IARE

INSTITUTE OF AERONAUTICAL ENGINEERING

(An Autonomous Institute affiliated to JNTUH, Hyderabad)

Dundigal, Hyderabad - 500 043

LABORATORY WORK SHEET

Name of the Student: Peddinti Kusuma

Class: CSE-C Semester: II

Course Code: AMED02 Course Name: MP Lab

Roll Number										
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Name of the Course Faculty: Dr. Paidi Raghavulu Faculty ID: IARE 10631

Exercise Number: 12 Week Number: 12 Date: 5/07/24

DAY TO DAY EVALUATION:

Marks	Aim / Preparation	Algorithm / Procedure / Performance in the Lab	Source Code / Calculations and Graphs	Program Execution / Results and Error Analysis	Viva - Voce	Total
Max. Marks	4	4	4	4	4	20
Obtained	4	3	3	4	3	17

Signature of Faculty

START WRITING FROM HERE :

DEMONSTRATION OF LATHE SYSTEM SWITCHABLE ON ONE FUNUC SIMULATOR.

AIM: Demonstration of lathe system scaitchable on one Funuc simulator.

Equipment required: Funuc Simulator.

Introduction to FANUC simulator:

1) The FANUC CNC simulator brings the worlds most popular control right into your workplace training room, providing hands on training for FANUC CNC operation without the need for a full machine. Add Machining Simulation software to the CNC simulator for advanced machine Simulation capability.

2) This PC based platform is perfect for training and designing part programming. The CNC machining Simulation software

ROLL NUMBER :

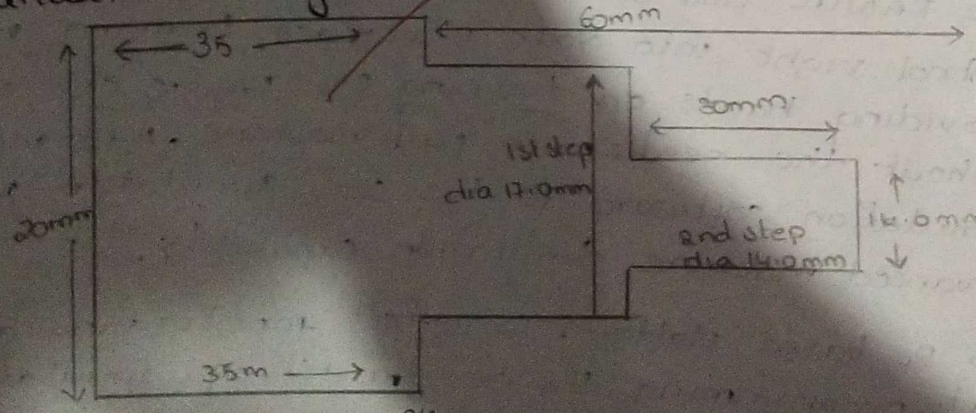
provides a digital twin of the machine tool producing the real world cutting process. This provides you with the most realistic simulation of the actual machining on your floor. To prepare the industry for more complex machining knowhow, a 5-axis machining training option is now available.

3) For companies needing a more tailored offering, FANUC America's CNC (System. More robust) Hardware Simulators are fully fuctional CNCs that include the panel and operating system. More robust than our CNS simulators, our CNC Hardware Simulators are complete control Simulators customized to address your specific workplace training needs. Operations needing a particular CNC model for their shop floor training will benefit from these simulators.

Preparation of milling and lathe system switchable on one simulator.

→ Switchable mill and lathe (turning) system in one simulator
→ 3-axis milling / 2 axis turning system plus one spindle
→ Manual Guide is installed for conversational program creation and 3D simulation
→ Imperial / Metric switchable
→ 512KB part-program storage, with 400 registered programs
→ 32 tool offset pairs
→ Workpiece coordinates G52 - G59 plus 48 additional on mill

CNC Manual Coding:



ROLL NUMBER :

O1235 → program name: It should be O (alpha) betic and numeric

G21 G98 EOB or G21 G98 → G21: Metric data
→ G98: Feed of the tool mm/minute
→ EOB → End of block

G28 U0.0 W0.0; → To moving to home position
M06 T0101; → To tool change, Toll no 01
M03 S600; → Spindle on, spindle speed 600 rpm
G00 Z5.0 X25.0; → G00 move tool with out operation fastly
G00 Z2.0 X23.0; → move tool still close to work Piec
M08; → M08 coolent ON

G00 X19.0; 1st step - 1 CUT
G01 Z-60 F45;
G01 X22.0 F45;
G00 Z2.0;

G00 X18.0; 1st STEP 2nd CUT
G01 Z-60.0 F45;
G01 X22.0 F45;
G00 Z2.0
G00 X17.0; 1st STEP 3rd CUT
G01 Z-60. F45;
G01 X2.02 F45;
G00 X16.0; and step1-CUT G01 Z-
60.0 F45;
G01 X23.0 F45;
G00 Z2.0;
G00 X15.0; 2nd STEP 1-CUT
G01 Z-30.0 F45;
G01 X23.0 F45;
G00 Z2.0;
G00 X14.0; 2nd STEP 3rd CUT
G01 Z-30.0 F45;
G01 X23.0 F45;
G00 Z2.0;

ROLL NUMBER :

G28 U0.0 W0.0 → Tool to home position

M05 ; → SPINDLE OFF

M09 ; → COOLENT OFF

M30 → End of the program.

Results:

The work piece of required dimensions is simulated using Fanuc simulator with CNC code to perform plain and step turning on CNC Lathe.

5/3/24