



**JEPPIAAR INSTITUTE OF TECHNOLOGY**  
**"Self-Belief | Self Discipline | Self Respect"**



**ANNA UNIVERSITY APPROVED VALUE ADDED COURSES**



**CENTRE FOR ACADEMIC COURSES**  
**ANNA UNIVERSITY**  
**CHENNAI - 600 025**

Fax / Dir  
22357074  
22352272

Dr. T. V. GEETHA  
 DIRECTOR  
 Letter No.1279/AU/VA/CAC/2018

27.03.2016

To  
 The Controller of Examinations  
 Anna University  
 Chennai - 25.

Sr.

Sub : A.U. - CAC - Affiliated Institutions - Value Added Course - Reg.  
 Ref : Letter No.JIT/P/329/2017-2018, dated 16.03.2018.

With reference to the letter cited above, the following Value Added Course offered by Jeppiaar Institute of Technology, Sriperumbudur, Affiliated Institutions is allotted the course code as detailed below.

S.No	Code Allotted	Title
1	MVA001	Small Unmanned Aerial Vehicle (sUAV) - Drone

This is for your kind information and necessary action at your end.

Yours faithfully,

DIRECTOR

Copy to:

1. The Chairman, Faculty of Mechanical Engineering, A.U., Ch -25
2. The Principal, Jeppiaar Institute of Technology, Kunnam, Sunguvarcharam, Sriperumbudur, Chennai - 632 604.
3. The Stock File

PRINCIPAL  
 JEPPIAAR INSTITUTE OF TECHNOLOGY  
 KUNNAM, SUNGUVARCHARAM,  
 SRIPERUMBUDUR - 631604.



OM 22357077 / 73  
22357074  
Fax / Dr. 22962272  
CENTRE FOR ACADEMIC COURSES  
ANNA UNIVERSITY  
CHENNAI - 600 025



Dr. SANJIB KUMAR PATTANAIK  
DIRECTOR  
Letter No 697/AU/VA/CAC/FICE/2020

19.08.2020

To  
The Controller of Examinations  
Anna University  
Chennai - 25.

Sir

Sub: A.U. - CAC - Affiliated Institutions - Value Added Courses - Reg.  
Ref. (i) Letter No JIT/P/183/2019-2020, dated 28.02.20  
(ii) Mail received from college (updated content), dated, 29.07.2020

With reference to the letter cited, the following Value Added Courses offered by Jeppiaar Institute of Technology, Affiliated Institutions is allotted the course code as detailed below.

SL. NO.	CODE ALLOTTED	TITLE	CREDITS			
			L	T	P	C
1	IVAD65	Ethical Hacking and Network Security	1	0	2	2
2	IVAD66	Machine learning Techniques	0	0	2	1

This is for your kind information and necessary action at your end.

Yours faithfully,

*Mavis*  
DIRECTOR

15/8/20

Copy to:

- The Principal, Jeppiaar Institute of Technology, Kunnam, Sriperumbudur - 631604.
- The Chairperson, Faculty of Information and Communication Engineering, A.U., Chennai -25.
- The Stock File.

A1

*J.N.H*  
PRINCIPAL  
JEPPIAAR INSTITUTE OF TECHNOLOGY  
KUNNAM, SUNGUVARCHATRAM,  
SRIPERUMBUDUR - 631604.



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ANNA UNIVERSITY  
CHENNAI - 600 025

Off. 22357077 / 73

22357074

Fax / Dir 22352272



Dr. SANJIB KUMAR PATTANAIK  
DIRECTOR  
Letter No 3034/AU/VA/CAC/2019

10.09.2019

To  
The Controller of Examinations  
Anna University  
Chennai - 25

Sir,  
Sub : A.U - CAC - Affiliated Institutions - Value Added Course - Reg  
Ref : Letter No. JIT/P/025/2019-2020 dated 12.07.2019.  
\*\*\*\*\*

With reference to the letter cited, the following Value Added Course offered by Jeppiaar Institute of Technology, Chennai, Affiliated Institutions is allotted the Course Code as detailed below.

SL. No.	Code Allotted	Title	Credits			
			L	T	P	C
1	MVA013	Robotics Process Automation	2	0	0	2

This is for your kind information and necessary action at your end.

Yours faithfully,

*Sanjib* 100519  
DIRECTOR

Copy to:

1. The Chairperson, Faculty of Mechanical Engineering, A.U., Ch -25.
2. The Principal, Jeppiaar Institute of Technology, Kunnam, Sunguvarchatram, Sriperumbudur, Chennai - 631 604.
3. The Stock File - CAC.

*J.N.W*  
PRINCIPAL  
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SRIPERUMBUDUR - 631604.



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ANNA UNIVERSITY  
CHENNAI - 600 025

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22357074

Fax / Dir: 22352272



Dr. R. RAJU  
DIRECTOR  
Letter No.303/AU/VA/CAC/FICE/2019

08.08.2019

To  
The Controller of Examinations  
Anna University  
Chennai - 25.

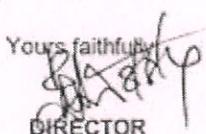
Sir,  
Sub: A.U. - CAC - Affiliated Institutions - Value Added Courses - Reg.  
Ref: Letter No.JIT/PO25/2019-2020, dated 12.07.2019  
\*\*\*\*\*

With reference to the letter cited, the following Value Added Courses offered by Jeppiaar Institute of Technology, Affiliated Institutions is allotted the course code as detailed below:

SI.NO	CODE ALLOTTED	TITLE	Credits			
			L	T	P	C
1.	IVA018	Advanced Python and Introduction to Machine Learning	0	0	2	1

This is for your kind information and necessary action at your end.

Yours faithfully,

  
DIRECTOR

8/15/19

Copy to:

- ✓1. The Principal, Jeppiaar Institute of Technology, Jeppiaar Nagar, Kunnam, Sriperumbudur Taluk, Kanchipuram District – 631 604
2. The Chairperson, Faculty of Information and Communication Engineering, A.U., Chennai -25.
3. The Stock File.



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CHENNAI - 600 025

Off: 22357077 / 73  
22357074

Fax / Dir: 22352270



Dr. T. V. GEETHA  
DIRECTOR  
Letter No:1724/AU/V/A/CAC/2018

15.05.2018

To  
The Controller of Examinations  
Anna University  
Chennai - 25.

Sir,  
Sub : A.U. - CAC - Affiliated Institutions - Value Added Course - Reg.  
Ref : Letter No.JIT/P/355/2017-2018, dated:07.05.2018.  
\*\*\*\*\*

With reference to the letter cited above, the following Value Added Course offered by Jeppiaar Institute of Technology, Sriperumbudur, Affiliated Institutions is allotted the course code as detailed below.

S.No	Code Allotted	Title
1.	MVA002	3D Printing

This is for your kind information and necessary action at your end.

Yours faithfully,

*Unni*  
15/05/18  
DIRECTOR  
*pv*

Copy to:

1. The Chairman, Faculty of Mechanical Engineering, A.U., Ch -25.
- The Principal, Jeppiaar Institute of Technology, Kunnam, Sunguvarcharam, Sriperumbudur, Chennai - 632 604.
3. The Stock File

*J.N. N*  
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KUNNAM, SUNGUVARCHATRAM,  
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CHENNAI - 600 025

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22357074

Fax / Dr: 22352232\*



Dr. T. V. GEETHA  
DIRECTOR

Letter No 1724/AU/VAAC/CAC/2016

16.05.2016

To:  
The Controller of Examinations  
Anna University  
Chennai - 25

Sr:

Sub: A.U - CAC - Affiliated Institutions - Value Added Course - Reg  
Ref: Letter No. JIT/P/365/2017-2018, dated 07.05.2016.

With reference to the letter cited above, the following Value Added Courses offered by Jeppiaar Institute of Technology, Sipperumbudur, Affiliated Institutions is allotted the course code as detailed below:

S.No	Code Allotted	Title
1	IVA002	PCB Design, Embedded System Interfacing with Arduino & Robotics
2	IVA003	Interactive Web Designing and Progressive Java
3	IVA004	Robotics and its Applications

This is for your kind information and necessary action at your end.

Yours faithfully,

DIRECTOR

Copy to:

1. The Chairman, Faculty of Information and Communication Engineering, A.U., Ch -25
2. The Principal, Jeppiaar Institute of Technology, Jeppiaar Nagar, Kunnam, Sunguvarcharam, Sipperumbudur, Chennai - 631 604
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Fax / Dir: 22352272



Dr. T. V. GEETHA  
DIRECTOR  
Letter No 1279/AU/VA/CAC/2018

10.04.2018

To  
The Controller of Examinations  
Anna University  
Chennai - 25

Sir,  
Sub : A.U. - CAC - Affiliated Institutions - Value Added Course - Reg  
Ref : Letter No.JIT/P/329/2017-2018, dated: 16.03.2018.

With reference to the letter cited above, the following Value Added Course offered by Jeppiaar Institute of Technology, Sriperumbudur, Affiliated Institutions is allotted the course code as detailed below.

S.No	Code Allotted	Title
1.	IVA001	Design Thinking

This is for your kind information and necessary action at your end.

Yours faithfully,

DIRECTOR

Copy to:

1. The Chairman, Faculty of Information and Communication Engineering, A.U., CH-25.
2. The Principal, Jeppiaar Institute of Technology, Kunnam, Sunguvachatram, Sriperumbudur, Chennai - 632 604.
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SRIPERUMBUDUR - 631604.



## CURRICULUM FOR ROBOTICS PROCESS AUTOMATION

### Course Objective:

- To learn the basic of Robotics Process Automation.
- To understand the basic concept of Robotics with Automation Anywhere.
- To apply the Automation Anywhere commands for processing.
- To be familiar with application development.
- To design a system, to automate the process to meet user needs.

### UNIT – I INTRODUCTION TO RPA

Robotics Process Automation - Basics of RPA - Enterprise Processes – Applications of Process Automation - Business Process Automation – Financial – Human Resource – Payroll – Overview of Automation Anywhere - Cognitive Automation

### UNIT – II AUTOMATION ANYWHERE

6

Web Control Room Settings – User Management – Scheduled Task –Repository Manager – Development Client - License Settings - All Menus – Theory - Demonstration - Hands on practice

### UNIT – III RECORDERS

6

Recorders: Web Recorder – Pattern data –Table Extraction - Screen Recorder Mouse clicks- Keystrokes-Smart Recorder –Object Cloning -Introduction to IQ bot and Meta bot - Theory, Demonstration and Exercises

### UNIT – IV COMMANDS

6

Read from CSV/Text – Excel- Open and Close spreadsheet- get, set and go to cell - Find and Replace - Delete cells –Save Spreadsheet- Find and Replace- Database - Files/Folder -Error handling - Begin and End - String Operation – Find/Replace, Before/After, LowerCase/Upper Case, Split/Trim -Variables -Variable Operation

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## UNIT – V APPLICATION DEVELOPMENT

Active Directory – Application Integration –Conditional Statements - PDF Integration - Email Automation -OCR -Web Recorder – Properties –Workflow -Tips & Tricks – Certification – BOT development

Total Hours :30 hrs.

