

Accredited by NAAC with 'B+' Grade, 2(f) & 12B Status Institution by UGC

IG Valley, Madurai Main Road, Manikandam, Tiruchirappalli - 620012

NAAC DOCUMENTS

QUALITY INDICATOR FRAME WORK

CRITERION – 1

CURRICULAR ASPECTS

SUBMITTED BY

IQAC

INTERNAL QUALITY ASSURANCE CELL INDRA GANESAN COLLEGE OF ENGINEERING





DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2022-2023 / ODD SEMESTER

1.2 Academic Flexibility (30)

1.2.1 Number of Certificate/Value added courses offered and online courses of MOOCs, SWAYAM, NPTEL etc. (where the students of the institution have enrolled and successfully completed during the last five years)

AND

1.2.2 Percentage of students enrolled in Certificate/ Value added courses and also completed online courses of MOOCs, SWAYAM, NPTEL etc. as against the total number of students during the last five years

VAC Title:	INTR	INTRODUCTION TO ROBOTICS								
Resource Pe	Resource Person: Mrs.Shalom Jerlin , Technical Head , Hitakey Infosys, Trichy									
Date of conduct from: 30.01.2023					To:	03.02.2023		Duration:	30 Hours	
Organized D	Organized Department: ELECTRONICS AND COMMUNICATION ENGINEERING									
Participant Year: ECE IV, III, II Seme				ster:	ODD	No. o	of Students 1	Registered:	47	
Venue: DSP Lab										

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Department of Electronics and Communication Engineering

Academic Year 2022-2023 -ODD Semester

25.01.2023

DEPARTMENT CIRCULAR

Department of Electronics and communication Engineering and IQAC of IGCE in association with Hitakey Infosys, is going to organize Value Added Course for all Second, Third and Final year students on "INTRODUCTION TO ROBOTICS" from 30.01.2023 to 03.02.2023. Certificates will be issued to the eligible participants at the end of the Course. This training is to be provided in our campus.

Resource Person Detail	Mrs.Shalom Jerlin, Technical Head, Hitakey Infosys, Trichy
Venue	DSP Lab, IGCE

Cc:

- · Principal office
- IQAC Co-Ordinator
- Class In charges II, III & IV-Year
- II, III & IV-Year ECE Students
- · Office File
- Notice Board

Dr. G. Balakrishnan, M.E., Ph.D., Principal Indra Ganesan College of Engineering IG Valley, Madurai Main Road Manikandam, Trichy-620 012.



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Value Added Course

"INTRODUCTION TO ROBOTICS"

SYLLABUS

	TOPIC COVERED	DURATION (in hours)	DATE
S.NO	Basic concepts- Definition and origin of	3	30.01.2023
1	habities different types of routics		30.01.2023
2	Asimov's laws of robotics, dynamic stabilization of robots.	3	31.01.2023
3	Power sources, sensors and actuators - Hydraulic, pneumatic and electric drives:	3	31.01.2023
	Design and control issues Variable speed arrangements – path	3	31.01.2023
4	la dispara		01.02.2023
5	Micro machines in robotics, machine vision - ranging laser – acoustic magnetic, fiber	3	
	Landile consors	3	01.02.2023
6	Manipulators and grippers differential motion		02.02.2023
7	Construction of manipulators - manipulator	3	programme and the real
	dynamics and force control Electronic and pneumatic manipulator control	3	02.02.2023
8	sircuits - end effectors		03.02.2023
9	various types of grippers, Design	3	
	considerations various types of grippers, Design	3	03.02.2023
10	considerations- contd	1	03.02.2023
11	Exam		_
	Total Hours (Excluding Exam)	30	

G. Ceanthing **VAC Coordinator**

Dr. G. Balakrishnan, M.E., Ph.D.,

Principal

Indra Ganesan College of Engineering IG Valley, Madurai Main Road Manikandam, Trichy-620 012.

