ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES

ThallapakaPanchayath, New Boyanapalli, Rajampet, Annamayya Dist., A.P. – 516126
(Approved byA.I.C.T.E, New Delhi & Affiliated to JNTU Anantapur, Anantapuramu)
(Institute Accredited by NAAC, Bangalore) (Institute Accredited by IE(I), Kolkata)
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Date: 09-09-2022.

From

Dr. CH. Nagaraju

Head of the Department

Electronics and Communication Engineering

AITS,Rajampet.

To

The Principal

AITS, Rajampet.

New Boyanapally-516126.

Respected Sir,

Sub: Requisition to conduct Value Added Course for III B.Tech I Sem ECE Students-reg.

The Department of Electronics and Communication Engineering would like to conduct Value Added Course in AUTONOMOUS SYSTEMS AND ROBOTICS for the III B.Tech I Sem students during the academic year 2022-23 from 19.09.2022 to 07.10.2022. In this regard, we request you to kindly approve the following Value added Course and do the needful. This Value Added Course is not part of the Curriculum.

S.No	Course Title	Code allotted	Category	Lecture Hours
1	Autonomous Systems and Robotics	22VACECE02	Value added	33

Thanking you,

Yours Sincerely

Head of the Department
Electronics & Communication Engineering
Annamacharya Institute of Technology & Sciences
New Boyanapalli, Rajampet-516 126.

College Code : 70

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES :: RAJAMPET

Approved by AICTE, New Delhi.   Affiliated to Jawaharlal Nehru Technological University Anantapur
B.Tech : EEE, ECE & CSE courses Accredited by NBA, New Delhi. Accredited by NAAC with 'A' Grade
Recognized by UGC, New Delhi under sections 2(f) & 12(B) as per UGC act 1956.   Institutional Member of ISTE

CIRCULAR

Date: 12-09-2022

It is informed that Value added course on titled "Autonomous Systems and Robotics" will be conducted from 19-09-2022 to 07-10-2022. Registration will be on First Come First serve basis. Students are asked to enroll your names for the above mentioned course as earlier as possible.

HOD and respective department staff member instructed to follow up the same. Your whole hearted cooperation is needed to conduct the session in a gentle manner.

Last date for registration: 17-09-2022

Course Coordinator: M.Hanumanthu

Mail ID: mhanumanth@gmail.com

PRINCIPAL

PRINCIPAL
ANNAMACHARYA INSTITUTE OF
TECHNOLOGY & SCIENCES
NEW BOYANAPALLI-516 126
RAJAMPET, ANNAMAYYA Dist. A.P

Thallapaka Panchayat, New Boyanapalli (V&P), RAJAMPET, Annamayya District (formerly Kadapa Dist.), A.P. - 516 126.
Ph. (08565) 251861/3, Cell : 9666675279 Fax (08565) 251864. E-mail: aitsap@yahoo.co.in / aitsrajampet1998@gmail.com
Web: www.aitsrajampet.ac.in

ANNAMACHARYA INSTITUTE OFTECHNOLOGY & SCIENCES(AUTONOMOUS)

Thallapaka Panchayat, New Boyanapalli-516126, Rajampet, Kadapa (Dist.), Andhra Pradesh.

(An AICTE Approved, JNTUA Ananthapuramu, A.P., affiliated & NAAC 'A' accredited Institution)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Organizes

A Value Added Course on "AUTONOMOUS SYSTEMS AND ROBOTICS"
19.09.2022 to 07.10.2022

Resource Person: Mr.G.Tirumalaiah, Assistant Professor, AITS, Rajampet

❖ This Course is not relevance to the curriculum
❖ Certificates will be provided after successful Assessment Test

Visit us: www.aitsrajampet.ac.in

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
VALUE ADDED COURSE
ON
AUTONOMOUS SYSTEMS AND ROBOTICS

Learning Objectives:
- To define the concept of autonomous systems and articulate their significance in various industries.
- To identify the key components and characteristics of autonomous systems.
- To learn basic programming skills for robotics using languages such as Python and C++.
- To implement and analyze simple robot programs.

Unit 1. Introduction to Autonomous Systems and Robotics   07
- Definition and scope of autonomous systems
- Historical overview and evolution of robotics
- Types of robots and their applications

Unit 2. Basics of Robotics   06
- Robot components and anatomy
- Robot kinematics and dynamics
- Sensors and actuators in robotics

Unit 3. Programming Basics for Robotics   07
- Introduction to programming languages for robotics (e.g., Python, C++)
- Basics of robot programming
- Simulations and virtual environments for robotics

Unit 4. Control Systems in Robotics   07
- Open-loop and closed-loop control systems
- System stability and response

Unit 5. Robotics Ethics and Safety   07
- PID controllers and their applicationsEthical considerations in autonomous systems
- Safety protocols and standards in robotics
- Responsible AI and robotics practices

References:
1. Robotics: Principles and Practice" by K.S. Fu, R.C. Gonzalez, and C.S.G. Lee.
2. "Introduction to Autonomous Robots" by Nikolaus Correll, Bradley Hayes, et al.
3. "Probabilistic Robotics" by Sebastian Thrun, Wolfram Burgard, and Dieter Fox.
4. "Feedback Control of Dynamic Systems" by Gene F. Franklin, J. David Powell, and Abbas Emami-Naeini.
5. "Robot Ethics: The Ethical and Social Implications of Robotics" by Patrick Lin, Keith Abney, and George A. Bekey.