### Course Outcomes

- Understanding of Automation Anywhere tool.
- Analyze programming concepts of Automation process with AA tools for BOT development.
- Apply the AA commands and automation concepts.
- Design the bot for various applications.

### Text Book:

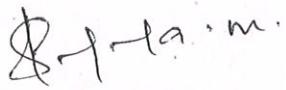
Robotic Process Automation: Guide To Building Software Robots, Automate Repetitive Tasks & Become An RPA Consultant Paperback – May 30, 2018

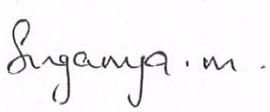
### Reference Book:

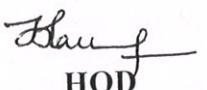
1. Automate This: How Algorithms Took Over Our Markets, Our Jobs, and the World Paperback – August 27, 2013
2. The Simple Implementation Guide to Robotic Process Automation (Rpa): How to Best Implement Rpa in an Organization

### External and Internal Trainers Details

S.No	Name of the Trainer	Designation	Company
1	Mr.Kapil Raina	Product Trainer	Automation Anywhere
2	Mr.Kunal	Product Trainer	Automation Anywhere
3	Mrs.M.Suganya	Assistant Professor	Jeppiaar Institute of Technology

  
VAC Co Ordinator

  
Suganya.m.

  
HOD  
(Dr. J. PARITHA BANU)

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**TIME TABLE - ROBOTICS PROCESS AUTOMATION**

Date	8.00 am to 10.00 am	10.00 am to 10.15 am	10.15 am to 12.00 Noon	12.00 Noon to 12.45 pm	12.45 pm to 02.45 pm
5.12.2018	Robotics Process Automation - Basics of RPA - Enterprise Processes		Applications of Process Automation - Business Process Automation		Financial – Human Resource – Payroll – Overview of Automation Anywhere - Cognitive Automation
6.12.2018	Web Control Room Settings – User Management		Scheduled Task – Repository Manager – Development Client		UISE Settings - All Menus – Theory - Demonstration - Hands on practice
7.12.2018	Recorders: Web Recorder – Pattern data	Break	Table Extraction - Screen Recorder Mouse clicks- Keystrokes- Smart Recorder	Lunch	Object Cloning - Introduction to IQ bot and Meta bot - Theory, Demonstration and Exercises
10.12.2018	Read from CSV/Text – Excel- Open and Close spreadsheet- get, set and goto cell- Macros-Delete cells		Save Spreadsheet- Find and Replace- Database - Files/Folder -Error handling – Begin and End		String Operation – Find/Replace, Before/After, LowerCase/Upper Case, Split/Trim -Variables - Variable Operation
11.12.2018	Active Directory – Application Integration – Conditional Statements		PDF Integration - Email Automation -OCR		Web Recorder – Properties –Workflow -Tips & Tricks – Certification – BOT development

Training Staff Incharge:

1. Mrs.M.Suganya,AP/CSE

2. Mrs.Aruna Jasmine,AP/IT

HOD

[Dr. J. FARITHA BANU]

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SRIPERUMBUDUR - 631604.

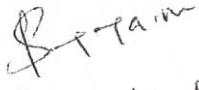


**VALUE ADDED COURSE DETAILS**  
**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**  
**ACADEMIC YEAR 2018-2019**

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE ORGANIZATION	CERTIFICATE(YES/NO)
1	2018-2022/ECE/I/02	Bhuvaneshwari	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
2	2018-2022/ECE/I/02	Keerthana	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
3	2018-2022/CSE/I/02	Saranya	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
4	2018-2022/CSE/I/02	Vidhula	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
5	2018-2022/CSE/I/02	Sharmila Roselin	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
6	2018-2022/CSE/I/02	Abarna	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
7	2018-2022/CSE/I/02	Hari Krishnan	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
8	2018-2022/CSE/I/02	Deshmukh	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
9	2018-2022/CSE/I/02	Suren Raj	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
10	2018-2022/CSE/I/02	Srihari	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
11	2018-2022/CSE/I/02	Saranraj	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
12	2018-2022/CSE/I/02	Aravindar	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
13	2018-2022/CSE/I/02	Ragul	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
14	2018-2022/MECH/I/02	Keerthi Raj	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
15	2018-2022/MECH/I/02	Sivajith	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
16	2018-2022/MECH/I/02	Senin Stawin	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
17	2018-2022/IT/I/02	Nithya Sri	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
18	2018-2022/IT/I/02	Mary Santra	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
19	2018-2022/IT/I/02	Ashwin	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
20	2018-2022/IT/I/02	Poongundran	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
21	2018-2022/IT/I/02	Praveen	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
22	2018-2022/IT/I/02	Vishnu Prasath	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
23	2016-2020/EEE/III/05	JAYACHANDRAN	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
24	2016-2020/EEE/III/05	JOHNSON	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
25	2016-2020/EEE/III/05	NAGASUBRAMANI	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES

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**KUNNAM, SUNGUVARCHATRAM,**  
**SRIPERUMBUDUR - 631604.**

26	2016-2020/EEE/III/05	REVATHI	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
27	2016-2020/EEE/III/05	DINESHKUMAR	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
28	2016-2020/EEE/III/05	RAAGINI	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
29	2016-2020/ECE/III/5	HARIHARAN	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
30	2016-2020/ECE/III/5	SIRIAM	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
31	2016-2020/ECE/III/5	KALAIYARASAN	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
32	2016-2020/ECE/III/5	MOHAMED KAMEEL	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
33	2016-2020/ECE/III/5	RAMANATHAN AR	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
34	2016-2020/ECE/III/5	PRIYA DHARSHINI	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
35	2016-2020/CSE/III/05	ASHWATH	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
36	2016-2020/CSE/III/05	BALAKRISHNAN	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
37	2016-2020/CSE/III/05	JERALD VINFRANK	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
38	2016-2020/CSE/III/05	PEER MOHAMED	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
39	2016-2020/CSE/III/05	SIVASUBRAMANIAN	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
40	2016-2020/CSE/III/05	YUVARANI	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
41	2016-2020/MECH/III/05	PALANI	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
42	2016-2020/MECH/III/05	SANTHOSH SIVAN	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
43	2016-2020/MECH/III/05	SARATH	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
44	2016-2020/MECH/III/05	SATHEESH	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
45	2016-2020/MECH/III/05	MEGANATHAN	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
46	2016-2020/MECH/III/05	YUGANDRAN	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
47	2016-2020/IT/III/05	PREM KUMAR	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
48	2016-2020/IT/III/05	SUSHMETHA	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
49	2016-2020/IT/III/05	KAUSHIK DAYABAR	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
50	2016-2020/IT/III/05	SWATHI PRIYA	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
51	2016-2020/IT/III/05	ALLWIN PRATAP	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES
52	2016-2020/IT/III/05	VIGNESH	ROBOTICS PROCESS AUTOMATION	30 Hrs	Automation Anywhere	YES

  
 VAC Co-ordinator  
 Suganya M.

  
 PRINCIPAL  
 JEPPIAAR INSTITUTE OF TECHNOLOGY  
 KUNNAM, SUNGUVARCHATRAM,  
 SRIPERUMBUDUR - 631604.



## JEPPIAAR INSTITUTE OF TECHNOLOGY

"Self-Belief | Self Discipline | Self Respect"



### VALUE ADDED COURSE - ROBOTIC PROCESS AUTOMATION

ACADEMIC YEAR 2018-2019

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	5.12.2018	6.12.2018	7.12.2018	10.12.2018	11.12.2018
1	2018-2022/ECE/I/02	Bhuvaneshwari	/	/	/	/	/
2	2018-2022/ECE/I/02	Keerthana	/	/	/	/	/
3	2018-2022/CSE/I/02	Saranya	/	/	a	/	/
4	2018-2022/CSE/I/02	Vidhula	/	/	/	/	/
5	2018-2022/CSE/I/02	Sharmila Roselin	/	/	/	/	/
6	2018-2022/CSE/I/02	Abarna	/	/	/	/	/
7	2018-2022/CSE/I/02	Hari Krishnan	/	/	/	/	/
8	2018-2022/CSE/I/02	Deshmukh	/	/	/	/	/
9	2018-2022/CSE/I/02	Suren Raj	/	/	/	/	/
10	2018-2022/CSE/I/02	Srihari	/	/	/	/	/
11	2018-2022/CSE/I/02	Saranraj	/	/	/	/	/
12	2018-2022/CSE/I/02	Aravindar	/	/	/	a	/
13	2018-2022/CSE/I/02	Ragul	/	a	/	/	/
14	2018-2022/MECH/I/02	Keerthi Raj	/	/	/	/	/
15	2018-2022/MECH/I/02	Sivajith	/	/	/	/	/
16	2018-2022/MECH/I/02	Senin Stawin	/	/	/	/	/
17	2018-2022/IT/I/02	Nithya Sri	/	/	a	a	/
18	2018-2022/IT/I/02	Mary Santra	/	/	/	/	/
19	2018-2022/IT/I/02	Ashwin	/	/	/	/	/
20	2018-2022/IT/I/02	Poongundran	/	/	/	/	/
21	2018-2022/IT/I/02	Praveen	/	/	/	/	a
22	2018-2022/IT/I/02	Vishnu Prasath	/	/	/	/	/
23	2016-2020/EEE/III/05	JAYACHANDRAN	/	/	/	/	/
24	2016-2020/EEE/III/05	JOHNSON	/	/	/	/	/
25	2016-2020/EEE/III/05	NAGASUBRAMANI	/	/	/	/	/
26	2016-2020/EEE/III/05	REVATHI	/	/	/	/	/
27	2016-2020/EEE/III/05	DINESHKUMAR	/	/	/	/	/
28	2016-2020/EEE/III/05	RAAGINI	/	/	/	/	/
29	2016-2020/ECE/III/5	HARIHARAN	/	/	/	/	/
30	2016-2020/ECE/III/5	SRIRAM	/	/	/	/	/
31	2016-2020/ECE/III/5	KALAIYARASAN	/	/	/	/	/
32	2016-2020/ECE/III/5	MOHAMED KAMEEL	/	/	/	/	/
33	2016-2020/ECE/III/5	RAMANATHAN AR	/	/	/	/	a
34	2016-2020/ECE/III/5	PRIYA DHARSHINI	/	/	/	/	/
35	2016-2020/CSE/III/05	ASHWATH	/	/	/	/	/
36	2016-2020/CSE/III/05	BALAKRISHNAN	/	/	/	/	/
37	2016-2020/CSE/III/05	JERALD VINFRANK	/	/	/	/	/
38	2016-2020/CSE/III/05	PEER MOHAMED	/	/	/	/	/
39	2016-2020/CSE/III/05	SIVASUBRAMANIAN	/	/	/	/	/
40	2016-2020/CSE/III/05	YUVARANI	/	/	/	/	/
41	2016-2020/MECH/III/05	PALANI	/	/	/	/	/
42	2016-2020/MECH/III/05	SANTHOSH SIVAN	/	/	/	/	/
43	2016-2020/MECH/III/05	SARATH	/	/	/	/	/
44	2016-2020/MECH/III/05	SATHEESH	/	a	/	/	/
45	2016-2020/MECH/III/05	MEGANATHAN	/	/	/	/	/
46	2016-2020/MECH/III/05	YUGANDRAN	/	/	/	/	/
47	2016-2020/IT/III/05	PREM KUMAR	/	/	/	/	/
48	2016-2020/IT/III/05	SUSHMETHA	/	/	/	/	/
49	2016-2020/IT/III/05	KAUSHIK DAYABAR	/	/	/	/	a
50	2016-2020/IT/III/05	SWATHI PRIYA	/	/	/	/	/
51	2016-2020/IT/III/05	ALLWIN PRATAP	/	/	/	a	/
52	2016-2020/IT/III/05	VIGNESH	/	/	/	a	a