M. Bhuvaneswab_ HOD/ECE



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Value Added Course

"INTRODUCTION TO ROBOTICS"

STUDENTS PARTICIPATION LIST

S.NO REG NO		STUDENTS NAME	YEAR/ BRANCI
1	81121910600	1 Dayana P	IV ECE
2	811219106002	2 Devika K	IV ECE
3	811219106003	Dinesh J	IV ECE
4	811219106004	i Carried Outlidellalli I	IV ECE
5	811219106005	Ravikumar B	IV ECE
6	811219106006	1	IV ECE
7	811219106008	Srikanth M	IVECE
8	811219106009	The state of the s	IV ECE
9	811219106010	1	IV ECE
0	811219106011	Swetha K	IV ECE
11	811219106301	Yuvashree S	IV ECE
2	811219106701	Vijayalakshmi V	IV ECE
13	811219106702	Ponnarasu S	IV ECE
4	811220106006	Banu priya G	III ECE
5	811220106008	Bharathidasan C	III ECE
6	811220106018	J.Jancy	III ECE
7	811220106019	Jeevasen N	III ECE
8	811220106021	Kamaraj.S	III ECE
9	811220106022	C.karthick	III ECE
0	811220106023	S.Karthika	III ECE
	811220106025	Kishore R	III ECE
2	811220106026	M. Kishore kumar	III ECE
	811220106028	Mancy.E	III ECE
	811220106031	Pradhap.J	III ECE
	811220106032	Prasannaa.J	III ECE
	811220106033	Preethika.M	III ECE
1	811220106034	Premalatha.M	III ECE
-	811220106037	Shri Harini Priya B	III ECE
	811220106038	M.Snega	III ECE
1 3	811220106039	N.Sobi amirtha	III ECE
{	311220106041	Sunil Kumar B	III ECE
8	11220106042	Susila N	III ECE
8	11220106049	Yoga priya.R	III ECE
8		AarthI.S	IIBEE, Balakr

Principal

Indra Ganesan College of Engineering IG Valley, Madurai Main Road Manikandam, Trichy-620 012.



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S.NO	REG NO	STUDENTS NAME	YEAR/ BRANCH
35	811221106003	Arockia Jenifer.M	II ECE
36	811221106005	Deepalakshmi.S	II ECE
37	811221106008	Dhinesh babu.C	II ECE
38	811221106012	Jaya Kamakshe Radha.S.P	II ECE
39	811221106022	Parkavi.S	II ECE
40	811221106024	Premkumer.S	II ECE
41	811221106033	Thamilarasi.C	II ECE
42	811221106034	Thrisha.S	II ECE
43	811221106035	Veerakumar.R	II ECE
44	811221106036	Vellaisamy.S	II ECE
45	811221106037	Victorraj.S	II ECE
46	811221106040	Vishal.V	II ECE
47	811221106301	Om Parkash.R	II ECE

Ca. Leethy VAC Coordinator

Dr. G. Balakrishnan, M.E., Ph.D.,

Principal

Indra Ganesan College of Engineering IG Valley, Madurai Main Road Manikandam, Trichy-620 012.







REPORT ON VALUE ADDED COURSE

Title:

"INTRODUCTION TO ROBOTICS"

Resource Person:

Mrs. Shalom Jerlin,

Technical head, Hitakey Infosys,

Trichy

Date of conduct from:

30.01.2023

To: 03.02.2023

Duration:

30 Hours

Organized Department: Electronics and Communication Engineering

Participant Year:

2,3,4

No. of Students Registered:

Venue: DSP Lab

Outcome of Value Added Course (VAC): At the end of the Course, Students can be able to

- Understand basic components of robotics, classification of robots and their applications.
- Know on types of robot grippers, their usage and design considerations.
- Understand about various types of sensory devices their working and applications.
- Apply basic transformations related to the movement of manipulator.
- Design a robot mechanism to meet kinematics requirements and to write simple programs.

