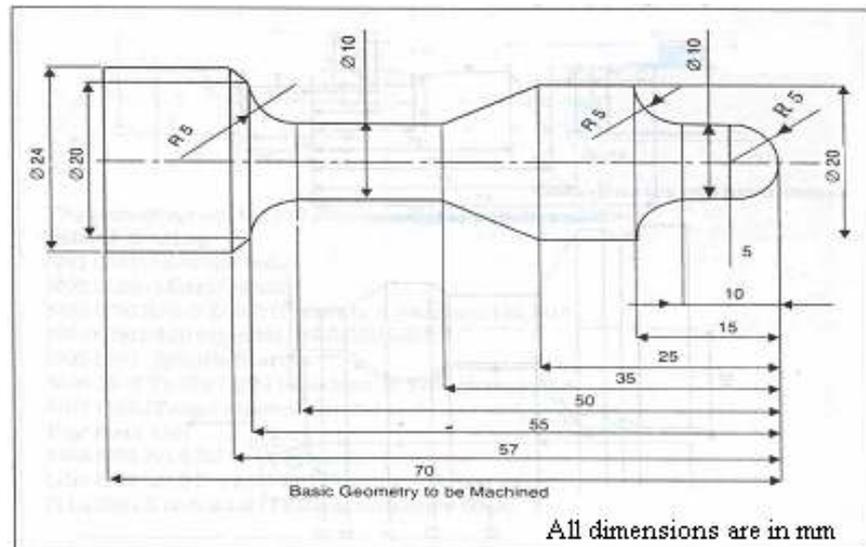


GUJARAT TECHNOLOGICAL UNIVERSITYB. E. VIIth Semester–Examination – Nov- 2011**Subject code: 171903****Subject Name: Computer Integrated Manufacturing****Date: 24/11/2011****Time: 10:30 am – 01:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a)** List types of manufacturing systems and compare each with respect to flexibility, variety and production quantity. Also state potential benefits of CIM. **07**
- (b)** Differentiate between NC and CNC. List their advantages and limitations. **07**
- Q.2 (a)** Write a manual part program for the component shown in the figure below. **07**



- (b)** Explain various types of tape readers with sketch used in NC machines **07**
- OR**
- (b)** Write a short note on recirculating ball screw used in CNC machines with sketch. **07**
- Q.3 (a)** Explain geometrical and motion statements used in APT with illustration. **07**
- (b)** What is group technology? Explain opitz classification and coding system in brief **07**
- OR**
- Q.3 (a)** Explain with illustration;
- (i) Drilling canned cycle
 - (ii) Parametric subroutine
 - (iii) Fixed zero and floating zero
- (b)** What is FMS? List different flexibilities associated with FMS and explain any two in brief **07**
- Q.4 (a)** Explain the inputs of MRP system in brief **07**
- (b)** Distinguish between variant and generative type CAPP stating their advantages **07**
- OR**

- Q.4 (a)** Write a short note on MRP II **07**
(b) Elaborate the role of elements of CIM with the help of CIM wheel **07**
- Q.5 (a)** Explain commonly used robot programming language with illustration **07**
(b) Write a short note on Automated Guided Vehicles associated with FMS **07**
- OR**
- Q.5 (a)** Describe with sketch ASRS **07**
(b) Define robot. Select most suitable robot configuration for following aspects with **07**
justification;
- (i) Maximum accuracy requirements
 - (ii) Minimum space requirements
 - (iii) Automobile Car body painting