COURSE OUTCOMES:

Students will be able to

1. Identify and describe the key components, types, and applications of robotics.
2. Write and implement basic robotic programs using suitable programming languages, such as Python and C++.
3. Design and implement control systems for robots, utilizing open-loop and closed-loop principles.
4. Implement computer vision techniques for tracking in practical robotic applications.

CO-PO Mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
22VACECE02.1	3	2	2	2	-	-	-	-	-	-	-	2	3	2	2
22VACECE02.2	2	2	3	2	-	-	-	-	-	-	-	2	2	2	2
22VACECE02.3	3	2	3	2	-	-	-	-	-	-	-	2	3	2	2
22VACECE02.4	3	2	2	3	-	-	-	-	-	-	-	2	3	2	3

Head of the Department
Electronics & Communication Engineering
Annamacharya institute of Technology & Sciences
New Boyanapalli, Rajampet-516 126.

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

VALUE ADDED COURSE 2022-23

COURSE NAME: AUTONOMOUS SYSTEMS AND ROBOTICS.
COURSE CODE: 22VACECE02

RESOURCE PERSON DETAILS

G.Tirumalaiah is an Assistant Professor in the Department of Electronics and Communication Engineering at Annamacharya Institute of Technology and Sciences, Rajampet, Andhra Pradesh, India. He is pursuing Ph.D. degree in the Department of Electronics and Communication Engineering from Karunya University. He completed his B.Tech and M.Tech from JNTU Hyderabad. He has presented many papers in International Journals/Conferences.

His commitment to academia is demonstrated by his numerous publications in indexed and refereed journals, as well as his active participation in conferences and Faculty Development Programs (FDPs) focused on recent Image Processing topics. Furthermore, G.Tirumalaiah has demonstrated his commitment to mentorship and academic guidance by supervising numerous students at both the M.Tech and B.Tech levels. Through his mentorship, he has nurtured and guided aspiring engineers, fostering their growth and development in the field. His areas of interest are Image Processing and Signal Processing.

Head of the Department
Electronics & Communication Engineering
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STUDENT ENROLLMENT LIST

S.No	H.T.No	Student Name
1	20701A0402	ABUBAKAR SHAIK
2	20701A0410	ANUSHA KANAGANIPALLI
3	20701A0414	ASWANI MULE
4	20701A0416	AYESHA SHAIK
5	20701A0421	BHARATH BARE
6	20701A0430	CHANDRAKANTH MADDIMANI
7	20701A0438	DILEEP K
8	20701A0441	GAYATHRI SIDDU
9	20701A0451	HARSHAVARDHAN SUNKARA
10	21705A0402	ANVAR BASHA THOLLAMADUGU
11	21705A0407	CHANDRIKA PRODDUTURU
12	21705A0410	DIVYAVANI M
13	20701A0455	HEMA VARSHINI GANDLURU
14	20701A0458	HIMABINDU KARNATAKA
15	20701A0470	JEEVITHA ALWALA
16	20701A0474	LAKSHMI BHANU POLIMERA
17	20701A0491	MANJUNATH LINGAM
18	21705A0414	HARI BALIJA
19	21705A0421	MADHAVI VANAM
20	20701A04C4	PRIYADARSHINI PICKKILI
21	20701A04C9	RAGHAVA MEKALA
22	20701A04D3	RAKESH MANGALI
23	20701A04D8	REVATHI TIPPANA
24	20701A04G8	SRAVANI SALIBINDLA
25	20701A04H4	SREENIVASA SARMA GOLLAPINNI
26	20701A04H7	SUDHEER KUMAR DASARI
27	20701A04J2	THANIYA EEDIGA
28	20701A04K2	VARAKUMAR CHIRALA

Head of the Department 15/9/22
Electronics & Communication Engineering
Annamacharya Institute of Technology & Sciences
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
VALUE ADDED COURSE 2022-23
COURSE NAME: AUTONOMOUS SYSTEMS AND ROBOTICS.
COURSE CODE: 22VACECE02
ATTENDANCE FROM 19-09-2022 TO 07-10-2022