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VAC Co-ordinator

S. Selvaraj  
S. Selvaraj AP/CSE

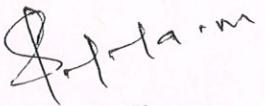


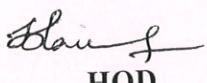
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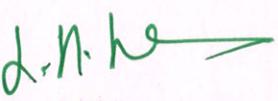


## **ROBOTICS PROCESS AUTOMATION SUMMARY REPORT**

Department of Computer Science and Engineering, Jeppiaar Institute of Technology organized value added course on Robotic Process Automation from 5.12.2019 to 11.12.2020 for a duration of 30 hours. Jeppiaar Institute of Technology signed a MOU with Automation Anywhere and inaugurated BOT Lab-Centre of Excellence on Dec 03<sup>rd</sup> 2018. Total of 52 students enrolled in the course and everyone successfully completed the course and got certified. Two Prerequisite courses hello bot and break the ice were completed by the students. The course enabled the students to get trained as RPA developer which helps in meeting placement requisites. Students practically implemented automating tedious task which improves business application.

  
**VAC Co Ordinator**

  
**HOD**  
**(Dr. J. FARITHABAN)**

  
**Dr. N. H.**

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### VALUE ADDED COURSE- FEEDBACK FORM

Academic Year 2018-2019 : Year/Sem:

Name of the VAC Coordinator: Ms. Suganya

VAC Duration: 5.12.2018 to 11.12.2018

Name (Optional) :

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?		✓		
2	How interested were the content present at VAC?	✓			
3	How useful was the VAC from the knowledge and information point of view		✓		
4	The VAC Presented were congruent with the VAC syllabus	✓			
5	How well was the event space set up?		✓		
6	Expert technical knowledge of the subject		✓		
7	The expert provided adequate time for asking questions and answered them effectively	✓			
8	The materials Provided were useful		✓		
9	The experts demonstrated student centered learning strategies and techniques		✓		
10	Overall effectiveness of the program		✓		

Any Additional comments and suggestions for improvement:

Good.

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## CURRICULUM FOR ROBOTICS PROCESS AUTOMATION

### Course Objective:

- To learn the basic of Robotics Process Automation.
- To understand the basic concept of Robotics with Automation Anywhere.
- To apply the Automation Anywhere commands for processing.
- To be familiar with application development.
- To design a system, to automate the process to meet user needs.

### UNIT – I INTRODUCTION TO RPA

6

Robotics Process Automation - Basics of RPA - Enterprise Processes – Applications of Process Automation - Business Process Automation – Financial – Human Resource – Payroll – Overview of Automation Anywhere - Cognitive Automation

### UNIT – II AUTOMATION ANYWHERE

6

Web Control Room Settings – User Management – Scheduled Task –Repository Manager – Development Client - License Settings - All Menus – Theory - Demonstration - Hands on practice

### UNIT – III RECORDERS

6

Recorders: Web Recorder – Pattern data — Screen Recorder Mouse clicks- Keystrokes-Smart Recorder –Object Cloning -Introduction to IQ bot and Meta bot - Theory, Demonstration and Exercises

### UNIT – IV COMMANDS

6

Read from CSV/Text – Excel- Open and Close spreadsheet- get, set and goto cell- Macros- Delete cells –Save Spreadsheet- Find and Replace- Database - Files/Folder -Error handling –

*L.N.W*

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Begin and End - String Operation – Find/Replace, Before/After, LowerCase/Upper Case, Split/Trim -Variables -Variable Operation

## UNIT – V APPLICATION DEVELOPMENT

6

Active Directory – Application Integration –Conditional Statements - PDF Integration - Email Automation -OCR -Web Recorder – Properties –Workflow -Tips & Tricks – Certification – BOT development

**Total Hours :30 hrs.**

### Course Outcomes

- Understanding of Automation Anywhere tool.
- Analyze programming concepts of Automation process with AA tools for BOT development.
- Apply the AA commands and automation concepts.
- Design the bot for various applications.

### Text Book:

Robotic Process Automation: Guide To Building Software Robots, Automate Repetitive Tasks & Become An RPA Consultant Paperback – May 30, 2018

### Reference Book:

1. Automate This: How Algorithms Took Over Our Markets, Our Jobs, and the World Paperback – August 27, 2013
2. The Simple Implementation Guide to Robotic Process Automation (Rpa): How to Best Implement Rpa in an Organization

a) Course Name : **ROBOTICS PROCESS AUTOMATION**

b) Branch : Common to ALL Branches

### External Trainers Details

S.No	Name of the Trainer	Designation	Company
1	Mr.Kapil Raina	Product Trainer	Automation Anywhere
2	Mr.Kunal	Product Trainer	Automation Anywhere
3	Mrs.M.Suganya	Assistant Professor	Jeppiaar Institute of Technology

*L.N.W*

17.9.2019	Variable Operation	Active Directory
19.9.2019	Conditional Statements	PDF Integration
24.9.2019	OCR - Web Recorder	Workflow
26.9.2019	BOT development	Hands on practice

*S. Selvaraj*  
VAC Co Ordinator  
*Suganya*

*J. Farimha Banu*  
HOD  
[Do. J. FARIMHA BANU]

*D. N. Raja*  
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VALUE ADDED COURSE DETAILS  
ACADEMIC YEAR 2019-2020

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING						
SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE CERTIFYING ORGANIZATION	CERTIFICATE(YES/NO)
1	2017-2021/ECE/III/05	Rajasindiya	Robotics Process Automation	30 Hrs	Anna University	YES
2	2017-2021/ECE/III/05	Supraja	Robotics Process Automation	30 Hrs	Anna University	YES
3	2017-2021/ECE/III/05	Asfiya Naaz	Robotics Process Automation	30 Hrs	Anna University	YES
4	2017-2021/IT/III/05	Vidhiya	Robotics Process Automation	30 Hrs	Anna University	YES
5	2017-2021/ECE/III/05	Bhavani Sruthi	Robotics Process Automation	30 Hrs	Anna University	YES
6	2017-2021/IT/III/05	Haritha	Robotics Process Automation	30 Hrs	Anna University	YES
7	2017-2021/ECE/III/05	Gopika	Robotics Process Automation	30 Hrs	Anna University	YES
8	2017-2021/ECE/III/05	Sangavi	Robotics Process Automation	30 Hrs	Anna University	YES
9	2017-2021/ECE/III/05	Suriya Prabha	Robotics Process Automation	30 Hrs	Anna University	YES
10	2017-2021/ECE/III/05	Preetha	Robotics Process Automation	30 Hrs	Anna University	YES
11	2017-2021/CSE/III/05	Karthika	Robotics Process Automation	30 Hrs	Anna University	YES
12	2017-2021/CSE/III/05	Gunasundari	Robotics Process Automation	30 Hrs	Anna University	YES
13	2017-2021/CSF/III/05	Vinothini	Robotics Process Automation	30 Hrs	Anna University	YES
14	2017-2021/ECE/III/05	Adithyan	Robotics Process Automation	30 Hrs	Anna University	YES
15	2017-2021/ECE/III/05	Ragul Kannan	Robotics Process Automation	30 Hrs	Anna University	YES
16	2017-2021/ECE/III/05	Thilothaman	Robotics Process Automation	30 Hrs	Anna University	YES
17	2017-2021/ECE/III/05	Purushothaman	Robotics Process Automation	30 Hrs	Anna University	YES
18	2017-2021/ECE/III/05	Benil Richards	Robotics Process Automation	30 Hrs	Anna University	YES
19	2017-2021/ECE/III/05	Ajith	Robotics Process Automation	30 Hrs	Anna University	YES
20	2017-2021/ECE/III/05	Giriprasath	Robotics Process Automation	30 Hrs	Anna University	YES
21	2017-2021/ECE/III/05	Tonie Raulph	Robotics Process Automation	30 Hrs	Anna University	YES
22	2017-2021/IT/III/05	FelixJeroldin	Robotics Process Automation	30 Hrs	Anna University	YES
23	2017-2021/IT/III/05	Tamilrasan	Robotics Process Automation	30 Hrs	Anna University	YES
24	2017-2021/IT/III/05	Madhan	Robotics Process Automation	30 Hrs	Anna University	YES
25	2017-2021/IT/III/05	Robin	Robotics Process Automation	30 Hrs	Anna University	YES