Assessment Process

- Students, who are securing more than 70% on total score and secured more than 75% in attendance is eligible to receive the certificate for the VAC course conducted
- Total Score = (0.5 *Attendance in VAC out of 100 percentage + 0.5 *Test mark in VAC out of 100 marks)

VAC Coordinato

HoD/ECE

Dr. G. Balakrishnan, M.E., Ph.D., - Principal Indra Ganesan College of Engineering IG Valley, Madurai Main Road Manikandam, Trichy-620 012.







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Value Added Course "INTRODUCTION TO ROBOTICS"

SAMPLE PHOTOS OF VALUE ADDED COURSE

Title:

"INTRODUCTION TO ROBOTICS"

Resource Person:

Mrs. Shalom Jerlin,

Technical head,

Hitakey Infosys,

Trichy

Date of conduct from:

30.01.2023

03.02.2023 To:

Duration:

30 Hours

Organized Department: Electronics and Communication Engineering

Participant Year:

2,3,4

No. of Students Registered:

Venue:

DSP Lab

Sample Photo



a. Kosett VAC Coordinator

HoD/ECE

Dr. G. Balakrishnan, M.

Principal Indra Ganesan College of Engineering

IG Valley, Madurai Main Road Manikandam, Trichy-620 012.



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Value Added Course "INTRODUCTION TO ROBOTICS"

Dr G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
Year/Sem:
Walley, Madurai Main Road
Manikandam, Trichy-620 012.

Name of the Student:

AU Register Number:

1. A place where power, information, or a result leaves a system

MULTIPLE CHOICE QUESTIONS (25X1 = 25 Marks)

a. Chassis	b, output
c. sensor	d. troubleshooting
2. Which of the following describes the use of technology or machinery	y, specifically involving gases?
a. Pneumatics	b. Hydraulics
c. Actuation	d, Carbonation
3. The position or alignment relative to points of the compass or other	specific directions
a. Loops	b. Sensor
c. Chassis	d. Orientation
4. A mechanism having its motive power so concealed that it appears to	o move spontaneously
a. Automatic	b. Clock Jack
c. Robot	d. Automata
5. The branch of technology that deals with dimensions of microscopic p	proportion, is known as?
a. Nanny technology	b. Nanotechnology
c. Microtechnology	d. Micromachinery
6. Which of the following is not an advantage of Robots?	
a. They can assist humans with disabilities	b. They can replace jobs
c. They can be used in dangerous environment	d. They don't get tired or require a break
7. The Hummingbird require extra power to be able to wor	k
a. Sensors	b. LEDs
c. Motors	d. Tri-Color LEDs
8. The branch of technology that deals with the design, construction, op	peration, and application of robots
a, levers	b. robotics
c. creative power	d. Science CSF
9. When working in a group for robotics, students should	NAME.
a. Stay on task but don't work with other group members	b. Socialize with group members outside of
•	your group and then work alone
c. Socialize with other group members and don't help your group	d. Stay on task and work with other group
	members appropriately
10. A rigid external covering for the body in some invertebrate animals bu	* * * *
a. Exoskeleton	b, Armor
c. Endoskeleton	d. Hardware
11. The 3rd law of robotics Spirit Isaac Asimov first announced the 3 law	
a. A robot may not injure a human being or, through inaction, allow a human being to come to harm	b. A robot can't go to school
c. A robot must obey orders given it by human beings except where	d. A robot must protect its own existence as



a. Code

c, Robots

23. The three characteristic capabilities that define a robot

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Value Added Course "INTRODUCTION TO ROBOTICS"