S.No	H.T.No	Student Name	Year	19.09.2022 03:00-04:00	19.09.2022 04:00-05:00	20.09.2022 03:00-04:00	20.09.2022 04:00-05:00	21.09.2022 03:00-04:00	21.09.2022 04:00-05:00	22.09.2022 03:00-04:00	22.09.2022 04:00-05:00	23.09.2022 03:00-04:00	23.09.2022 04:00-05:00	24.09.2022 03:00-04:00	24.09.2022 04:00-05:00
1	20701A0402	ABUBAKAR SHAIK	III/1	Abbakar	Abbakar	Abubakar	Abbakar	A	A	Abubakar	Abubakar	A	A	Abubakar	A
2	20701A0410	ANUSHA KANAGANIPALLI	III/1	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha
3	20701A0414	ASWANI MULE	III/1	Aswini	Aswini	Aswini	Aswini	Aswini	Aswini	Aswini	Aswini	Aswini	Aswini	Aswini	Aswini
4	20701A0416	AYESHA SHAIK	III/1	Ayesha	Ayesha	Ayesha	Ayesha	Ayesha	A	Ayesha	Ayesha	Ayesha	A	Ayesha	Ayesha
5	20701A0421	BHARATH BARE	III/1	Bhar	Bhar	Bhar	Bhar	Bhar	A	Bhar	A	Bhar	Bhar	Bhar	Bhar
6	20701A0430	CHANDRAKANTH MADDIMANI	III/1	chandra	chandra	chandra	chandra	chandra	chandra	chandra	chandra	chandra	A	A	chandra
7	20701A0438	DILEEP K	III/1	Dileep	Dileep	Dileep	Dileep	Dileep	Dileep	A	Dileep	A	Dileep	Dileep	Dileep
8	20701A0441	GAYATHRI SIDDU	III/1	Siddu	Siddu	Siddu	Siddu	A	Siddu	Siddu	Siddu	Siddu	Siddu	Siddu	Siddu
9	20701A0451	HARSHAVARDHAN SUNKARA	III/1	Hoesha	Hoesha	Hoesha	Hoesha	Hoesha	Hoesha	Hoesha	Hoesha	Hoesha	Hoesha	Hoesha	Hoesha
10	21705A0402	ANVAR BASHA THOLLAMADUGU	III/1	Anvar	Anvar	A	Anvar	Anvar	Anvar	Anvar	A	Anvar	Anvar	Anvar	Anvar
11	21705A0407	CHANDRIKA PRODDUTURU	III/1	Chandrika	Chandrika	Chandrika	Chandrika	Chandrika	Chandrika	A	Chandrika	Chandrika	A	A	A
12	21705A0410	DIVYAVANI M	III/1	Divya	Divya	Divya	Divya	Divya	Divya	A	Divya	A	Divya	Divya	Divya
13	20701A0455	HEMA VARSHINI GANDLURU	III/1	A	A	A	A	Varshini	Varshini	A	Varshini	Varshini	A	Varshini	Varshini
14	20701A0458	HIMABINDU KARNATAKA	III/1	Bindu	Bindu	Bindu	A	Bindu	Bindu	Bindu	Bindu	A	Bindu	Bindu	Bindu
15	20701A0470	JEEVITHA ALWALA	III/1	A	Jeevitha	Jeevitha	Jeevitha	A	Jeevitha	Jeevitha	Jeevitha	Jeevitha	Jeevitha	A	Jeevitha
16	20701A0474	LAKSHMI BHANU POLIMERA	III/1	Lakshmi	Lakshmi	Lakshmi	Lakshmi	Lakshmi	A	Lakshmi	Lakshmi	Lakshmi	Lakshmi	A	Lakshmi
17	20701A0491	MANJUNATH LINGAM	III/1	Manju	Manju	Manju	Manju	Manju	Manju	A	Manju	Manju	A	Manju	Manju
18	21705A0414	HARI BALIJA	III/1	Hari	Hari	Hari	Hari	Hari	Hari	Hari	Hari	Hari	Hari	Hari	Hari
19	21705A0421	MADHAVI VANAM	III/1	madhavi	madhavi	madhavi	madhavi	madhavi	madhavi	A	A	A	madhavi	madhavi	A
20	20701A04C4	PRIYADARSHINI PICKKILI	III/1	Priya	Priya	Priya	Priya	Priya	Priya	Priya	Priya	A	Priya	A	Priya
21	20701A04C9	RAGHAVA MEKALA	III/1	Raghava	Raghava	Raghava	Raghava	A	A	Raghava	A	A	Raghava	Raghava	Raghava
22	20701A04D3	RAKESH MANGALI	III/1	Rakesh	Rakesh	Rakesh	Rakesh	A	Rakesh	Rakesh	A	Rakesh	Rakesh	Rakesh	Rakesh
23	20701A04D8	REVATHI TIPPANA	III/1	Revathi	Revathi	Revathi	Revathi	Revathi	A	Revathi	Revathi	A	Revathi	Revathi	A
24	20701A04G8	SRAVANI SALIBINDLA	III/1	Sravani	Sravani	Sravani	Sravani	A	A	A	Sravani	A	Sravani	A	A
25	20701A04H4	SREENIVASA SARMA GOLLAPINNI	III/1	Sreenu	A	Sreenu	Sreenu	Sreenu	Sreenu	Sreenu	A	Sreenu	Sreenu	Sreenu	Sreenu
26	20701A04H7	SUDHEER KUMAR DASARI	III/1	Sudheer	Sudheer	Sudheer	Sudheer	A	Sudheer	Sudheer	Sudheer	Sudheer	A	Sudheer	Sudheer
27	20701A04J2	THANIYA EEDIGA	III/1	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya
28	20701A04K2	VARAKUMAR CHIRALA	III/1	Vara	Vara	Vara	Vara	Vara	A	Vara	Vara	Vara	Vara	Vara	Vara

