

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE**

**Supplementary Semester Examination – Summer 2022**

**Course: B. Tech.**

**Branch : Mechanical Engg.**

**Semester : VII**

**Subject Code & Name: BTMEC702 - CAD/CAM**

**Max Marks: 60**

**Date: 18/08/2022**

**Duration: 3.45 Hrs.**

**Instructions to the Students:**

1. All the questions are compulsory.
2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.
3. Use of non-programmable scientific calculators is allowed.
4. Assume suitable data wherever necessary and mention it clearly.

(Level/CO) Marks

**Q. 1 Solve Any Two of the following.**

- |   |       |    |
|---|-------|----|
| <b>A)</b> Explain various types of plotters used for CAD applications. Explain their relative advantages and limitations.   | CO-01 | 06 |
| <b>B)</b> A triangle with vertices A (1, 1); B (3, 3) and C (2, 3) is to be reflected about its edge AB. Find the final coordinates of the transformed triangle. (Use sequential transformation method) | CO-02 | 06 |
| <b>C)</b> Explain with the help of neat sketches, minimum three methods of generating circle using graphics software.   | CO-01 | 06 |

**Q.2 Solve Any Two of the following.**

- |  |       |    |
|--|-------|----|
| <b>A)</b> Why the surface modeling technique is used prominently in jewellery design using CAD? Also enlist the limitations of Surface modeling technique. | CO-03 | 06 |
| <b>B)</b> What is the meaning of CSG? In which particular cases is this technique more appropriate?  | CO-03 | 06 |
| <b>C)</b> Why splines are important in CAD modeling? Comment on the continuity requirements of Splines.  | CO-04 | 06 |

**Q. 3 Solve Any Two of the following.**

- |  |       |    |
|--|-------|----|
| <b>A)</b> Write a NC part program for finishing operation of the Job as shown in figure 1 below. | CO-05 | 06 |
|--|-------|----|

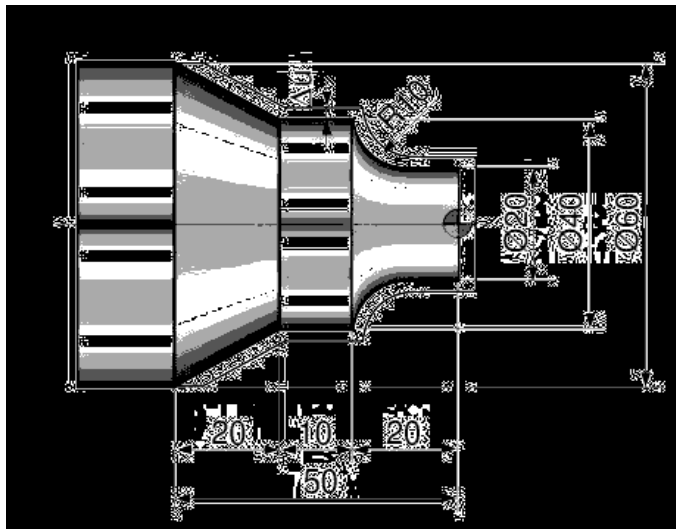


Figure 1

- B) Write a APT program for the milling operation (only finishing operation) of the Job as shown in figure 2 below. CO-05 06

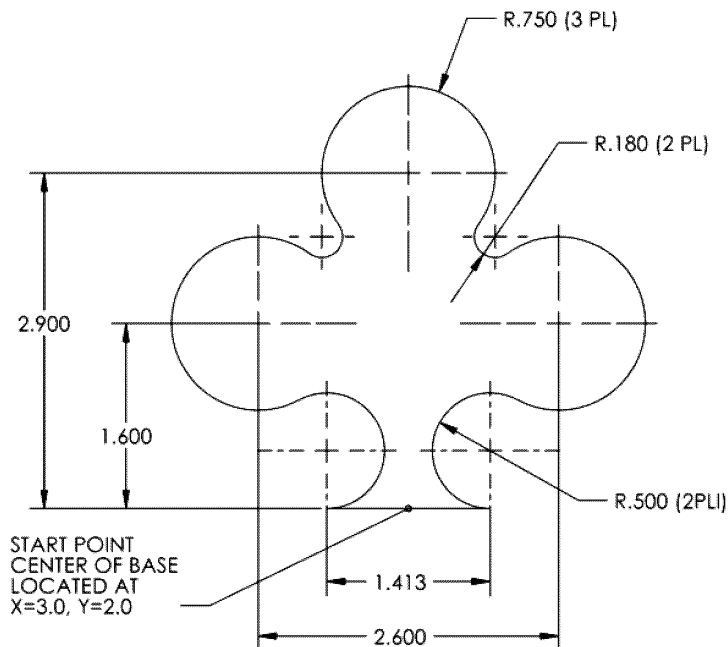


Figure 2

- C) What is the significance of shape function in Finite Element Method? Explain with the help of a suitable example. CO-06 06
- Q.4 Solve Any Two of the following.**
- A) Explain various types of FMS layouts using neat sketches. CO-07 06
- B) What is the meaning of composite part in GT? Explain with the help of neat sketches and suitable example. CO-08 06
- C) What are the situations where lead-through programming methods are preferred over the textual programming languages? Explain with the help of CO-07 06

practical examples.

**Q. 5 Solve Any Two of the following.**

- |  |       |    |
|--|-------|----|
| A) Explain the algorithm of generative type CAPP system.   | CO-09 | 06 |
| B) What is EOQ in inventory management? What are the main influencing factors in deciding the EOQ? Explain their significance. | CO-09 | 06 |
| C) Describe any one system/device/equipment used in Computer Aided Process Planning.   | CO-09 | 06 |

**\*\*\* End \*\*\***