such orders would confli	ict with the First law	long as such protection does not conflict wit the First or Second Law
	•	
12. How many systems o	does a robot have?	
a. 2		b. 6
c. 4		d. 3
13, Engines and joints be	elong to what system?	
a. Digestive system		b, Sensory system
c. Electric system		d. Mechanic system
14, How many types of ro	obots are there?	
a. 7	b. 10	
с. б	d. 8	
15. What are the compo	nents of the electric system?	
a. Electric joints and cables	b. Batteries and electric wiring	Dr. G. Balakrishnan, M.E., Ph
c. Engines and joints	d. Thunder and lightning	Principal Indra Ganesan College of Engineering
	nts does the control system have?	Indra Ganesan College of Engineering IG Valley, Madurai Main Road
a. 4		b. 1 Manikandam, Trichy-620 012.
c. 2		d. 5
17. The processor belong	s to the	
a. Sensory system		b. Mechanic system
c. Electric system		d. Control system
18. One of these is NOT a	type of robot	
a. Medical		b. Industrial
c. Household		d. Apologetic
19. The small mobile robo	ot base used in the Robot Educator. This re	obot is able to perform some but not all of the tasks
in the Robotics Engineering	ng activities	
a. Light sensor		b. Lego Mindstorms Education Software
c. Robot		d. Robot Educator Model (REM)
	• •	ing Software. Blocks perform their operations in
order along the Sequence	Beam	
a. Touch Sensor		b. Block (programming)
c. Ports		d. Behaviors
	physical motion in the Mind storms NXT	•
a. Interactive Servo Motor		b. Behaviors
c. Light Sensor		d. Touch Sensor
		nment. characterized by three central capabilities:
the ability to Sense, the ab	oility to Plan, and the ability to Act	

b. Taskbot

d. Ports



a. Comment

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b. Sensor

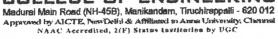
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Value Added Course "INTRODUCTION TO ROBOTICS"

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COLLEGE OF ENGINEERING





Value Added Course "INTRODUCTION TO ROBOTICS"

ANSWER KEY

1	A	6	A	11	A	16	Α	21	В
2	С	7	В	12	D	17	C	22	D
3	A	8	В	13	В	18	В	23	В
4	В	9	В	14	С	19	Α	24	С
5	В	10	В	15	В	20	D	25	Α

G- Keesthair VAC Coordinator

Dr. G. Balakrishnan, M.E., Ph.D.,

Principal

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the First or Second Law

Value Added Course "INTRODUCTION TO ROBOTICS"
KANTHIKA · S

Name of the Student:

AU Register Number:

such orders would conflict with the First law

811920106023

Verr/Sem: III/V

MULTIPLE CHOICE QUESTIONS	Ilr (Dalan Sille
	D-incipal
1. A place where power, information, or a result leaves a system	h output Indra Ganesan College of Engineering
a) Chassis	D, Output
c. sensor	d. troubleshooting Manikandam, Irichy-120 022-
2. Which of the following describes the use of technology or machiner	
a. Pneumatics	b. Hydraulics
© Actuation	d. Carbonation
3. The position or alignment relative to points of the compass or other	
3 Loops	b. Sensor
c. Chassis	d. Orientation
4. A mechanism having its motive power so concealed that it appears	to move spontaneously
a. Automatic	(b) Clock Jack
c. Robot	d. Automata
5. The branch of technology that deals with dimensions of microscopic	proportion, is known as?
Nanny technology .	b. Nanotechnology
c. Microtechnology	d. Micromachinery
6. Which of the following is not an advantage of Robots?	
They can assist humans with disabilities	b. They can replace jobs
c. They can be used in dangerous environment	d. They don't get tired or require a break
7. The Hummingbird require extra power to be able to wo	ork _
a, Sensors	(b) LEDs
c, Motors	d. Tri-Color LEDs
8. The branch of technology that deals with the design, construction, o	peration, and application of robots
a, levers	(b) robotics
c. creative power	d. Science CSF
9. When working in a group for robotics, students should	NAME AND ADDRESS OF THE ADDRESS OF T
a) Stay on task but don't work with other group members	b. Socialize with group members outside of
	your group and then work alone
c. Socialize with other group members and don't help your group	d. Stay on task and work with other group
C. Double Color Brown	members appropriately
10. A rigid external covering for the body in some invertebrate animals b	out also robots.
a. Exoskeleton	(b) Armor
c. Endoskeleton	d. Hardware
11. The 3rd law of robotics Spirit Isaac Asimov first announced the 3 la	ws of robotics in 1942.
a) A robot may not injure a human being or, through inaction, allow a	b. A robot can't go to school
human being to come to harm	
•	ha i i i i i i i i i i i i i i i i i i i
C. A robot must obey orders given it by human beings except where	d. A robot must protect its own existence as
such orders would conflict with the First law	long as such protection does not conflict with