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S.No	H.T.No	Student Name	Year	26.09.2022 03:00-04:00	26.09.2022 04:00-05:00	27.09.2022 03:00-04:00	27.09.2022 04:00-05:00	28.09.2022 03:00-04:00	28.09.2022 04:00-05:00	29.09.2022 03:00-04:00	29.09.2022 04:00-05:00	30.09.2022 03:00-04:00	30.09.2022 04:00-05:00	01.10.2022 03:00-04:00	01.10.2022 04:00-05:00
1	20701A0402	ABUBAKAR SHAIK	III/I	Abubakar	Abubakar	Abubakar	Abubakar	Abubakar	Abubakar	A	Abubakar	A	A	Abubakar
2	20701A0410	ANUSHA KANAGANIPALLI	III/I	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha
3	20701A0414	ASWANI MULE	III/I	Aswani	Aswani	Aswani	Aswani	A	Aswani	Aswani	Aswani	A	Aswani	A	Aswani
4	20701A0416	AYESHA SHAIK	III/I	Ayesha	Ayesha	Ayesha	Ayesha	Ayesha	Ayesha	Ayesha	Ayesha	Ayesha	Ayesha	A	A
5	20701A0421	BHARATH BARE	III/I	Bhar	Bhar	Bhar	Bhar	Bhar	Bhar	Bhar	Bhar	Bhar	Bhar	Bhar	Bhar
6	20701A0430	CHANDRAKANTH MADDIMANI	III/I	chandra	A	chandra	chandra	chandra	A	chandra	A	A	chandra	chandra	chandra
7	20701A0438	DILEEP K	III/I	Dileep	Dileep	Dileep	Dileep	Dileep	Dileep	Dileep	Dileep	A	Dileep	Dileep	Dileep
8	20701A0441	GAYATHRI SIDDU	III/I	Siddu	Siddu	Siddu	Siddu	Siddu	Siddu	Siddu	Siddu	Siddu	Siddu	Siddu	A
9	20701A0451	HARSHAVARDHAN SUNKARA	III/I	Harsha	Harsha	Harsha	Harsha	Harsha	Harsha	Harsha	Harsha	Harsha	Harsha	Harsha	Harsha
10	21705A0402	ANVAR BASHA THOLLAMADUGU	III/I	Anvar	Anvar	Anvar	Anvar	Anvar	A	Anvar	Anvar	Anvar	Anvar	A	Anvar
11	21705A0407	CHANDRIKA PRODDUTURU	III/I	chandrika	chandri	A	chandika	A	chandika	chandri	chandika	A	chandika	chandrika	chandrika
12	21705A0410	DIVYAVANI M	III/I	Divya	Divya	Divya	Divya	Divya	A	Divya	Divya	Divya	A	Divya	Divya
13	20701A0455	HEMA VARSHINI GANDLURU	III/I	varshini	varshini	A	varshini	varshini	varshini	varshini	A	varshini	A	varshini	A
14	20701A0458	HIMABINDU KARNATAKA	III/I	Bindu	Bindu	Bindu	Bindu	Bindu	A	Bindu	Bindu	Bindu	Bindu	A	Bindu
15	20701A0470	JEEVITHA ALWALA	III/I	Jeevitha	Jeevitha	Jeevitha	Jeevitha	Jeevitha	Jeevitha	A	Jeevitha	Jeevitha	A	Jeevitha	Jeevitha
16	20701A0474	LAKSHMI BHANU POLIMERA	III/I	laleshi	laleshi	laleshi	A	laleshi	laleshi	laleshi	A	laleshi	laleshi	laleshi	A
17	20701A0491	MANJUNATH LINGAM	III/I	Manju	Manju	Manju	Manju	Manju	A	Manju	Manju	Manju	A	Manju	Manju
18	21705A0414	HARI BALIJA	III/I	Hari	Hari	Hari	Hari	Hari	Hari	Hari	Hari	A	Hari	Hari	Hari
19	21705A0421	MADHAVI VANAM	III/I	madhavi	madhavi	madhavi	madhavi	madhavi	madhavi	madhavi	madhavi	madhavi	madhavi	madhavi	A
20	20701A04C4	PRIYADARSHINI PICKKILI	III/I	Priya	Priya	A	Priya	A	A	Priya	Priya	Priya	Priya	Priya	Priya
21	20701A04C9	RAGHAVA MEKALA	III/I	Raghava	Raghava	Raghava	Raghava	Raghava	Raghava	A	A	A	Raghava	A	A
22	20701A04D3	RAKESH MANGALI	III/I	Rakesh	Rakesh	Rakesh	Rakesh	Rakesh	Rakesh	A	Rakesh	Rakesh	Rakesh	Rakesh	A
23	20701A04D8	REVATHI TIPPANA	III/I	Revathi	Revathi	Revathi	Revathi	Revathi	Revathi	Revathi	Revathi	Revathi	Revathi	A	Revathi
24	20701A04G8	SRAVANI SALIBINDLA	III/I	Sravani	Sravani	Sravani	A	A	Sravani	A	A	Sravani	A	Sravani	A
25	20701A04H4	SREENIVASA SARMA GOLLAPINNI	III/I	A	Sreenu	Sreenu	Sreenu	Sreenu	Sreenu	Sreenu	Sreenu	Sreenu	A	Sreenu	A
26	20701A04H7	SUDHEER KUMAR DASARI	III/I	Sudheer	Sudheer	Sudheer	Sudheer	Sudheer	Sudheer	A	Sudheer	Sudheer	Sudheer	A	Sudheer
27	20701A04J2	THANIYA EEDIGA	III/I	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya
28	20701A04K2	VARAKUMAR CHIRALA	III/I	Vara	Vara	Vara	Vara	Vara	Vara	A	Vara	Vara	Vara	Vara

