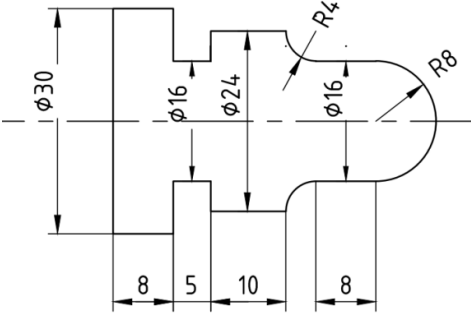
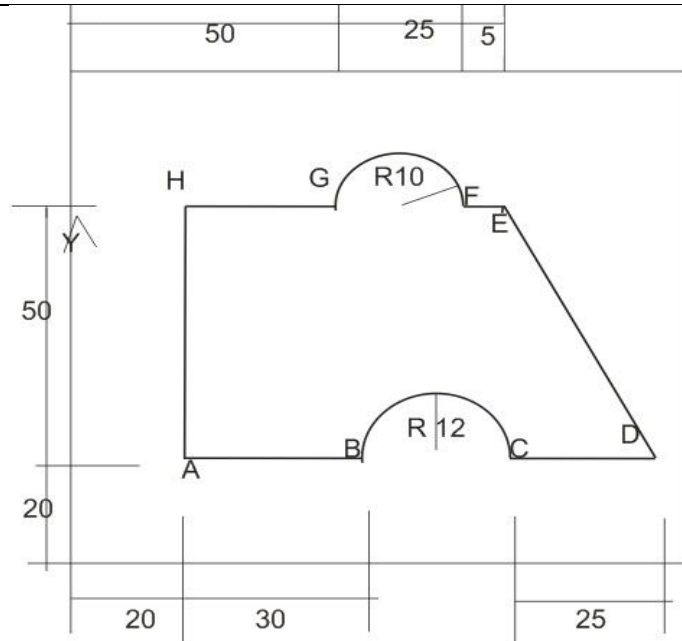


DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE Winter Examination – 2022 Course: B. Tech. Branch: Mechanical Engg. Semester : VII Subject Code & Name:BTMEC702 CAD/CAM Max Marks: 60 Date:30/01/2023 Duration: 3 Hr.			
Instructions to the Students: 1. All the questions are compulsory. 2. The level 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.		12
A)	Explain minimum three cursor control devices used as CAD input device.	CO-01	6
B)	A triangle with its coordinates A (1, 1), B (5, 1), and C (3, 4); is to be rotated about point 'A' by 30 degrees in counterclockwise direction. Carry out the transformations and find out the final coordinates of the transformed triangle.	CO-02	6
C)	Describe any three methods for defining line in a graphics software.	CO-01	6
Q.2	Solve Any Two of the following.		12
A)	Compare the CSG and B-Rep methods as a modeling technique for CAD.	CO-03	6
B)	What are the various windowing applications in CAD? Explain with the help of neat sketches and suitable examples.	CO-02	6
C)	Explain various types of Robotic Configurations based on work envelope.	CO-07	6
Q. 3	Solve Any Two of the following.		12
A)	What are the advantages of "Point to point control" in CNC systems? Also mention in which particular applications it will be recommended?	CO-05	6
B)	Write NC program for finishing operation of turning of the job as shown in following figure. <div style="text-align: center;">  <p>The drawing shows a turned part with the following dimensions: total length 30 mm, diameters of 16 mm, 24 mm, and 16 mm. Horizontal dimensions are 8 mm, 5 mm, 10 mm, and 8 mm. Radii are R4 and R8.</p> </div> <p style="text-align: center;">All dimensions are in mm</p>	CO-05	6
C)	Write NC program for finishing operation of milling of outer surface of the job as shown in following figure.	CO-05	6



All the dimensions are in mm

Q.4	Solve Any Two of the following.		12
A)	Explain the terms: A. Field variables B. Shape function C. Stiffness matrix	CO-06	6
B)	Explain various properties of stiffness matrix	CO-06	6
C)	Explain various advantages of Finite Element Methods	CO-06	6
Q. 5	Solve Any Two of the following.		12
A)	Explain various types of layouts used in a manufacturing industry.	CO-07	6
B)	What is composite part in Group Technology? What are its advantages?	CO-08	6
C)	Explain the generative CAPP system.	CO-08	6
	*** End ***		