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Value Added Course "INTRODUCTION TO ROBOTICS"

12. How many systems does a robot have?	
a. 2	b. 6
€. 4	√ (a) 3
13, Engines and joints belong to what system?	
a, Digestive system	b. Sensory system
(Electric system	d. Mechanic system
14. How many types of robots are there?	d. Wedding System
a. 7 b. 10	J.P.
€ 6 d. 8	
15. What are the components of the electric system?	Dr. G. Balakrishnan, M.E., Fh.
a. Electric joints and D. Batteries and electric wiring	Principal
cables	Indra Ganesan College of Engineering
c. Engines and joints d. Thunder and lightning	IG Valley, Madurai Main Road
16. How many components does the control system have?	Manikandam, Trichy-620 012.
	,
3 4	b. 1
c. 2	d. 5
17. The processor belongs to the	
a. Sensory system	b. Mechanic system
© Electric system	d. Control system
18. One of these is NOT a type of robot	
a. Medical	(b) Industrial
c. Household	d. Apologetic
19. The small mobile robot base used in the Robot Educator. The	nis robot is able to perform some but not all of the task
in the Robotics Engineering activities	I
(a) Light sensor	b. Lego Mindstorms Education Software
c. Robot	d. Robot Educator Model (REM)
20. A block is the basic unit of programming in the NXT program	mming Software. Blocks perform their operations in
order along the Sequence Beam	o per a la l
a. Touch Sensor	b. Block (programming)
c. Ports	(a) Behaviors
21. The primary source of physical motion in the Mind storms N	IXT system
a. Interactive Servo Motor	(b) Behaviors
c. Light Sensor	d. Touch Sensor
22. A machine that is able to interact with and respond to its en	yiranmant characterized by the state of the
the ability to Sense, the ability to Plan, and the ability to Act	who intent. Characterized by three central capabilities:
a. Code	O/D Toolkhoo
c. Robots	◯ Taskbot
23.The three characteristic capabilities that define a robot	d. Ports
a, Comment	(A) Samuel
c. Sense-Plan-Act	6b. Sensor
W	d, NX1 Brick



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Value Added Course "INTRODUCTION TO ROBOTICS"

24. When working in a group for robotics, students should	
a. Socialize instead of work and then work alone	b. Stay on task and don't work with your group
Work alone and don't socialize with group members	d. stay on task and work with group members appropriately
25. General term for any command or group of commands in a primore blocks	program. In the NXT Programming Software, this is one
Comment . Ports	b. Code d. Robot

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Manikandam, Trichy-620 012.



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Department of Electronics and Communication Engineering

Academic Year 2022-2023 - Odd Semester

STUDENTS ATTENDANCE LIST

Value Added Course

"INTRODUCTION TO ROBOTICS"

Dr. C. Balakrishnan, M.E., Pn.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012