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S.No	H.T.No	Student Name	Year	03.10.2022 03:00-04:00	03.10.2022 04:00-05:00	04.10.2022 03:00-04:00	04.10.2022 04:00-05:00	05.10.2022 03:00-04:00	05.10.2022 04:00-05:00	06.10.2022 03:00-04:00	06.10.2022 04:00-05:00	07.10.2022 03:00-04:00	07.10.2022 04:00-05:00
1	20701A0402	ABUBAKAR SHAIK	III/I	Abubakar	Abubakar	Abubakar	A	A	A	Abubakar	Abubakar	Abubakar	A
2	20701A0410	ANUSHA KANAGANIPALLI	III/I	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha	Anusha
3	20701A0414	ASWANI MULE	III/I	Aswani	Aswani	Aswani	Aswani	A	Aswani	Aswani	Aswani	A	Aswani
4	20701A0416	AYESHA SHAIK	III/I	Ayesha	Ayesha	Ayesha	Ayesha	Ayesha	A	A	Ayesha	Ayesha	Ayesha
5	20701A0421	BHARATH BARE	III/I	Bhar	A	Bhar	Bhar	Bhar	Bhar	Bhar	Bhar	Bhar	Bhar
6	20701A0430	CHANDRAKANTH MADDIMANI	III/I	Chandra	Chandra	Chandra	Chandra	Chandra	A	A	Chandra	Chandra	A
7	20701A0438	DILEEP K	III/I	Dileep	Dileep	Dileep	Dileep	Dileep	Dileep	A	A	Dileep	Dileep
8	20701A0441	GAYATHRI SIDDU	III/I	Siddu	Siddu	Siddu	Siddu	Siddu	Siddu	Siddu	Siddu		Siddu
9	20701A0451	HARSHAVARDHAN SUNKARA	III/I	Haasha	A	Haasha	Haasha	Haasha	A	Haasha	A	Haasha	Haasha
10	21705A0402	ANVAR BASHA THOLLAMADUGU	III/I	Anvar	Anvar	Anvar	A	Anvar	Anvar	Anvar	Anvar	A	Anvar
11	21705A0407	CHANDRIKA PRODDUTURU	III/I	Chandrika	Chandrika	Chandrika	Chandrika	Chandrika	Chandrika	Chandrika	A	Chandrika	Chandrika
12	21705A0410	DIVYAVANI M	III/I	Divya	Divya	A	Divya	Divya	Divya	Divya	Divya	Divya	A
13	20701A0455	HEMA VARSHINI GANDLURU	III/I	Varshini	Varshini	A	A	A	Varshini	Varshini	Varshini	Varshini	A
14	20701A0458	HIMABINDU KARNATAKA	III/I	A	Bindu	Bindu	Bindu	Bindu	Bindu	A	Bindu	Bindu	Bindu
15	20701A0470	JEEVITHA ALWALA	III/I	Jeevitha	Jeevitha	Jeevitha	Jeevitha	Jeevitha	Jeevitha	Jeevitha	Jeevitha	Jeevitha	Jeevitha
16	20701A0474	LAKSHMI BHANU POLIMERA	III/I	Lakshi	Lakshi	A	Lakshi	Lakshi	Lakshi	Lakshi	Lakshi	Lakshi	Lakshi
17	20701A0491	MANJUNATH LINGAM	III/I	Manju	Manju	Manju	Manju	Manju	Manju	A	Manju	Manju	Manju
18	21705A0414	HARI BALIJA	III/I	Hari	Hari	Hari	Hari	Hari	Hari	Hari	Hari	Hari	Hari
19	21705A0421	MADHAVI VANAM	III/I	Madhavi	Madhavi	Madhavi	Madhavi	Madhavi	Madhavi	Madhavi	A	A	A
20	20701A04C4	PRIYADARSHINI PICKKILI	III/I	Priya	Priya	Priya	Priya	A	Priya	Priya	A	Priya	Priya
21	20701A04C9	RAGHAVA MEKALA	III/I	Raghava	Raghava	Raghava	A	A	Raghava	Raghava	Raghava	A	A
22	20701A04D3	RAKESH MANGALI	III/I	Rakesh	Rakesh	Rakesh	Rakesh	Rakesh	Rakesh	A	Rakesh	Rakesh	A
23	20701A04D8	REVATHI TIPPANA	III/I	Revathi	Revathi	Revathi	Revathi	Revathi	Revathi	Revathi	A	Revathi	Revathi
24	20701A04G8	SRAVANI SALIBINDLA	III/I	Sravani	Sravani	Sravani	A	A	Sravani	A	A	Sravani	A
25	20701A04H4	SREENIVASA SARMA GOLLAPINNI	III/I	Sreenu	Sreenu	Sreenu	Sreenu	Sreenu	A	Sreenu	Sreenu	A	Sreenu
26	20701A04H7	SUDHEER KUMAR DASARI	III/I	A	Sudhee	Sudhee	Sudhee	Sudhee	Sudhee	Sudhee	A	Sudhee	Sudhee
27	20701A04J2	THANIYA EEDIGA	III/I	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya	Thaniya
28	20701A04K2	VARAKUMAR CHIRALA	III/I	Vara	Vara	Vara	Vara	Vara	Vara	Vara	Vara	A	A

