

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (Old) EXAMINATION – WINTER 2019****Subject Code: 171903****Date: 28/11/2019****Subject Name: Computer Integrated Manufacturing****Time: 10:30 AM TO 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) Define NC, CNC and DNC machine. List advantages of CNC machine over NC machine. **07**
- (b) List types of manufacturing systems and compare each with respect to flexibility, variety and production quantity. Also state potential benefits of CIM **07**
- Q.2** (a) What is Group Technology? What are the advantages of GT in manufacturing? **07**
- (b) Explain with neat sketch AS/RS system used in FMS. **07**
- OR**
- (b) What is FMS? Explain any three flexibilities associated with FMS. **07**
- Q.3** (a) Which are the formats used for manual part programming? Explain word address format. Write word address format for milling and drilling operations. **07**
- (b) Explain canned cycle with suitable examples. **07**
- OR**
- Q.3** (a) Explain various types of tape readers with sketch used in NC machines. **07**
- (b) Write a part program for component shown in Figure.1. **07**

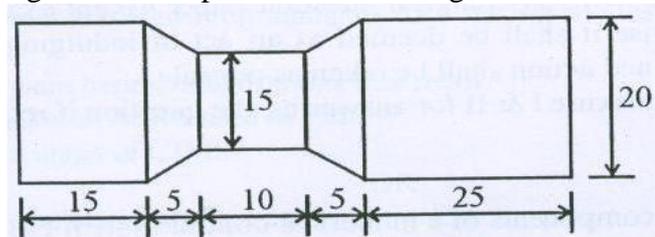


Figure 1
Dimensions are in mm.

- Q.4** (a) (1)What are the input parameters in MRP-I? **07**
- (2) What is the difference between MRP-I &MRP-II? **07**
- (b) Explain JIT technique used in auto industries. **07**
- OR**
- Q.4** (a) Explain Expert system with neat diagram. **07**
- (b) What is an AGV? What are different types of AGVs? What are the benefits of using AGVs? **07**
- Q.5** (a) Enlist and explain different elements of a robot. **07**
- (b) Explain with neat diagram retrieval type CAPP **07**
- OR**
- Q.5** (a) Discuss various applications of robots. **07**
- (b) What are the different types of gripper used in robot? Explain any two in detail. **07**