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S.N	REG NO	STUDENTS NAME	YEAR/ BRANCH	30.01	.2023	31.01	.2023	01.02	.2023	02.02	2023	1	.2023	NO OF SESSI	SIGN OF THE
1	811219106001	Dayana P	IV/ ECE	FN	AN	FN	AN	FN	AN	FN	AN	FN	AN	ONS ATTE NDED	STUDENT
2	811219106002	Devika K	IV/ ECE	5	5	<u>u</u>	5	4	4	h	4	4	4	9	
4	811219106003 811219106004	Dinesh J	IV/ ECE	4	1	7	~	7	4	N	n	4	5	10	berlika. le
5	811219106005	Mohana Sundaram K Ravikumar B	IV/ ECE	ч	7		u,	N	<u>u</u>	7	1	シ	5	9	J. DANEL
6	811219106006	Santhanaraj A	IV/ ECE	4	7	A	1	N	U	~	u	~	5	10	Molney Seel
8	811219106008 811219106009	Srikanth M Surendran S	IV/ ECE	7	5	5	5	7	u	1	1	-1	4	70	Sotha Par
9	811219106010	Surya V	IV/ ECE	<u></u>	1	27	0	2		A.	1	~	7	10	South
10	811219106011 811219106301	Swetha K	IV/ ECE	7	4	-1	2	-44	vi	4	a	7	4	9	Suya
2	811219106301	Yuvashree S Vijayalakshmi V	IV/ ECE	9	ca	5	7	7	1	E)	u	4	1	9	Sunsofra-
3	811219106702	Ponnarasu S	IV/ ECE	5	-7	*7	~	F	2	7	4	7	N	10	YUVAIS
14	811220106006	Banu priya G	III / ECE		5	9	2	-	9	9	-1	1	1	10	Boni Payor



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Manikandam, Trichy-620 012.

Department of Electronics and Communication Engineering

Academic Year 2022-2023 - Odd Semester

VALUE ADDED COURSE ASSESMENT SHEET

"INTRODUCTION TO ROBOTICS"

S.NO	REG NO	O STUDENTS NAME	YEAR/	Attenda	nce Details	VAC-M	OVERALL	
· ·		STUDENTS NAME	BRANCH	No. of Session Attended	Attendance Mark(100) (A)	No of Correct	MCQ Mark(100)	MARK(100) (50% of A + 50% of B)
1	811219106001	Dayana P	IV ECE		mine mention	Answers	(B)	
2	811219106002	Devika K		27	90	24	96	93
3	811219106003		IV ECE	30	100	20	ship recognises and principle programs as the	to happy to the second seconds.
<i>.</i>		Dinesh J	IVECE	27			80	90
4	811219106004	Mohana Sundaram K	IV ECE	41	90	21	84	87
5	811219106005	Ravikumar B	to be made and	30	100	20	80	90
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6	811219106006	Santhanaraj A	IV ECE		Representation and property of a section	19	76	82
7	811219106008	Srikanth M		30	100	19	76	88
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******		Surendran S	IV ECE	27	90		·	92
9	811219106010	Surya V	IV ECE		90	19	76	83
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S.NO	REG NO			1	dance Details		ICQ TEST	
	1230 110	STUDENTS NAME	YEAR/ BRANCH	No. of Session Attend	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	OVERALL MARK(100) (50% of A + 50% of B)
12	811219106701	Vijayalakshmi V	IV ECE	ed				
13	811219106702	Ponnarasu S	IV ECE	27	90	20	80	85
14	811220106006	Banu priya G		30	100	21	84	92
15	811220106008	Bharathidasan C	III ECE	30	100	23	92	96
16	811220106018	Jancy J	III ECE	27	90	19	76	83
17	811220106019	Jeevasen N	III ECE	24	80	20	80	80
18	811220106021	Kamaraj.S	III ECE	24	80	21	84	
19	811220106022	karthick C	III ECE	27	90	22	88	82
20	811220106023	Karthika S	III ECE	30	100	20	80	89
21	811220106025	Kishore R	III ECE	27	90	21	84	90
22	811220106026		III ECE	24	80	20		87
23	811220106028	Kishore kumar M	III ECE	27	90	21	80	80
24	811220106031	Mancy.E	III ECE	30	100		84	87
25	811220106032	Pradhap.J	III ECE	30	100	20	80	90
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Dr. G. Balakrishnan, M.E. Principal