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VALUE ADDED COURSE 2022-23
COURSE NAME: AUTONOMOUS SYSTEMS AND ROBOTICS.
COURSE CODE: 22VACECE02
QUESTION PAPER

Name of the student	
H.T.No	
Year & Department	
Marks obtained	
Signature of the staff	

1. What is the primary goal of autonomous systems?
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5. Which component of a robot is responsible for converting electrical signals into motion?
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6. What does the term "computer vision" refer to in the context of robotics?
   - a. Programming robots using computers
   - b. Giving robots the ability to see and interpret visual information
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d. Connecting robots to the internet

7. In machine learning, what does "supervised learning" involve?
   a. Learning from labeled data
   b. Learning without any guidance
   c. Learning from experience
   d. Learning from mistakes

8. What is a common ethical consideration in the development of autonomous systems?
   a. Maximizing profits
   b. Ensuring robots replace human workers
   c. Minimizing energy consumption
   d. Ensuring safety and avoiding harm to humans

9. Which document provides safety requirements for personal care robots?
   a. ISO 9001
   b. ISO 13482
   c. IEEE 802.11
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10. What is ROS (Robot Operating System)?
    a. A type of robotic arm
    b. A programming language for robots
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HEAD OF THE DEPARTMENT
Head of the Department
Electronics & Communication Engineering
Annamacharya Institute of Technology & sciences
New Boyanapalli, Rajampet-516 126.

ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES

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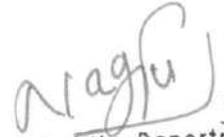## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

VALUE ADDED COURSE 2022-23
COURSE NAME: AUTONOMOUS SYSTEMS AND ROBOTICS.
COURSE CODE: 22VACECE02
ANSWER KEY

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HEAD OF THE DEPARTMENT

Head of the Department
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

VALUE ADDED COURSE 2022-23
COURSE NAME: AUTONOMOUS SYSTEMS AND ROBOTICS
COURSE CODE: 22VACECE02

RULES FOR ASSESSING VAC TEST

- Learners will get a certificate after they have registered for written the exam and successfully passed.

- The students who have successfully completed the value added course shall be issued with a certificate duly signed by the authorised signatures.

- The passing requirement for Value added Course shall be 60% of the marks prescribed for the course.

5/10/22

Head of the Department
Electronics & Communication Engineering
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
AUTONOMOUS SYSTEMS AND ROBOTICS
COURSE CODE: 22VACECE02