*Suganya*  
 Val Co-ordinator  
*Suganya*

*J.N.H*

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**KUNNAM, SUNGUVARACHRAM,**  
**SRIPERUMAL TIRUPOOTHUR - 631604**



VALUE ADDED COURSE: ROBOTIC PROCESS AUTOMATION

SL.NO	BATCH/DEPT/YEAR	NAME OF THE STUDENT	ACADEMIC YEAR 2019-2020														
			21.8.2019	22.8.2019	27.8.2019	29.8.2019	3.9.2019	4.9.2019	5.9.2019	6.9.2019	9.9.2019	11.9.2019	12.9.2019	17.9.2019	18.9.2019	24.9.2019	26.9.2019
1	2017-2021 (ECE) IIU/05	Rajasundar	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2	2017-2021 (ECE) IIU/05	Sujaya	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	2017-2021 (ECE) IIU/05	Aftra Naze	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4	2017-2021 (IT) IIU/05	Vidhya	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	2017-2021 (ECE) IIU/05	Bhanu Sathu	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	2017-2021 (IT) IIU/05	Haritha	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	2017-2021 (ECE) IIU/05	Gopika	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
8	2017-2021 (ECE) IIU/05	Sangavi	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
9	2017-2021 (ECE) IIU/05	Surya Praba	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
10	2017-2021 (ECE) IIU/05	Preeti	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11	2017-2021 (ECE) IIU/05	Karthika	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
12	2017-2021 (CSE) IIU/05	Gunaandren	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13	2017-2021 (CSE) IIU/05	Vinodhini	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
14	2017-2021 (ECE) IIU/05	Adithyan	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15	2017-2021 (ECE) IIU/05	Regul Kavitha	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
16	2017-2021 (EE) IIU/05	Thusharan	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
17	2017-2021 (EE) IIU/05	Purushothaman	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
18	2017-2021 (EE) IIU/05	Beni Reethika	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
19	2017-2021 (EE) IIU/05	Jyuth	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
20	2017-2021 (EE) IIU/05	Giriprasath	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
21	2017-2021 (EE) IIU/05	Tonic Raahil	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
22	2017-2021 (IT) IIU/05	Felicity Sindhu	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
23	2017-2021 (IT) IIU/05	Tamithasan	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
24	2017-2021 (IT) IIU/05	Nithian	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
25	2017-2021 (IT) IIU/05	Robin	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
			Total Strength	25	25	25	25	25	25	25	25	25	25	25	25	25	25
			Total Present	25	24	25	25	24	24	25	24	24	25	24	25	25	25
			Total Absent	-	1	-	1	1	1	1	1	-	1	-	1	-	-
			Signature														

J.N.H  
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## ROBOTICS PROCESS AUTOMATION

### SUMMARY REPORT

Department of Computer Science and Engineering has organized Anna University Approved value added course on "ROBOTICS PROCESS AUTOMATION" from 21.08.2019 to 29.09.2019 in Computer Science and Engineering Laboratory for all third year students for a duration of 30 Hrs.Jeppiaar Institute of Technology signed a MOU with Automation Anywhere and inaugurated BOT Lab-Centre of Excellence on Dec 03<sup>rd</sup> 2018.Total of 25 students enrolled in the course.Evaluation process is carried out through internal assessment and the same was reported to the Anna University.The students were graded based on the internal assessment and all the enrolled students completed the course successfully.The course enabled the students to get trained as RPA developer which helps in meeting placement requisites. Students practically implemented projects automating tedious task which improves business application.

VAC Co Ordinator

[Dr. J. FARITHABANDU]

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### VALUE ADDED COURSE- FEEDBACK FORM

Academic Year :

: 2019-20

Year/Sem: III / 05

Name of the VAC Coordinator

: Suganya . M

VAC Duration

: 21.08.2019 to 26.09.19

Name (Optional)

:

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?		✓		
2	How interested were the content present at VAC?	✓			
3	How useful was the VAC from the knowledge and information point of view	✓			
4	The VAC Presented were congruent with the VAC syllabus		✓		
5	How well was the event space set up?	✓			
6	Expert technical knowledge of the subject	✓			
7	The expert provided adequate time for asking questions and answered them effectively		✓		
8	The materials Provided were useful	✓			
9	The experts demonstrated student centered learning strategies and techniques		✓		
10	Overall effectiveness of the program		✓		

Any Additional comments and suggestions for improvement:-

*L. N. W.*

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## CURRICULUM FOR ROBOTICS PROCESS AUTOMATION

### Course Objective:

- To learn the basic of Robotics Process Automation.
- To understand the basic concept of Robotics with Automation Anywhere.
- To apply the Automation Anywhere commands for processing.
- To be familiar with application development.
- To design a system, to automate the process to meet user needs.

### UNIT – I INTRODUCTION TO RPA

6

Robotics Process Automation - Basics of RPA - Enterprise Processes – Applications of Process Automation - Business Process Automation – Financial – Human Resource – Payroll – Overview of Automation Anywhere - Cognitive Automation

### UNIT – II AUTOMATION ANYWHERE

6

Web Control Room Settings – User Management – Scheduled Task –Repository Manager – Development Client - License Settings - All Menus – Theory - Demonstration - Hands on practice

### UNIT – III RECORDERS

6

Recorders: Web Recorder – Pattern data — Screen Recorder Mouse clicks- Keystrokes-Smart Recorder –Object Cloning -Introduction to IQ bot and Meta bot - Theory, Demonstration and Exercises

### UNIT – IV COMMANDS

6

Read from CSV/Text – Excel- Open and Close spreadsheet- get, set and goto cell- Macros- Delete cells –Save Spreadsheet- Find and Replace- Database - Files/Folder -Error handling –

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Begin and End - String Operation – Find/Replace, Before/After, LowerCase/Upper Case, Split/Trim -Variables -Variable Operation

## UNIT – V APPLICATION DEVELOPMENT

6

Active Directory – Application Integration –Conditional Statements - PDF Integration - Email Automation -OCR -Web Recorder – Properties –Workflow -Tips & Tricks – Certification – BOT development

**Total Hours :30 hrs.**

### Course Outcomes

- Understanding of Automation Anywhere tool.
- Analyze programming concepts of Automation process with AA tools for BOT development.
- Apply the AA commands and automation concepts.
- Design the bot for various applications.

### Text Book:

Robotic Process Automation: Guide To Building Software Robots, Automate Repetitive Tasks & Become An RPA Consultant Paperback – May 30, 2018

### Reference Book:

1. Automate This: How Algorithms Took Over Our Markets, Our Jobs, and the World Paperback – August 27, 2013
2. The Simple Implementation Guide to Robotic Process Automation (Rpa): How to Best Implement Rpa in an Organization

a) Course Name : **ROBOTICS PROCESS AUTOMATION**

b) Branch : Common to ALL Branches

### External Trainers Details

S.No	Name of the Trainer	Designation	Company
1	Mr.Kapil Raina	Product Trainer	Automation Anywhere
2	Mr.Kunal	Product Trainer	Automation Anywhere
3	Mrs.M.Suganya	Assistant Professor	Jeppiaar Institute of Technology



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## SCHEDULE OF TRAINING PROGRAM

Date	3.00 pm to 3.45 pm	3.45 pm to 4.30 pm
10.07.2020	Robotics Process Automation	Basics of RPA
17.07.2020	Overview of Automation Anywhere	Repository Manager
24.07.2020	Enterprise Processes	Applications of Process Automation
31.07.2020	Business Process Automation	Financial
7.08.2020	Human Resource	Payroll
14.08.2020	Overview of Automation Anywhere	Table Extraction
21.08.2020	Cognitive Automation	Web Control Room Setting
28.08.2020	Hands on practice	Recorders
04.09.2020	Object Cloning	Introduction to IQ bot and Meta bot
11.09.2020	Read from CSV/Text	Spreadsheet
18.09.2020	Database	String Operation
25.09.2020	Variable Operation	Active Directory

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1.10.2020	Conditional Statements	PDF Integration
9.10.2020	OCR -Web Recorder	Workflow
16.10.2020	BOT development	Hands on practice

VAC Co Ordinator

Suganya.m

Blau g  
HOD

[Dr. J. FARITHA BANU]

L.N.M.

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**VALUE ADDED COURSE DETAILS**  
**ACADEMIC YEAR 2020-2021**

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

SL.NO	BATCH/DEPT/YE AR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE CERTIFYING ORGANIZATION	CERTIFICATE(YES/N O)
1	2018-2022/IT/III/05	ABDUL RAHIM R	Robotics Process Automation	30 Hrs	Anna University	YES
2	2018-2022/IT/III/05	DHARSANA G	Robotics Process Automation	30 Hrs	Anna University	YES
3	2018-2022/IT/III/05	ELANGOVAN S	Robotics Process Automation	30 Hrs	Anna University	YES
4	2018-2022/IT/III/05	HARIPRITHA	Robotics Process Automation	30 Hrs	Anna University	YES
5	2018-2022/IT/III/05	JAYASHREE V	Robotics Process Automation	30 Hrs	Anna University	YES
6	2018-2022/IT/III/05	MARY SANTRA L	Robotics Process Automation	30 Hrs	Anna University	YES
7	2018-2022/IT/III/05	MONISHA P	Robotics Process Automation	30 Hrs	Anna University	YES
8	2018-2022/IT/III/05	NITHYA SRI M	Robotics Process Automation	30 Hrs	Anna University	YES
9	2018-2022/IT/III/05	PAVITHRA E	Robotics Process Automation	30 Hrs	Anna University	YES
10	2018-2022/IT/III/05	POONGUNDRAN E	Robotics Process Automation	30 Hrs	Anna University	YES
11	2018-2022/IT/III/05	PRIYADHARSHINI V	Robotics Process Automation	30 Hrs	Anna University	YES
12	2018-2022/IT/III/05	RAMYA BHARATHI G	Robotics Process Automation	30 Hrs	Anna University	YES
13	2018-2022/IT/III/05	SIVA PRASAD V	Robotics Process Automation	30 Hrs	Anna University	YES
14	2018-2022/IT/III/05	SNEHA G	Robotics Process Automation	30 Hrs	Anna University	YES
15	2018-2022/IT/III/05	SNEHA.S	Robotics Process Automation	30 Hrs	Anna University	YES
16	2018-2022/IT/III/05	SUJITH S	Robotics Process Automation	30 Hrs	Anna University	YES
17	2018-2022/IT/III/05	SUTHARSEN G S	Robotics Process Automation	30 Hrs	Anna University	YES
18	2018-2022/CSE/III/05	Ajith.S	Robotics Process Automation	30 Hrs	Anna University	YES
19	2018-2022/CSE/III/05	Gokul A	Robotics Process Automation	30 Hrs	Anna University	YES
20	2018-2022/CSE/III/05	Rahul A	Robotics Process Automation	30 Hrs	Anna University	YES
21	2018-2022/CSE/III/05	SanthoshKumar M	Robotics Process Automation	30 Hrs	Anna University	YES
22	2018-2022/CSE/III/05	K.Kamalesh	Robotics Process Automation	30 Hrs	Anna University	YES

*Suganya*  
VAC co-ordinator

*Suganya - m -*  
*J. N. he*

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**SRIPERUMBUDUR - 631604.**



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VALUE ADDED COURSE - ROBOTIC PROCESS AUTOMATION

J. N. W.  
PRINCIPAL

PRINCIPAL

**JEPPIAAR INSTITUTE OF TECHNOLOGY  
KUNNAM, SUNGUVARACHATRAM,  
SRIPERUMBUDUR - 631604.**



JEPPIAAR INSTITUTE OF TECHNOLOGY

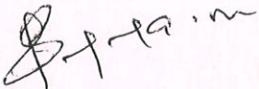
"Self-Belief| Self Discipline | Self Respect"

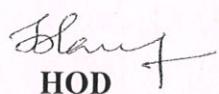


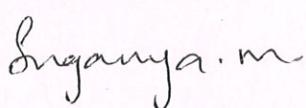
## ROBOTICS PROCESS AUTOMATION

### SUMMARY REPORT

Department of Computer Science and Engineering has organized Anna University Approved value added course on "ROBOTICS PROCESS AUTOMATION" from 10.07.2020 to 16.10.2020 in Computer Science and Engineering Laboratory for all third year students for a duration of 30 Hrs.Jeppiaar Institute of Technology signed a MOU with Automation Anywhere and inaugurated BOT Lab-Centre of Excellence on Dec 03<sup>rd</sup> 2018.Total of 22 students enrolled in the course.Evaluation process is carried out through internal assessment and the same was reported to the Anna University.The students were graded based on the internal assessment and all the enrolled students completed the course successfully.The course enabled the students to get trained as RPA developer which helps in meeting placement requisites. Students practically implemented projects automating tedious task which improves business application.

