Hall Ticket Number:

Code No. : 15548 S N

VASAVI COLLEGE OF ENGINEERING *(AUTONOMOUS)*, HYDERABAD

Accredited by NAAC with A++ Grade

B.E. (Mech. Engg.) V-Semester Supplementary Examinations, June-2023

CAD/CAM

Time: **3 hours** Max. Marks: **60**

Note: Answer all questions from ***Part-A*** *and any* ***FIVE*** *from* ***Part-B***

Part-A (10 × 2 = 20 Marks)

Q. No.	Stem of the question	M	L	CO	PO
1.	List various wire frame entities.	2	1	1	1
2.	State parametric and non-parametric representation of circle.	2	2	1	1
3.	What is meant by surface of revolution? Explain with the help of neat sketch.	2	2	2	1
4.	Explain the importance of transformations in CAD software.	2	2	2	1
5.	How is cutter radius compensation specified in a machining centre?	2	3	3	1
6.	Differentiate incremental and absolute positioning systems.	2	2	3	2
7.	State the advantages of DNC over CNC.	2	3	4	2
8.	Describe robot anatomy with the help of neat sketch.	2	2	4	1
9.	Categorize various 3D printing processes.	2	1	5	1
10.	What is meant by point cloud data acquisition?	2	2	5	1
	Part-B (5 × 8 = 40 Marks)				
11. a)	Summarize the importance of geometric modeling in manufacturing industry.	3	2	1	1
b)	Derive the parametric representation of hermite cubic spline in matrix form.	5	3	1	1
12. a)	State and explain various 2D transformations available along with related transformation matrices.	5	1	2	1
b)	Explain the importance of concatenated transformation.	3	2	2	1
13. a)	List and explain various elements of NC system.	3	1	3	1

Contd... 2

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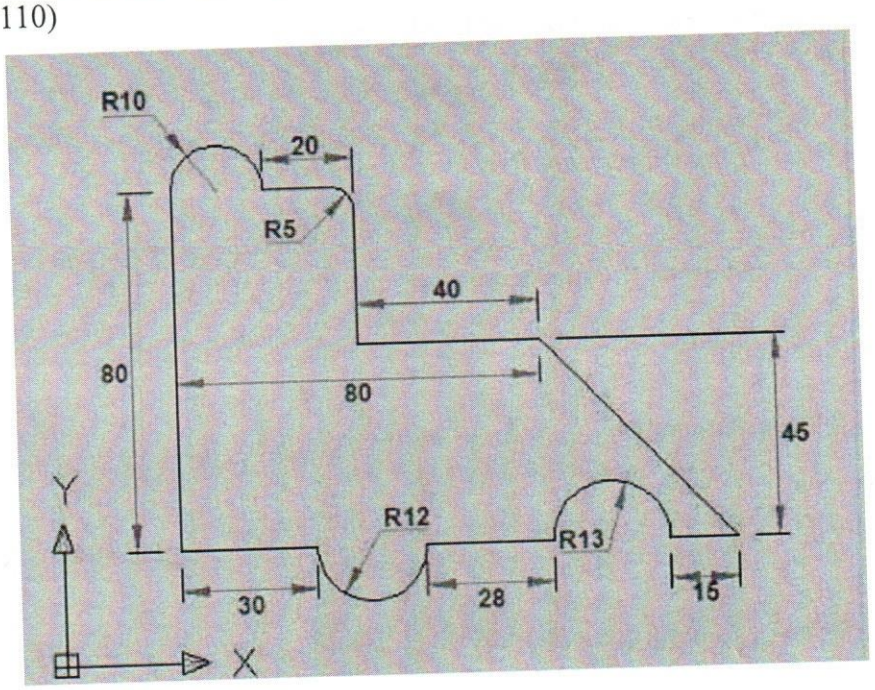
b)	Write CNC milling program for the following figure. (Billet size : 130 X 110) 	5	3	3	3
14. a)	State and explain different programming methods for robots.	4	1	4	1
b)	Explain Adaptive control optimization in AC systems.	4	1	4	1
15. a)	State and explain OPITZ classification system.	4	1	5	1
b)	Explain Variant and generative types in CAPP systems.	4	1	5	1
16. a)	Explain various continuity requirements with the help of neat sketch.	4	1	1	1
b)	Elaborate on Boundary representation approach in solid modelling.	4	2	2	1
17.	Answer any ***two*** of the following:				
a)	Explain tool length compensation with relative geometric codes.	4	2	3	1
b)	Differentiate CNC and DNC.	4	3	4	2
c)	List and explain building blocks of FMS.	4	1	5	1

M : Marks; L: Bloom's Taxonomy Level; CO; Course Outcome; PO: Programme Outcome

i)	Blooms Taxonomy Level – 1	40%
ii)	Blooms Taxonomy Level – 2	30%
iii)	Blooms Taxonomy Level – 3 & 4	30%

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