S.No	H.T.No	Student Name	Marks Obtained (20M)
1.	20701A0402	ABUBAKAR SHAIK	16
2.	20701A0410	ANUSHA KANAGANIPALLI	18
3.	20701A0414	ASWANI MULE	14
4.	20701A0416	AYESHA SHAIK	18
5.	20701A0421	BHARATH BARE	20
6.	20701A0430	CHANDRAKANTH MADDIMANI	16
7.	20701A0438	DILEEP K	16
8.	20701A0441	GAYATHRI SIDDU	14
9.	20701A0451	HARSHAVARDHAN SUNKARA	20
10.	21705A0402	ANVAR BASHA THOLLAMADUGU	16
11.	21705A0407	CHANDRIKA PRODDUTURU	14
12.	21705A0410	DIVYAVANI M	14
13.	20701A0455	HEMA VARSHINI GANDLURU	16
14.	20701A0458	HIMABINDU KARNATAKA	18
15.	20701A0470	JEEVITHA ALWALA	20
16.	20701A0474	LAKSHMI BHANU POLIMERA	12
17.	20701A0491	MANJUNATH LINGAM	14
18.	21705A0414	HARI BALIJA	12
19.	21705A0421	MADHAVI VANAM	18
20.	20701A04C4	PRIYADARSHINI PICKKILI	16
21.	20701A04C9	RAGHAVA MEKALA	18
22.	20701A04D3	RAKESH MANGALI	16
23.	20701A04D8	REVATHI TIPPANA	14
24.	20701A04G8	SRAVANI SALIBINDLA	14
25.	20701A04H4	SREENIVASA SARMA GOLLAPINNI	16

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26.	20701A04H7	SUDHEER KUMAR DASARI	20
27.	20701A04J2	THANIYA EEDIGA	18
28.	20701A04K2	VARAKUMAR CHIRALA	16

14/10/2022

HEAD OF THE DEPARTMENT

Head of the Department
Electronics & Communication Engineering
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VALUE ADDED COURSE 2022-23

COURSE NAME: AUTONOMOUS SYSTEMS AND ROBOTICS.
COURSE CODE: 22VACECE01

Date: 10/10/22

QUESTION PAPER

Name of the student	T. Revathi
H.T.No	20701A0408
Year & Department	II) – ELE
Marks obtained	
Signature of the staff	

14 / 20

1. What is the primary goal of autonomous systems?
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HEAD OF THE DEPARTMENT

Head of the Department

Electronics & Communication Engineering

Annamacharya Institute of Technology & Sciences

New Boyanapalli, Rajampet-516 126.

VALUE ADDED COURSE 2022-23

COURSE NAME: AUTONOMOUS SYSTEMS AND ROBOTICS.
COURSE CODE: 22VACECE02

QUESTION PAPER

Date: 10/10/2022

Name of the student	K. Himabindu
H.T.No	20701A0457
Year & Department	III ECE
Marks obtained	18
Signature of the staff	

18/20

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Head of the Department
Electronics & Communication Engineering
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VALUE ADDED COURSE 2022-23
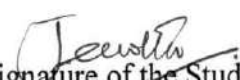COURSE NAME: AUTONOMOUS SYSTEMS AND ROBOTICS
COURSE CODE: 22VACECE02

STUDENT FEEDBACK FORM

Code and Name of the Value Added Course	22VACECE02 - AUTONOMOUS SYSTEMS AND ROBOTICS
Name of the Student	
Year & Semester	

Following the completion of course, participants provided feedback form and the detailed list is listed below.

You are required to give your feedback on the following aspects

S.No	Criteria	Rating (Put √ in the appropriate column)				
		Excellent	Very Good	Good	Fair	Satisfactory
1.	Course Content					
2.	Coverage of sylabus					
3.	Interaction					
4.	Individual Attention					
5.	Outcome					

Signature of the Student

ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

VALUE ADDED COURSE 2022-23
COURSE NAME: AUTONOMOUS SYSTEMS AND ROBOTICS
COURSE CODE: 22VACECE02

STUDENT FEEDBACK FORM

Code and Name of the Value Added Course	22VACECE02 - AUTONOMOUS SYSTEMS AND ROBOTICS
Name of the Student	A- Jeevitha - 2070A0417.
Year & Semester	III / I

Following the completion of course, participants provided feedback form and the detailed list is listed below.

You are required to give your feedback on the following aspects

S.No	Criteria	Rating (Put √ in the appropriate column)				
		Excellent	Very Good	Good	Fair	Satisfactory
1.	Course Content		√			
2.	Coverage of sylabus			√		
3.	Interaction		√			
4.	Individual Attention		√	√		
5.	Outcome		√			