  
VAC Co Ordinator

  
HOD

  
Dr. J. FARITHA BANU

[Dr. J. FARITHA BANU]

  
Principal

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## **ROBOTICS PROCESS AUTOMATION**

### **SUMMARY REPORT**

Department of Computer Science and Engineering has organized Anna University Approved value added course on "ROBOTICS PROCESS AUTOMATION" from 10.07.2020 to 16.10.2020 in Computer Science and Engineering Laboratory for all third year students for a duration of 30 Hrs. Jeppiaar Institute of Technology signed a MOU with Automation Anywhere and inaugurated BOT Lab-Centre of Excellence on Dec 03<sup>rd</sup> 2018. Total of 22 students enrolled in the course. Evaluation process is carried out through internal assessment and the same was reported to the Anna University. The students were graded based on the internal assessment and all the enrolled students completed the course successfully. The course enabled the students to get trained as RPA developer which helps in meeting placement requisites. Students practically implemented projects automating tedious task which improves business application.

*Bala.m*  
VAC Co Ordinator

*Inganya.m.*

*D.N. h*

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**SRIPERUMBUDUR - 631604.**

*Faritha*  
HOD  
(DR. J. FARITHA BANU)



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### Advanced Python and Introduction to Machine Learning Course Curriculum

#### **Objectives of this course**

- To Learn Advance mathematical libraries of python
- To understand data exploration and data wrangling
- To perform data visualization, exporting and importing file contents.
- To understand basics of machine learning

#### **Numpy**

**4+2**

Creating Arrays-Numpy Data types-Array Mathematics-Array Manipulation-Subsetting, slicing, Indexing-boolean Indexing-Array Manipulation-Reshaping, Transposing, splitting and combining arrays-Inspecting Array and aggregating array.

#### **Pandas**

**4+2**

Series-Dataframe-Importing pandas- Dictionary into data frames, read and write to CSV and Excel, selecting, Boolean Indexing, setting, dropping, sorting, filling missing values, getting dataframe information and retrieving series, summary and applying lambda function

#### **Plotting and Visualization**

**4+2**

Figures-Subplot-Colors-Markers-Line styles-Ticks-Labels-Legends-Drawing subplots-Line plot-Barplot- Scatter Plot-Histograms

#### **Object Oriented Programming**

**4+2**

OOPS concepts-creating class-Object-accessing class members-inheritance-abstract class

#### **Introduction to Machine Learning**

**4+2**

Introduction to Machine Learning – types of learning – supervised – unsupervised- Kmeans Clustering - Hierarchical Clustering

**Total Hours :30 hrs.**

#### **OUTCOME**

- Able to work with numbers and dataset
- To know supervised and unsupervised learning
- Can perform data cleaning, merging, transforming and reshaping
- Can implement manageable and extensible applications in machine learning

*D. N. ha*

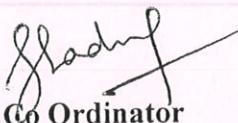
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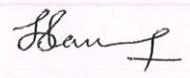
### **Reference Books:**

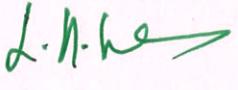
1. Introduction to Machine Learning with Python: A Guide for Data Scientists  
Andreas C. Müller, O'REILLY, 5<sup>th</sup> Edition
2. Practical Statistics for Data Scientists, Andrew Bruce, O'REILLY, 2<sup>nd</sup> Edition
3. Python 3 Object Oriented Programming, Dusty Phillips, Packt Publishing
4. Python Machine Learning by Example, Yuxi (Hayden) Liu, Packt Publishing, 2017

### **External and Internal Trainers Details**

S.No	Name	Designation	Company
1.	Mr. Sai Ram	Trainer	Geoinskysoft, Chennai
2.	Ms Gladiss Merlin N R	Assistant Professor/CSE	Jeppiaar Institute of Technology
3.	Ms Dayana R	Assistant Professor/CSE	Jeppiaar Institute of Technology
4.	Ms Ancy S	Assistant Professor/IT	Jeppiaar Institute of Technology

  
Vac Co Ordinator  
[Ms. N - R. GLADISS MERLIN]

  
HOD  
[Dr. J. FARITHABABU]

  
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**TIME TABLE - ADVANCED PYTHON PROGRAMMING AND  
INTRODUCTION TO MACHINE LEARNING**

DATE/TIME	8.00 – 9:30	TEA BREAK	9:45-12.00	LUNCH	12.45 – 2.45
23.08.2017	Numpy		Numpy		Numpy
24.08.2017	Pandas		Pandas		Pandas
25.08.2017	Data Wrangling		Data Wrangling		Data Wrangling
28.08.2017	Plotting and Visualization		Plotting and Visualization		Plotting and Visualization
29.08.2017	Introduction to Machine Learning		Introduction to Machine Learning		Introduction to Machine Learning
30.08.2017	Hands on Session		Hands on Session		Hands on Session

Training Staff Incharge:

1. Ms Gladiss Merlin N R, AP/CSE *Gladiss*
2. Ms Dayana R, AP/CSE *Dayana*
3. Ms Ancy S, AP/IT *Ancy*

*Faritha*  
HOD

( DR. J. FARITHA BANU )

*D.N. Hemalatha*

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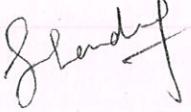
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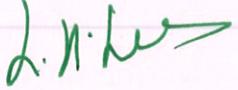
VALUE ADDED COURSE DETAILS  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING  
ACADEMIC YEAR 2017-2018

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE ORGANIZATION	CERTIFICATE(YES/NO)
1	2017-2021/CSE/I/01	Thenmozhi R	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
2	2017-2021/CSE/I/01	Vasanthakumar K	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
3	2017-2021/CSE/I/01	Abilash V	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
4	2017-2021/CSE/I/01	Abinaya P	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
5	2017-2021/CSF/I/01	Adhithya Prabakaran S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
6	2017-2021/CSE/I/01	Arun Kumar S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
7	2017-2021/CSE/I/01	Arun Terrance V	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
8	2017-2021/CSE/I/01	Ashika K K	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
9	2017-2021/CSE/I/01	Benninton S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
10	2017-2021/CSE/I/01	Chandra Surya M	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
11	2017-2021/CSE/I/01	Dhanachezhian K	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
12	2017-2021/CSE/I/01	Dhinesh Kumar P.	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
13	2017-2021/CSE/I/01	Dhvivkar R	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
14	2017-2021/CSE/I/01	Gopi Rajan K	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
15	2017-2021/CSE/I/01	Gunasundari G	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
16	2017-2021/CSE/I/01	Hariprasath S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
17	2017-2021/CSE/I/01	Hemanth P	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
18	2017-2021/CSE/I/01	Hemanthraj T	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
19	2017-2021/CSE/I/01	Janardh K	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
20	2017-2021/CSE/I/01	Jellin F	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
21	2017-2021/CSE/I/01	Jefri Malin Raj A	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
22	2017-2021/CSE/I/01	Lingesw A.J	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
23	2017-2021/CSE/I/01	Madhan Kumar S.	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
24	2017-2021/CSE/I/01	Manjesh Kumar S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
25	2017-2021/CSE/I/01	Mohan Raj R	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
26	2017-2021/CSE/I/01	Monisha E	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
27	2017-2021/CSE/I/01	Mythuly B	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
28	2017-2021/CSE/I/01	Naveen B	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
29	2017-2021/CSE/I/01	Nishanth Kumar S.	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
30	2017-2021/CSE/I/01	Nithesh S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
31	2017-2021/CSE/I/01	Poovarusan R	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
32	2017-2021/CSE/I/01	Pranav R	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
33	2017-2021/CSE/I/01	Pushparaj K	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
34	2017-2021/CSE/I/01	Rajkumar P.M	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
35	2017-2021/CSE/I/01	Rohit K	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
36	2017-2021/CSE/I/01	Ronni Bert M.	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
37	2017-2021/CSE/I/01	Senthazhal M.	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
38	2017-2021/CSE/I/01	Shiden David	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
39	2017-2021/CSE/I/01	Shiva B	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
40	2017-2021/CSE/I/01	Shrinath K	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
41	2017-2021/CSE/I/01	Shyam W	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
42	2017-2021/MECH/I/01	Harish Kannra	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
43	2017-2021/MECH/I/01	Hemmath	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
44	2017-2021/MECH/I/01	Lokeshwaran	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES

*[Handwritten signature]*  
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45	2017-2021/MECH/I/01	Ashik Samuel	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
46	2017-2021/MECH/I/01	Selvarasan	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
47	2017-2021/MECH/I/01	Silvan	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
48	2017-2021/MECH/I/01	Sriram	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
49	2017-2021/MECH/I/01	Vijin	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
50	2017-2021/MECH/I/01	Vikash	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES

  
 VAC COORDINATOR  
 (Mrs. N. R. GLADISS MERLIN)

  
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**VALUE ADDED COURSE- ADVANCED PYTHON PROGRAMMING AND INTRODUCTION TO MACHINE LEARNING**  
**ACADEMIC YEAR 2017-2018**

