



PART B — (5 × 13 = 65 marks)

11. (a) Discuss the stages in the product life cycle and the importance of each stage.

Or

- (b) Discuss the significance of concurrent engineering approach in limiting design changes.

12. (a) Write short notes on parametric representation of synthetic surfaces.

Or

- (b) Discuss the following for B-rep and CSG schemes: (i) how to represent surface normals and neighborhoods (ii) how to develop a classification algorithm.

13. (a) With a diagram, explain generic hidden line algorithm.

Or

- (b) Briefly explain various visibility techniques. Give suitable sketches wherever possible.

14. (a) Briefly explain the following traditional tolerance analysis methods with examples. (i) Worst-case analysis (ii) Root sum of squares.

Or

- (b) Write short notes on (i) Assembly modeling (ii) Mechanism simulation.

15. (a) Explain the Initial Graphics Exchange Specification methodology.

Or

- (b) Write short notes on (i) Standards for computer graphics (ii) OpenGL.

PART C — (1 × 15 = 15 marks)

16. Generating and displaying contour images in engineering applications (ex: stress contours in finite element analysis) provide designers with valuable information for sound design decisions. Propose a method and algorithm to develop these contours and their images with a detail case study.