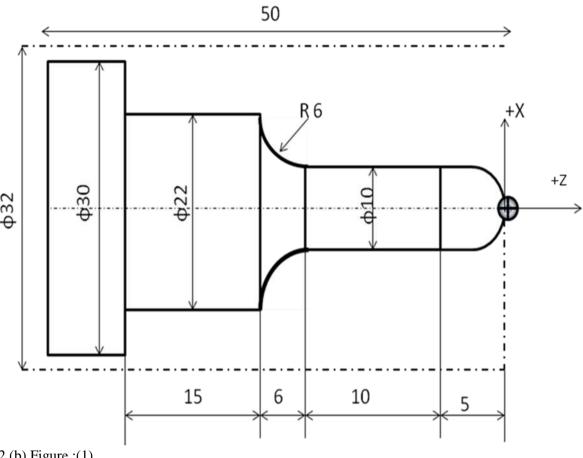
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GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VII EXAMINATION - WINTER 2015

| | • | t Code: 171903 Date: 09/12/2015 t Name: Computer Integrated Manufacturing | |
|-----|------------|---|-----------|
| Ti | • | 10:30am to 1:00pm Total Marks: 70 | |
| | 1. 2. | Attempt all questions. | |
| Q.1 | (a) | Classify CNC machines tools on the basis of: (i) Types of motion control (ii) According to programming Method | 07 |
| | (b | What are the objectives of CIM? Which major functional areas of the manufacturing enterprise considered for achieving CIM objectives? | 07 |
| Q.2 | (a) | (i) Explain the axes designation rules for machine tools employing rotating tools. Sketch a vertical machining center and designate its axes.(ii)Explain the term "Work Volume" with respect to Robot. | 04 03 |
| | (b) | Write a CNC program using appropriate G and M code to turn component as shown in figure (1). Raw material: MS Φ 32 X 50 mm, cutting speed V= 40 m/min and feed=0.1, Assume suitable data for depth of cut. | 07 |
| | <i>a</i> > | OR | 0.7 |
| | (b) | What are canned cycles? What is the difference between a canned cycle and subroutine? Discuss how a canned cycle can be useful in writing a part program. | 07 |
| Q.3 | (a) | What is part classification and coding requirements in GT. Explain OPTIZ system of coding. | 07 |
| | (b) | Explain the types of flexibilities in FMS and discuss the factors on which these flexibilities depend. | 07 |
| Q.3 | (a) | OR Describe with neat sketch AS/RS system used in FMS | 07 |
| | (b) | What is Adaptive control system? | 07 |
| Q.4 | (a) | (1)What are the input parameters in MRP-I?(2) What is the difference between MRP-I &MRP-II? | 03 04 |
| | (b) | What are the different types of drives used in Robot. OR | 07 |
| Q.4 | (a) (b) | Discuss various applications of robots. What are the auxiliary statements in APT language? Explain with suitable examples any four auxiliary commands. | 07 07 |
| Q.5 | (a) (b) | Explain various sensors and actuators used in robots. Explain in detail composite part. OR | 07 07 |
| Q.5 | (a) | What is computer integrated production management system? Explain with neat | 07 |

Explain JIT technique used in auto industries. **(b)**



Q2.(b) Figure :(1)