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	23.08.17	24.08.17	25.08.17	26.08.17	29.08.17	30.08.17
1	2017-2021/CSE/II/03	VINOETHINI A	/	/	/	/	/	/
2	2016-2020/CSE/III/05	ABIRAMI B	/	/	/	/	/	/
3	2016-2020/CSE/III/05	AKSHAYA G	/	/	/	/	a	/
4	2016-2020/CSE/III/05	ALAN RONALD ARASU M C	/	/	/	/	/	/
5	2016-2020/CSE/III/05	ANU PRIYA E	/	a	/	/	/	/
6	2016-2020/CSE/III/05	ARUL G BERSHIN A B	/	/	/	/	/	/
7	2016-2020/CSE/III/05	ARUNKUMAR S	/	/	/	/	/	/
8	2016-2020/CSE/III/05	ARUN KUMAR P	/	/	a	/	/	/
9	2016-2020/CSE/III/05	ASHA E	/	/	/	/	/	/
10	2016-2020/CSE/III/05	ASWATH R S	/	/	/	/	/	/
11	2016-2020/CSE/III/05	BALAJI P	/	/	/	/	/	/
12	2016-2020/CSE/III/05	BALAKRISHNAN M	/	/	/	/	/	/
13	2016-2020/CSE/III/05	BALA KRISHNAN S	/	/	/	/	/	/
14	2016-2020/CSE/III/05	BHUVAN B NATESH	/	/	/	/	/	/
15	2016-2020/CSE/III/05	CHITRALEKHA R S	/	/	/	/	/	/
16	2016-2020/CSE/III/05	DEVADHARSHINI T	/	/	/	/	/	/
17	2016-2020/CSE/III/05	DIVYALAKSHMI A	/	/	/	/	/	/
18	2016-2020/CSE/III/05	FREDHA CARNELIAN F	/	/	/	/	/	/
19	2016-2020/CSE/III/05	HARIHARAN M	a	/	/	/	/	/
20	2016-2020/CSE/III/05	HEMALATHA S	/	/	/	/	/	/
21	2016-2020/CSE/III/05	ISHWARIYA M	/	/	/	/	/	/
22	2016-2020/CSE/III/05	JAYAGANESH V	/	/	/	/	/	/
23	2016-2020/CSE/III/05	JERALD VINFRANK J	/	/	/	/	/	/
24	2016-2020/CSE/III/05	KANIMOZHI J	/	/	/	/	a	/
25	2016-2020/CSE/III/05	KAVUSALYA M	/	/	/	/	/	/
26	2016-2020/CSE/III/05	KISHAN CHANDRA G	/	/	a	/	/	/
27	2016-2020/CSE/III/05	LOGESWARI J	/	/	/	/	/	/
28	2016-2020/CSE/III/05	LOKESH G	a	/	/	/	/	/
29	2016-2020/CSE/III/05	LOKESH L	/	/	/	/	/	/
30	2016-2020/CSE/III/05	MANISH KUMAR M	/	/	/	/	/	/
31	2016-2020/CSE/III/05	MOHAMED THAHIR A	/	/	/	/	/	/
32	2016-2020/CSE/III/05	NAGARANI G	/	/	/	/	/	/
33	2016-2020/CSE/III/05	NAVAS J	/	a	/	/	/	/
34	2016-2020/CSE/III/05	NAVEEN KUMAR M	/	/	/	/	/	/
35	2016-2020/CSE/III/05	NYLE S	/	/	/	/	/	/
36	2016-2020/CSE/III/05	PEER MOHAMED S	/	/	/	/	/	/
37	2016-2020/CSE/III/05	PRANAV S	/	/	/	a	/	/
38	2016-2020/CSE/III/05	PRAVEEN RAJU P	/	/	/	/	/	/
39	2016-2020/CSE/III/05	PRIANKA R	/	/	/	/	/	/
40	2016-2020/CSE/III/05	PRIYANKA B	/	/	/	/	/	/
41	2016-2020/CSE/III/05	SARAVANAN M	/	/	/	/	/	/
42	2016-2020/CSE/III/05	SHREE ROHINI I	/	/	/	/	a	/
43	2016-2020/CSE/III/05	SIVASUBRAMANIAN A	/	/	/	/	/	/
44	2016-2020/CSE/III/05	SONIYA M	/	/	/	/	/	/
45	2016-2020/CSE/III/05	SRILEKHA A	/	a	/	/	/	/
46	2016-2020/CSE/III/05	SRINIVASAN R	a	/	/	/	/	/
47	2016-2020/CSE/III/05	SUVETHA B	/	/	/	/	/	/
48	2016-2020/CSE/III/05	THEJASWINI G	/	/	/	/	/	/
49	2016-2020/CSE/III/05	THIRUKKURALI P S	/	/	/	/	/	/
50	2016-2020/CSE/III/05	VIJAYKRISHNA J	/	/	/	/	/	/
51	2016-2020/CSE/III/05	VINOETHINI D	/	/	/	/	/	/
52	2016-2020/CSE/III/05	VISHNURANJAN R	/	/	/	/	/	/
53	2016-2020/CSE/III/05	YUVARANI K	/	/	/	/	/	a
54	2017-2021/IT/I/01	AISHWARYA R	/	/	/	/	/	/
55	2017-2021/IT/I/01	FELIX JEROLDIN B	/	/	/	a	/	/
56	2017-2021/IT/I/01	GNANA HARISH N	/	/	/	/	/	/
57	2017-2021/IT/I/01	HARITHA V	/	/	/	/	/	/
58	2017-2021/IT/I/01	KEERTHANA S	/	/	/	/	/	/
59	2017-2021/IT/I/01	LALITHA K	/	/	/	/	/	/
60	2017-2021/IT/I/01	LEKHA SREE G	a	/	/	/	/	/
61	2017-2021/IT/I/01	MADHAN H	/	/	/	/	/	/

*d.n.h*

62	2017-2021/IT/I/01	MADHUSREE J	/	/	/	/	/	/
63	2017-2021/IT/I/01	MANUSH K	/	/	/	/	/	/
64	2017-2021/IT/I/01	MOHAN RAJ S	/	/	/	/	/	/
65	2017-2021/IT/I/01	MURUGESWARI M	/	/	/	/	/	/
66	2017-2021/IT/I/01	RACHANA SENAPATI	/	/	/	/	/	a
67	2017-2021/IT/I/01	RANJANI P	/	/	/	/	/	/
68	2017-2021/IT/I/01	ROBIN M C	/	/	/	a	/	/
69	2017-2021/IT/I/01	TAMILARASAN V	/	/	/	/	/	/
70	2017-2021/IT/I/01	R VIGNESH	/	/	/	/	/	/
71	2017-2021/IT/I/01	DURGA DEVI R	/	/	/	/	/	/
72	2017-2021/IT/I/01	MUTHU PRADHIKSHA M R	/	a	/	/	/	/
73	2017-2021/IT/I/01	NITHISKRISHNA A G	/	/	/	/	/	/
74	2017-2021/IT/I/01	PRAVEEN KUMAR R	/	/	/	/	/	/
75	2017-2021/IT/I/01	SALAI YUGATHAVASU M	/	/	/	/	/	/
76	2017-2021/IT/I/01	SATHISH S	a	/	/	/	/	/
77	2017-2021/IT/I/01	TAMIL SELVAN S	/	/	/	/	/	/
78	2017-2021/IT/I/01	VIDYA	/	/	/	/	/	/
79	2017-2021/IT/I/01	VIGNESH E	/	/	/	/	/	/
80	2017-2021/IT/I/01	VISHWANATHAN K	/	/	a	/	/	/
81	2017-2021/IT/I/01	RAJ KUMAR PM	/	/	/	/	/	/
		Total Strength						
		Total Present						
		Total Absent						
		Signature	8	8	8	8	8	8

L.H.W

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### VALUE ADDED COURSE- FEEDBACK FORM

Academic Year

: 2017-2018

Year/Sem: I / 01

Name of the VAC Coordinator

: Mrs. Gladis Merlin . N.R

VAC Duration

: 23.8.17 TO 30.8.17

Name (Optional)

:

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?		✓		
2	How interested were the content present at VAC?		✓		
3	How useful was the VAC from the knowledge and information point of view	✓			
4	The VAC Presented were congruent with the VAC syllabus		✓		
5	How well was the event space set up?		✓		
6	Expert technical knowledge of the subject	✓			
7	The expert provided adequate time for asking questions and answered them effectively		✓		
8	The materials Provided were useful		✓		
9	The experts demonstrated student centered learning strategies and techniques		✓		
10	Overall effectiveness of the program	✓			

Any Additional comments and suggestions for improvement: The entire session was excellent.

L.N.W



# JEPPIAAR INSTITUTE OF TECHNOLOGY

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## ADVANCED PYTHON PROGRAMMING AND INTRODUCTION TO MACHINE LEARNING

### SUMMARY REPORT

Department of Computer Science and Engineering has organized value added course on “ADVANCED PYTHON PROGRAMMING AND INTRODUCTION TO MACHINE LEARNING” from 23.08.2017 to 30.08.2017 in Computer Science and Engineering Laboratory for all third year students for a duration of 30 Hrs. Total of 50 students enrolled in the course and all the students got certified. The course has enabled the students to identify the datasets, compare data with various applications and integrate machine learning libraries, mathematical tools for different ML techniques, thereby providing training for the students to meet the placement requisites

~~VAC Co Ordinator~~

(C.N.R. GRADISS MERLIN)

d.n.h

~~HOD~~

[Dr. J. FARATHA BANU]

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KUNNAM, SUNGUVARCHATRAM,  
SRIPERUMBUDUR - 631604,



## Advanced Python and Introduction to Machine Learning Course Curriculum

### **Objectives of this course**

- To Learn Advance mathematical libraries of python
- To understand data exploration and data wrangling
- To perform data visualization, exporting and importing file contents.
- To understand basics of machine learning

### **Numpy**

**4+2**

Creating Arrays-Numpy Data types-Array Mathematics-Array Manipulation-Subsetting, slicing, Indexing-boolean Indexing-Array Manipulation-Reshaping,Transposing,spliting and combining arrays-Inspecting Array and aggregating array.

