Course Title: Basic BioElectronics Lab

Course Code: BE 511

L	T	P	CH	CR
0	0	4	8	4

Course offered to: 1st Semester

M. Tech. in BioElectronics

Department of ECE

Dr. Nayan M Kakoty

School of Engineering

Tezpur University

Tezpur, INDIA

Evaluation Methods
(Classes to be started from July 03, 2024)

Tests	Marks	Expected Time
Sessional Test I (45 minutes)	25	To be completed by September 06, 2024 (Friday)
Mid Term Examination (2 Hours)	40	September 27 (Friday) – October 08 (Friday), 2024
Sessional Test-II	25	To be completed by November 08, 2024 (Friday)
End Term Examination (3 Hours)	60	December 03 – 14, 2023 (Tueday - Saturday)

Course Content

Basic Concepts of Robotics using RoboAnalyzer:

- Introduction to RoboAnalyzer (what is RoboAnalyzer, web-site of RoboAnalyzer)
- Links, Joints, Degrees of Freedom
- Denavit and Hertenberg Parameters
- Transformation Matrices: Rotation and Translation using HTM module
- Forward and Inverse Kinematics
- Forward and Inverse Dynamics

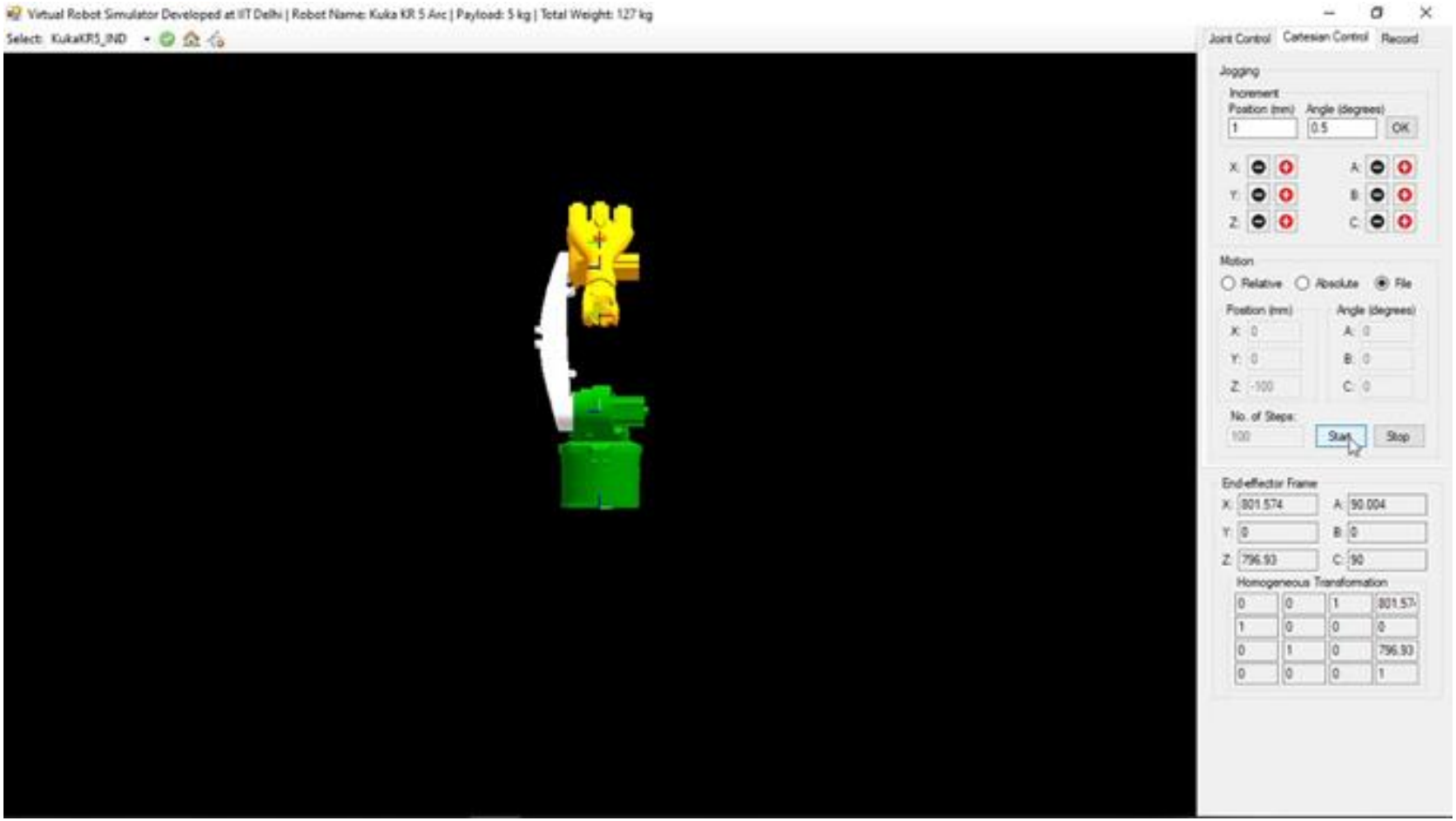
L	T	P	CH	CR
0	0	4	8	4

Course Content

Hardware Projects using Raspberry Pi

Examples from Previous Semester: Spring 2024

Invited Talks


Virtual Robot Simulator Developed at IIT Delhi | Robot Name: Kuka KR 5 Arc | Payload: 5 kg | Total Weight: 127 kg
Select: KukaKR5_IND
Joint Control
Cartesian Control
Record
Jogging
Increment
Position (mm)
Angle (degrees)
1
0.5
OK
X:
Y:
Z:
A:
B:
C:
Motion
Relative
Absolute
File
Position (mm)
Angle (degrees)
X: 0
Y: 0
Z: -100
A: 0
B: 0
C: 0
No. of Steps:
100
Start
Stop
End-effector Frame
X: 801.574
Y: 0
Z: 796.93
A: 90.004
B: 0
C: 90
Homogeneous Transformation
0 0 1 801.57
1 0 0 0
0 1 0 796.93
0 0 0 1

Thank You