

Code: 9A03602

R09

B.Tech III Year II Semester (R09) Supplementary Examinations December/January 2015/2016

CAD/CAM

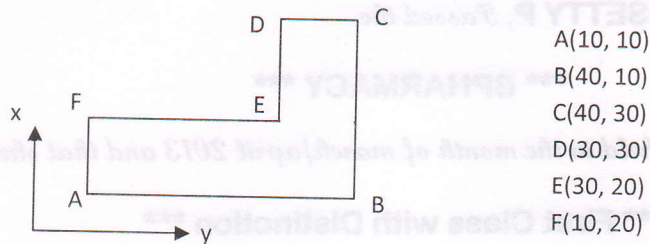
(Common to ME and MCT)

Time: 3 hours

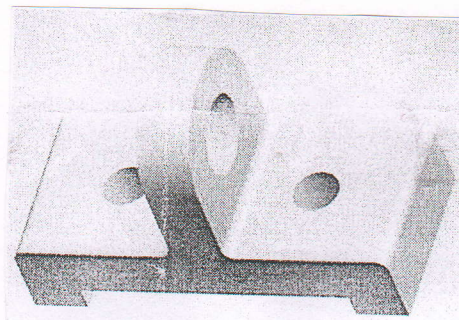
Max Marks: 70

Answer any FIVE questions
All questions carry equal marks

- 1 (a) Discuss the various stages in the product life cycle development with suitable examples and block diagrams.
- (b) Explain the hardware components in a typical CAD environment.
- 2 (a) Discuss the various components in raster scan graphics device.
- (b) Explain 2D translation and 2D rotation for the geometry given in figure below. Prove the transformed geometry. Assume the required data.

Two dimensional geometrical shape

- 3 (a) Discuss the features in solid modeling system with schematic diagrams. How these features are helpful in creating the solid models in an effective manner?
- (b) Explain the various operations to build the solid model shown in figure below with CSG method.

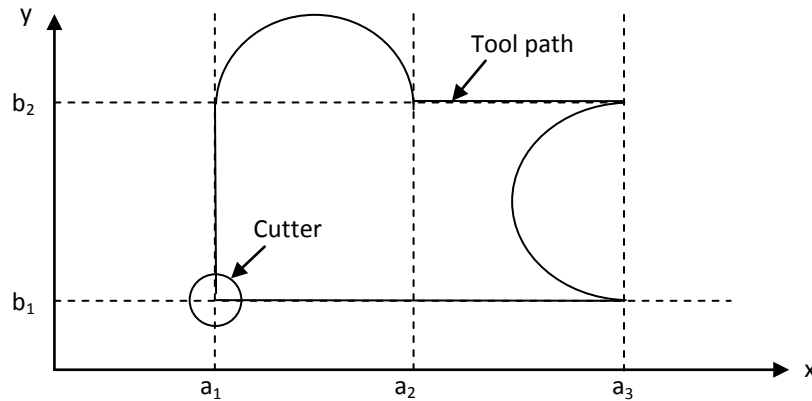
Solid model of an object

Contd. in page 2

R09

Code: 9A03602

- 4 (a) Describe the concept of linear and circular interpolations with suitable sketches.
(b) Write CNC part program to machine the component shown in figure below. Use absolute programming mode and ignore the compensation for the diameter of the cutter. Ignore any overlap in tool path.



Typical tool path for end milling process

- 5 (a) Explain the role of process planning in manufacturing industry and discuss generative type of process planning system in detail.
(b) Explain the benefits of Group Technology in manufacturing industry. Give one case study.
- 6 (a) With a schematic diagram, discuss the various components in the Flexible Manufacturing system.
(b) Specify the applications of Flexible Manufacturing systems.
- 7 What is the capacity planning? Explain the different components in the capacity planning.
- 8 Explain the role of inspection process in quality control system and discuss any two inspection methods that are used in a manufacturing industry while controlling the quality. Provide a suitable case – study.