### **Pandas**

**4+2**

Series-Dataframe-Importing pandas- Dictionary into data frames,read and write to CSV and Excel, selecting, Boolean Indexing, setting, dropping, soring, filling missing values, getting dataframe information and retrieving series,summary and applying lambda function

### **Plotting and Visualization**

**4+2**

Figures-Subplot-Colors-Markers-Line styles-Ticks-Labels-Legens-Drawing subplots-Line plot-Barplot- Scatter Plot-Histograms

### **Object Oriented Programming**

**4+2**

OOPS concepts-creating class-Object-accessing class members-inheritance-abstract class

### **Introduction to Machine Learning**

**4+2**

Introduction to Machine Learning – types of learning – supervised – unsupervised- Kmeans Clustering - Hierarchical Clustering

**Total Hours :30 hrs.**

### **OUTCOME**

- Able to work with numbers and dataset
- To know supervised and unsupervised learning
- Can perform data cleaning, merging, transforming and reshaping
- Can implement manageable and extensible applications in machine learning

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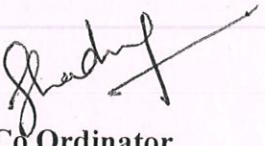
**SRIPERUMBUDUR - 631604**

### **Reference Books:**

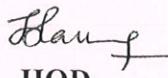
1. Introduction to Machine Learning with Python: A Guide for Data Scientists  
Andreas C. Müller, O'REILLY, 5<sup>th</sup> Edition
2. Practical Statistics for Data Scientists, Andrew Bruce, O'REILLY, 2<sup>nd</sup> Edition
3. Python 3 Object Oriented Programming, Dusty Phillips, Packt Publishing
4. Python Machine Learning by Example, Yuxi (Hayden) Liu, Packt Publishing, 2017

### **External and Internal Trainers Details**

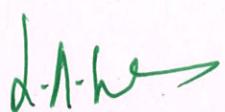
S.No	Name	Designation	Company
1.	Mr. Sai Ram	Trainer	Geoinsyssoft, Chennai
2.	Ms Gladiss Merlin N R	Assistant Professor/CSE	Jeppiaar Institute of Technology
3.	Ms Dayana R	Assistant Professor/CSE	Jeppiaar Institute of Technology
4.	Ms Ancy S	Assistant Professor/IT	Jeppiaar Institute of Technology

  
Vac Co Ordinator

(Ms. N. R. GLADISS MERLIN)

  
HOD

[DR. J. FARMAHA BANU]



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**TIME TABLE - ADVANCED PYTHON PROGRAMMING AND  
INTRODUCTION TO MACHINE LEARNING**

DATE/TIME	8.00 – 9:30	TEA BREAK	9:45-12.00	LUNCH	12.45 – 2.45
21.01.2019	Numpy		Numpy		Numpy
22.01.2019	Pandas		Pandas		Pandas
23.01.2019	Data Wrangling		Data Wrangling		Data Wrangling
24.01.2019	Plotting and Visualization		Plotting and Visualization		Plotting and Visualization
25.01.2019	Introduction to Machine Learning		Introduction to Machine Learning		Introduction to Machine Learning
28.01.2019	Hands on Session		Hands on Session		Hands on Session

**Training Staff Incharge:**

1. Ms Gladiss Merlin N R, AP/CSE *Gladiss*
2. Ms Dayana R, AP/CSE *Dayana*
3. Ms Ancy S, AP/IT *Ancy*

*J. N. he*

*Shan*

HOD

*(Dr. J. FARITHA BANU)*

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**VALUE ADDED COURSE DETAILS**  
**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**  
**ACADEMIC YEAR 2018-2019**

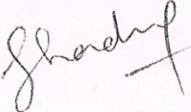
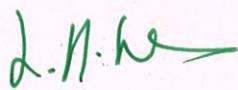
SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE ORGANIZATION	CERTIFICATE(YES/NO)
1	2017-2021/CSE/II/03	VINOETHINI A	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
2	2016-2020/CSE/III/05	ABIRAMI B	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
3	2016-2020/CSE/III/05	AKSHAYA G	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
4	2016-2020/CSE/III/05	ALAN RONALD ARASU M C	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
5	2016-2020/CSE/III/05	ANU PRIYA E	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
6	2016-2020/CSE/III/05	ARUL G BERSHIN A B	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
7	2016-2020/CSE/III/05	ARUNKUMAR S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
8	2016-2020/CSE/III/05	ARUN KUMAR P	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
9	2016-2020/CSE/III/05	ASHA E	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
10	2016-2020/CSE/III/05	ASWATH R S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
11	2016-2020/CSE/III/05	BALAJI P	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
12	2016-2020/CSE/III/05	BALAKRISHNAN M	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
13	2016-2020/CSE/III/05	BALA KRISHNAN S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
14	2016-2020/CSE/III/05	BHUVAN B NATESH	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
15	2016-2020/CSE/III/05	CHITRALEKHA R S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
16	2016-2020/CSE/III/05	DEVADHARSHINI T	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
17	2016-2020/CSE/III/05	DIVYALAKSHMI A	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
18	2016-2020/CSE/III/05	FREDHA CARNELIAN F	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
19	2016-2020/CSE/III/05	HARIHARAN M	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
20	2016-2020/CSE/III/05	HEMALATHA S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
21	2016-2020/CSE/III/05	ISHWARIYA M	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
22	2016-2020/CSE/III/05	JAYAGANESH V	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
23	2016-2020/CSE/III/05	JERALD VINFRANK J	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
24	2016-2020/CSE/III/05	KANIMOZHI J	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
25	2016-2020/CSE/III/05	KAVUSALYA M	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES

*d-n-h*  
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26	2016-2020/CSE/III/05	KISHAN CHANDRA G	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
27	2016-2020/CSE/III/05	LOGESWARI J	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
28	2016-2020/CSE/III/05	LOKESH G	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
29	2016-2020/CSE/III/05	LOKESH L	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
30	2016-2020/CSE/III/05	MANISH KUMAR M	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
31	2016-2020/CSE/III/05	MOHAMED THAHIR A	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
32	2016-2020/CSE/III/05	NAGARANI G	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
33	2016-2020/CSE/III/05	NAVAS J	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
34	2016-2020/CSE/III/05	NAVEEN KUMAR M	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
35	2016-2020/CSE/III/05	NYLE S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
36	2016-2020/CSE/III/05	PEER MOHAMED S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
37	2016-2020/CSE/III/05	PRANAV S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
38	2016-2020/CSE/III/05	PRAVEEN RAJU P	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
39	2016-2020/CSE/III/05	PRIANKA R	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
40	2016-2020/CSE/III/05	PRIYANKA B	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
41	2016-2020/CSE/III/05	SARAVANAN M	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
42	2016-2020/CSE/III/05	SHREE ROHINI I	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
43	2016-2020/CSE/III/05	SIVASUBRAMANIAN A	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
44	2016-2020/CSE/III/05	SONIYA M	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
45	2016-2020/CSE/III/05	SRILEKHA A	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
46	2016-2020/CSE/III/05	SRINIVASAN R	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
47	2016-2020/CSE/III/05	SUVETHA B	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
48	2016-2020/CSE/III/05	THEJASWINI G	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
49	2016-2020/CSE/III/05	THIRUKKURALI P S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
50	2016-2020/CSE/III/05	VIJAYKRISHNA J	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
51	2016-2020/CSE/III/05	VINOTH KUMAR D	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
52	2016-2020/CSE/III/05	VISHNURANJAN R	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
53	2016-2020/CSE/III/05	YUVARANI K	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
54	2017-2021/IT/I/01	AISHWARYA R	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES

*d.n.h*  
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55	2017-2021/IT/I/01	FELIX JEROLDIN B	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
56	2017-2021/IT/I/01	GNANA HARISH N	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
57	2017-2021/IT/I/01	HARITHA V	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
58	2017-2021/IT/I/01	KEERTHANA S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
59	2017-2021/IT/I/01	LALITHA K	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
60	2017-2021/IT/I/01	LEKHA SREE G	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
61	2017-2021/IT/I/01	MADHAN H	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
62	2017-2021/IT/I/01	MADHUSREE J	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
63	2017-2021/IT/I/01	MANUSH K	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
64	2017-2021/IT/I/01	MOHAN RAJ S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
65	2017-2021/IT/I/01	MURUGESWARI M	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
66	2017-2021/IT/I/01	RACHANA SENAPATI	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
67	2017-2021/IT/I/01	RANJANI P	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
68	2017-2021/IT/I/01	ROBIN M C	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
69	2017-2021/IT/I/01	TAMILARASAN V	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
70	2017-2021/IT/I/01	R.VIGNESH	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
71	2017-2021/IT/I/01	DURGA DEVI R	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
72	2017-2021/IT/I/01	MUTHU PRADHIKSHA M R	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
73	2017-2021/IT/I/01	NITHISKRISHNA A G	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
74	2017-2021/IT/I/01	PRAVEEN KUMAR R	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
75	2017-2021/IT/I/01	SALAI YUGATHAVASU M	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
76	2017-2021/IT/I/01	SATHISH S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
77	2017-2021/IT/I/01	TAMIL SELVAN S	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
78	2017-2021/IT/I/01	VIDYA	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
79	2017-2021/IT/I/01	VIGNESH E	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
80	2017-2021/IT/I/01	VISHWANATHAN K	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES
81	2017-2021/IT/I/01	RAJ KUMAR. PM	ADVANCED PYTHON AND INTRODUCTION TO MACHINE LEARNING	30 Hrs	JIT GLOBAL	YES


  
 VAC COORDINATOR **PRINCIPAL**  
 (Mrs. N.R. GLADISS MERLIN) **KUNNAM, SUNGUVARACHATRAM,**  
**SRIPERUMBUDUR - 631604.**



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VALUE ADDED COURSE- ADVANCED PYTHON PROGRAMMING AND INTRODUCTION TO MACHINE LEARNING  
ACADEMIC YEAR 2018-2019

