Semester (R09) Regular & Supplementary Examinations April 2016

GEOMETRIC MODELING

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

- 1 What are the logical devices for various input data in graphics? Explain the role of mouse, joy-stick and tablet.
- 2 Explain the steps required to fill the polygon using flood fill technique.
- 3 Develop an algorithm to find a set of vertices making a regular 2-D polygon. You may use only transformations on points. Input parameters are the starting point $P_0 (0, 0)$, number of edges n and length of each edge l .
- 4 Explain Weiler-Atherton polygon clipping algorithm and state its advantages over Sutherland-Hodgeman polygon clipping algorithm.
- 5 Describe briefly the following methods of surface modeling with a few applications examples:
 - (a) Revsurf.
 - (b) Bicubic surface.
 - (c) Bezier surface.
- 6 Explain the composite transformations.
- 7 Write short notes on the following visible surface detection methods:
 - (i) Object-space method.
 - (ii) Image-space method.
- 8 Explain the general motion specification in computer animation.