Signature of the Student

ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Date: 08-10-2022

VALUE ADDED COURSE 2022-23
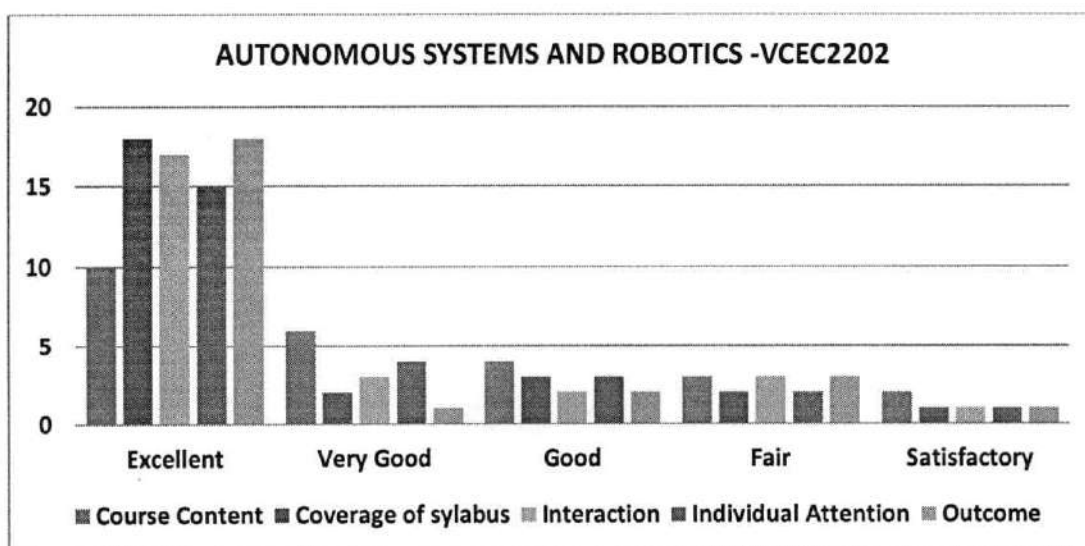COURSE NAME: AUTONOMOUS SYSTEMS AND ROBOTICS
COURSE CODE: 22VACECE02
STUDENT FEEDBACK REPORT

The III B.Tech I Sem ECE students of around 28 have completed the Value Added Course- Hands on Programming on AUTONOMOUS SYSTEMS AND ROBOTICS from 19-09-2022 to 07-10-2022. The student feedback of the course has been consolidated into five categories is shown below.

Course Feedback:

S.No	Criteria	Rating (Put √ in the appropriate column)				
		Excellent	Very Good	Good	Fair	Satisfactory
1.	Course Content	10	6	4	3	2
2.	Coverage of syllabus	18	2	3	2	1
3.	Interaction	17	3	2	3	1
4.	Individual Attention	15	4	3	2	1
5.	Outcome	18	1	2	3	1

AUTONOMOUS SYSTEMS AND ROBOTICS -VCEC2202

COURSE COORDINATOR

HEAD OF THE DEPARTMENT
Electronics & Communication Engineering
Annamacharya Institute of Technology & Sciences
New Boyanapalli, Rajampet-516 126.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES::RAJAMPET

(An Autonomous Institution)

VALUE ADDED COURSE

CERTIFICATE OF PARTICIPATION

This is to certify that Mr/Ms._____ **bearing** H.T.No._____has attended a Value Added Course on _____ organized by department of ECE during _____

Head of the Department

Principal

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

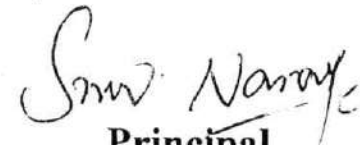### ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES::RAJAMPET

(An Autonomous Institution)

VALUE ADDED COURSE

CERTIFICATE OF PARTICIPATION

This is to certify that Mr/Ms. **S. Ayesha** bearing H.T.No. **20701A0416** has attended a Value Added Course on **Autonomous Systems & Robotics** organized by department of ECE during **19.09.2022** to **07.10.2022**

Head of the Department

Principal

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

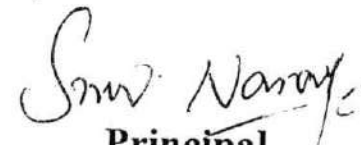### ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES::RAJAMPET

(An Autonomous Institution)

VALUE ADDED COURSE

CERTIFICATE OF PARTICIPATION

This is to certify that Mr/Ms. **B. Hari** bearing H.T.No. **21705A0414** has attended a Value Added Course on **Autonomous Systems & Robotics** organized by department of ECE during **19.09.2022** to **07.10.2022**.

Head of the Department

Principal

ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES

ThallapakaPanchayath, New Boyanapalli, Rajampet, Annamayya Dist., A.P. – 516126
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(Institute Accredited by NAAC, Bangalore) (Institute Accredited by IE(I), Kolkata)
Accredited by NBA (CSE,ECE & EEE),Autonomous conferred by UGC, New Delhi under Section 2(f) & 12 (B)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Date: 14.10.2022

COURSE REPORT

Name of the Value added Course: Autonomous Systems and Robotics

Course Code: 22VACECE02

Resource Person: Dr.G.Tirumalaiah
Course Coordinator: M.Hanumanthu
Date: 19-09-2022 to 07-10-2022
Course Type: Self Framed Course (Theory)

The certificate program Hands on Programming on AUTONOMOUS SYSTEMS AND ROBOTICS was conducted for III B.Tech I Sem students. The total contact hours of 33 have been planned and executed as per the course plan.

Assessment Mode

Number of Students enrolled: 28

Number of Students appeared: 28

Date of Exam: 10-10-2022.

Type of assessment: Multiple Choice Questions

Scheme of Exam: Multiple Choice Questions

Number of students passed: 28

Autonomous Systems and Robotics

HEAD OF THE DEPARTMENT