

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (OLD) EXAMINATION – WINTER 2023****Subject Code:171903****Date:12-12-2023****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.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) What do you understand by CIM? Discuss the benefits of CIM and also draw a CIM wheel. **07**
(b) What are the basic components of CNC system? Briefly discuss each of them. **07**
- Q.2** (a) What do you mean by ATC? State necessary requirements for ATC. Explain any two ATC with neat sketch **07**
(b) Enlist the formats used for manual part programming? Explain word address format. **07**
- OR**
- (b) Discuss canned cycle with suitable examples. **07**
- Q.3** (a) What is part classification and coding requirements in GT. Explain OPTIZ system of coding. **07**
(b) Explain with neat sketch AS/RS system used in FMS. **07**
- OR**
- Q.3** (a) Define Group Technology (GT). State the main two hurdles in its implementation. Enlist various benefits of GT implementation in the industry. **07**
(b) State various automated programmed tools language. List various statements used in APT. Explain geometric statements of APT. **07**
- Q.4** (a) Discuss tool supply system in FMS. **07**
(b) Write down the names of different types of gripper used in robot? Explain any two in detail. **07**
- OR**
- Q.4** (a) What do you mean by robot sensing? What are the different sensors used in robotics. Discuss any two in brief. **07**
(b) State the main objectives of FMS. Explain various layouts used in FMS. **07**
- Q.5** (a) Explain production flow analysis with suitable example. **07**
(b) What are the objectives of MRP system? State the various input to MRP system. Draw an MRP structure. **07**
- OR**
- Q.5** (a) Explain in brief Programmable Logic Controllers. **07**
(b) What do you mean by computer integrated production management system? Explain with neat flow chart. **07**
