

B.Tech III Year II Semester (R13) Regular Examinations May/June 2016

CAD/CAM

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 70

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- What are the various activities of a manufacturing plant which can be carried out through computer control?
 - What is homogeneous transformation?
 - What are the common modeling methods available for surface design in a surface modeling software?
 - What are the commands and their sequence to create 2D and 3D wire frame models of the following components: (i) A bracket? (ii) A spur gear?
 - Differentiate among design model, work piece model and manufacturing model in CAM software.
 - Why is a ball nose cutter used in machining of curved surfaces?
 - What are the benefits of Group Technology?
 - What are the objectives of computer aided quality control?
 - How does a bar code reader work?
 - Why is master schedule important? How does master schedule accommodate flexibility in manufacturing?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 What are the various activities of a manufacturing plant which can be carried out through computer control?

OR

- 3 With neat sketch explain the main elements of CIM systems.

UNIT – II

- 4 Describe briefly the following methods of surface modeling with a few application examples:

- Bicubic surface.
- Bezier surface.

OR

- 5 Compare the splines for the same control points created by B - spline and Bezier- spline techniques.

UNIT – III

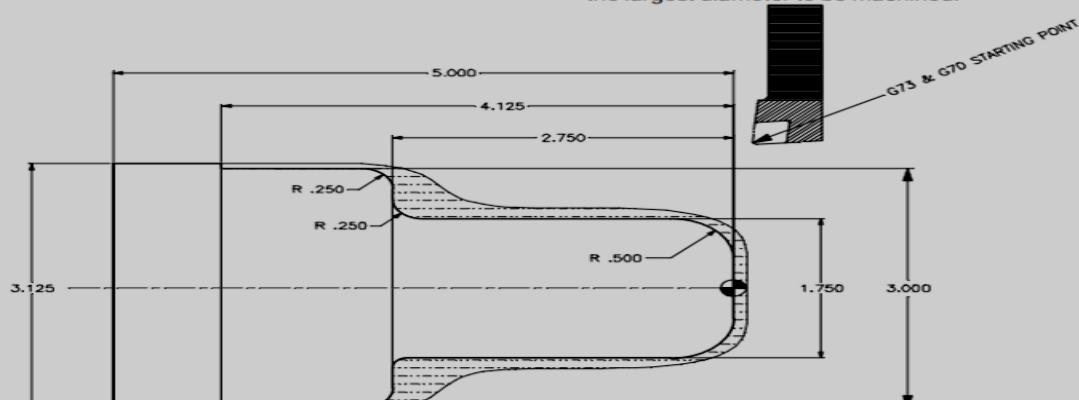
- 6 Explain the various type of adaptive control machining system.

OR

- 7 Write a CNC program for a given component below, using G and M Code.

G73/G70 EXERCISE WITH TOOL NOSE COMP.

It's usually best to position the tool above the largest diameter to be machined.



UNIT – IV

- 8 With the aid of an example, explain OPITZ parts classification and coding systems.

OR

- 9 With neat sketch explain the working principle of Coordinate Measuring Machine (CMM) used for contact inspection of machine parts.

UNIT – V

- 10 Explain with neat sketches the variant and generative approaches of CAPP systems with advantages and disadvantages highlighted.

OR

- 11 Explain the various of module of material requirement planning and capacity requirement planning.

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