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34	811221106001	Aarthi.S	III ECE	30	100	19	76	83
35	811221106003	Arockia Jenifer.M	II ECE	30	100	23		88
36	811221106005	Deepalakshmi.S	II ECE	27	90	19	92	96
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39	811221106022	Jaya Kamakshe Radha.S.P	II ECE	30	*	19	76	83
40	811221106024	Parkavi.S	II ECE	30	100	19	76	88
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Or. G. Balarishnan, M.E., Ph.D.,

Frincipal
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This is to certify that Ms. SURYA.V, IV Year, ECE has successfully completed the Value Added Course on "INTRODUCTION TO ROBOTICS" organized by Department of Electronics and Communication Engineering and IQAC of our Institution in Association with Hitakey Infosys from 30th January 2023 to 03rd February 2023 (5days) during the Academic year 2022-2023.

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This is to certify that Mr.RAVIKUMAR B, IV Year, ECE has successfully completed the Value Added Course on "INTRODUCTION TO ROBOTICS" organized by Department of Electronics and Communication Engineering and IQAC of our Institution in Association with Hitakey Infosys from 30th January 2023 to 03rd February 2023 (5days) during the Academic year 2022-2023.

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This is to certify that Mr.KAMARAJ S, III Year, ECE has successfully completed the Value Added Course on "INTRODUCTION TO ROBOTICS" organized by Department of Electronics and Communication Engineering and IQAC of our Institution in Association with Hitakey Infosys from 30th January 2023 to 03rd February 2023 (5days) during the Academic year 2022-2023.

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This is to certify that Ms.PARKAVI S, II Year, ECE has successfully completed the Value Added Course on "INTRODUCTION TO ROBOTICS" organized by Department of Electronics and Communication Engineering and IQAC of our Institution in Association with Hitakey Infosys from 30th January 2023 to 03rd February 2023 (5days) during the Academic year 2022-2023.

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This is to certify that Mr.PREM KUMAR S, II Year, ECE has successfully completed the Value Added Course on "INTRODUCTION TO ROBOTICS" organized by Department of Electronics and Communication Engineering and IQAC of our Institution in Association with Hitakey Infosys from 30th January 2023 to 03rd February 2023 (5days) during the Academic year 2022-2023.

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This is to certify that Mr.VEERA KUMAR R, II Year, ECE has successfully completed the Value Added Course on "INTRODUCTION TO ROBOTICS" organized by Department of Electronics and Communication Engineering and IQAC of our Institution in Association with Hitakey Infosys from 30th January 2023 to 03rd February 2023 (5days) during the Academic year 2022-2023.

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This is to certify that Mr.VICTOR RAJ S, II Year, ECE has successfully completed the Value Added Course on "INTRODUCTION TO ROBOTICS" organized by Department of Electronics and Communication Engineering and IQAC of our Institution in Association with Hitakey Infosys from 30th January 2023 to 03rd February 2023 (5days) during the Academic year 2022-2023.

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This is to certify that Mr.DINESH BABU C, II Year, ECE has successfully completed the Value Added Course on "INTRODUCTION TO ROBOTICS" organized by Department of Electronics and Communication Engineering and IQAC of our Institution in Association with Hitakey Infosys from 30th January 2023 to 03rd February 2023 (5days) during the Academic year 2022-2023.

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This is to certify that Mr.BHARATHIDASAN C, III Year, ECE has successfully completed the Value Added Course on "INTRODUCTION TO ROBOTICS" organized by Department of Electronics and Communication Engineering and IQAC of our Institution in Association with Hitakey Infosys from 30th January 2023 to 03rd February 2023 (5days) during the Academic year 2022-2023.

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This is to certify that Mr.DINESH J, IV Year, ECE has successfully completed the Value Added Course on "INTRODUCTION TO ROBOTICS" organized by Department of Electronics and Communication Engineering and IQAC of our Institution in Association with Hitakey Infosys from 30th January 2023 to 03rd February 2023 (5days) during the Academic year 2022-2023.

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