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	21.01.19	22.01.19	23.01.19	24.01.19	25.01.19	26.01.19
1	2017-2021/CSE/II/03	VINOTHINI A	/	/	/	/	/	/
2	2016-2020/CSE/III/05	ABIRAMI B	/	/	/	/	/	/
3	2016-2020/CSE/III/05	AKSHAYA G	a	/	/	/	/	/
4	2016-2020/CSE/III/05	ALAN RONALD ARASU M C	/	/	/	a	/	/
5	2016-2020/CSE/III/05	ANU PRIYA E	/	/	/	/	/	/
6	2016-2020/CSE/III/05	ARUL G BERSHIN A B	/	/	/	/	/	/
7	2016-2020/CSE/III/05	ARUNKUMAR S	/	/	/	/	/	a
8	2016-2020/CSE/III/05	ARUN KUMAR P	/	/	/	/	/	/
9	2016-2020/CSE/III/05	ASHA E	/	/	/	/	/	/
10	2016-2020/CSE/III/05	ASWATH R S	/	/	/	/	/	/
11	2016-2020/CSE/III/05	BALAJI P	/	/	/	/	/	/
12	2016-2020/CSE/III/05	BALAKRISHNAN M	a	/	/	/	/	/
13	2016-2020/CSE/III/05	BALA KRISHNAN S	/	/	a	/	/	/
14	2016-2020/CSE/III/05	BHUJAN B NATESH	/	/	/	/	/	/
15	2016-2020/CSE/III/05	CHITRALEKHA R S	/	/	/	/	/	/
16	2016-2020/CSE/III/05	DEVADHARSHINI T	/	a	/	/	/	/
17	2016-2020/CSE/III/05	DIVYALAKSHMI A	/	/	/	/	a	/
18	2016-2020/CSE/III/05	FREDHA CARNELIAN F	/	/	/	/	/	/
19	2016-2020/CSE/III/05	HARIHARAN M	/	/	/	/	/	/
20	2016-2020/CSE/III/05	HEMALATHA S	/	/	/	/	/	/
21	2016-2020/CSE/III/05	ISHWARIYA M	/	/	/	a	/	/
22	2016-2020/CSE/III/05	JAYAGANESH V	/	/	/	/	/	/
23	2016-2020/CSE/III/05	JERALD VINFRANK J	/	/	/	/	/	/
24	2016-2020/CSE/III/05	KANIMOZHI J	/	/	/	/	/	/
25	2016-2020/CSE/III/05	KAVUSALYA M	/	/	/	/	/	/
26	2016-2020/CSE/III/05	KISHAN CHANDRA G	/	/	a	/	/	/
27	2016-2020/CSE/III/05	LOGESWARI I	/	/	/	/	/	/
28	2016-2020/CSE/III/05	LOKESH G	/	a	/	/	/	/
29	2016-2020/CSE/III/05	LOKESH L	/	/	/	/	/	/
30	2016-2020/CSE/III/05	MANISH KUMAR M	/	/	/	/	/	/
31	2016-2020/CSE/III/05	MOHAMED THAHIR A	/	/	/	a	/	/
32	2016-2020/CSE/III/05	NAGARANI G	/	/	/	/	/	/
33	2016-2020/CSE/III/05	NAVAS J	/	/	/	/	/	/
34	2016-2020/CSE/III/05	NAVEEN KUMAR M	/	/	/	/	/	/
35	2016-2020/CSE/III/05	NYLE S	/	/	/	/	/	/
36	2016-2020/CSE/III/05	PEER MOHAMED S	/	/	/	/	/	/
37	2016-2020/CSE/III/05	PRANAV S	/	/	/	/	/	/
38	2016-2020/CSE/III/05	PRAVEEN RAJU P	/	/	/	/	/	/
39	2016-2020/CSE/III/05	PRIANKA R	/	/	/	/	/	a
40	2016-2020/CSE/III/05	PRIYANKA B	/	/	/	/	/	/
41	2016-2020/CSE/III/05	SARAVANAN M	/	/	/	/	/	/
42	2016-2020/CSE/III/05	SHREE ROHINI I	a	/	/	/	/	/
43	2016-2020/CSE/III/05	SIVASUBRAMANIAN A	/	/	/	/	/	/
44	2016-2020/CSE/III/05	SONIYA M	/	/	/	/	/	/
45	2016-2020/CSE/III/05	SRILEKHA A	/	/	/	/	/	/
46	2016-2020/CSE/III/05	SRINIVASAN R	/	/	/	/	/	/
47	2016-2020/CSE/III/05	SUVETHA B	/	/	/	/	/	/
48	2016-2020/CSE/III/05	THEJASWINI G	/	/	/	/	/	/
49	2016-2020/CSE/III/05	THIRUKKURALI P S	a	/	/	/	/	/
50	2016-2020/CSE/III/05	VIJAYKRISHNA J	/	/	/	/	/	/
51	2016-2020/CSE/III/05	VINOTH KUMAR D	/	/	/	/	/	/
52	2016-2020/CSE/III/05	VISHNURANJAN R	/	/	/	/	/	/
53	2016-2020/CSE/III/05	YUVARANI K	/	/	/	/	/	/
54	2017-2021/IT/I/01	AISHWARYA R	/	/	/	/	a	/
55	2017-2021/IT/I/01	FELIX JEROLDIN B	/	/	/	/	/	/
56	2017-2021/IT/I/01	GNANA HARISH N	/	/	/	/	/	/
57	2017-2021/IT/I/01	HARITHA V	/	/	/	/	/	/
58	2017-2021/IT/I/01	KEERTHANA S	/	/	/	/	/	/
59	2017-2021/IT/I/01	LALITHA K	/	a	/	/	/	/
60	2017-2021/IT/I/01	LEKHA SREE G	/	/	/	/	/	/
61	2017-2021/IT/I/01	MADHAN H	/	/	/	/	/	/

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**PRINCIPAL**

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KUNNAM SUNGIVARACHATRAM

62	2017-2021/IT/I/01	MADHUSREE J	/	i	/	/	/	/	/
63	2017-2021/IT/I/01	MANUSH K	/	a	/	/	/	/	/
64	2017-2021/IT/I/01	MOHAN RAJ S	/	/	/	/	/	/	/
65	2017-2021/IT/I/01	MURUGESWARI M	/	/	/	/	/	/	/
66	2017-2021/IT/I/01	RACHANA SENAPATI	/	/	/	/	/	/	/
67	2017-2021/IT/I/01	RANJANI P	/	/	/	/	/	/	/
68	2017-2021/IT/I/01	ROBIN M C	/	/	/	/	/	/	/
69	2017-2021/IT/I/01	TAMILARASAN V	/	/	/	/	/	/	/
70	2017-2021/IT/I/01	R VIGNESH	/	/	/	/	/	/	/
71	2017-2021/IT/I/01	DURGA DEVI R	/	/	/	/	/	/	/
72	2017-2021/IT/I/01	MUTHU PRADHIKSHA M R	/	/	/	/	/	/	/
73	2017-2021/IT/I/01	NITHISKRISHNA A G	/	/	/	/	/	/	/
74	2017-2021/IT/I/01	PRAVEEN KUMAR R	/	/	/	/	/	/	/
75	2017-2021/IT/I/01	SALAI YUGATHAVASU M	/	/	/	a	/	/	/
76	2017-2021/IT/I/01	SATHISH S	/	a	/	/	a	/	/
77	2017-2021/IT/I/01	TAMIL SELVAN S	/	/	/	/	/	/	/
78	2017-2021/IT/I/01	VIDYA	/	/	a	/	/	/	/
79	2017-2021/IT/I/01	VIGNESH E	/	/	/	/	/	/	/
80	2017-2021/IT/I/01	VISHWANATHAN K	/	/	/	/	/	/	/
81	2017-2021/IT/I/01	RAJ KUMAR PM	/	/	/	/	/	/	/
Total Strength		81	81	81	81	81	81	81	81
Total Present		78	76	78	78	78	78	78	79
Total Absent		4	5	3	4	3	2		
Signature		✓	✓	✓	✓	✓	✓	✓	✓

L.N. [Signature]

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### VALUE ADDED COURSE- FEEDBACK FORM

Academic Year

: 2018 - 2019

Year/Sem: II / 05

Name of the VAC Coordinator

: Ms. Dayana R

VAC Duration

: 21.01.2019 to 28.01.2019

Name (Optional)

:

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?	✓			
2	How interested were the content present at VAC?		✓		
3	How useful was the VAC from the knowledge and information point of view		✓		
4	The VAC Presented were congruent with the VAC syllabus	✓			
5	How well was the event space set up?	✓			
6	Expert technical knowledge of the subject	✓			
7	The expert provided adequate time for asking questions and answered them effectively	✓			
8	The materials Provided were useful		✓		
9	The experts demonstrated student centered learning strategies and techniques		✓		
10	Overall effectiveness of the program	✓			

Any Additional comments and suggestions for improvement:  
Is very useful and easy to understand.

The entire session

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## ADVANCED PYTHON PROGRAMMING AND INTRODUCTION TO MACHINE LEARNING

### SUMMARY REPORT

Department of Computer Science and Engineering has organized value added course on "ADVANCED PYTHON PROGRAMMING AND INTRODUCTION TO MACHINE LEARNING" from 21.01.2019 to 28.01.2019 in Computer Science and Engineering Laboratory for all third year students for a duration of 30 Hrs. Total of 81 students enrolled in the course and all the students got certified. The course has enabled the students to identify the datasets, compare data with various applications and integrate machine learning libraries, mathematical tools for different ML techniques, thereby providing training for the students to meet the placement requisites

R. Dayana  
VAC Co Ordinator  
(R:DAYANA)

Dr. J. Farithaban  
HOD

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## Advanced Python and Introduction to Machine Learning Course Curriculum

### **Objectives of this course**

- To Learn Advance mathematical libraries of python
- To understand data exploration and data wrangling
- To perform data visualization, exporting and importing file contents.
- To understand basics of machine learning

### **Numpy**

**4+2**

Creating Arrays-Numpy Data types-Array Mathematics-Array Manipulation-Subsetting, slicing, Indexing-boolean Indexing-Array Manipulation-Reshaping, Transposing, splitting and combining arrays-Inspecting Array and aggregating array.

### **Pandas**

**4+2**

Series-Dataframe-Importing pandas- Dictionary into data frames, read and write to CSV and Excel, selecting, Boolean Indexing, setting, dropping, sorting, filling missing values, getting dataframe information and retrieving series, summary and applying lambda function

### **Plotting and Visualization**

**4+2**

Figures-Subplot-Colors-Markers-Line styles-Ticks-Labels-Legends-Drawing subplots-Line plot-Barplot- Scatter Plot-Histograms

### **Object Oriented Programming**

**4+2**

OOPS concepts-creating class-Object-accessing class members-inheritance-abstract class

### **Introduction to Machine Learning**

**4+2**

Introduction to Machine Learning – types of learning – supervised – unsupervised- Kmeans Clustering - Hierarchical Clustering

### **Mini Project**

Pre requisite: Python Programming Total period: 20+10(Practice& project) = 30 Periods

  
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## **OUTCOME**

- Able to work with numbers and dataset
- To know supervised and unsupervised learning
- Can perform data cleaning, merging, transforming and reshaping
- Can implement manageable and extensible applications in machine learning

### **Reference Books:**

1. Introduction to Machine Learning with Python: A Guide for Data Scientists  
Andreas C. Müller, O'REILLY, 5<sup>th</sup> Edition
2. Practical Statistics for Data Scientists, Andrew Bruce, O'REILLY, 2<sup>nd</sup> Edition
3. Python 3 Object Oriented Programming, Dusty Phillips, Packt Publishing
4. Python Machine Learning by Example, Yuxi (Hayden) Liu, Packt Publishing, 2017

a) Course Name: Advanced Python and Introduction to Machine Learning (APyIM)

b) Branch: CSE, IT, ECE, EEE

c) Year: II, III

### **EXTERNAL TRAINER DETAILS**

S.No	Name	Designation	Company
1.	Mr. Sai Ram	Trainer	Geoinsyssoft, Chennai
2.	Mr. Shiva Shankar J	Software Engineer	Infosys Pvt Ltd
3.	Ms. Asha H	Software Engineer	Cognizant Technology Solutions
4	Mr. Yogesh Kumar	Tech. Lead	L&T Infotech

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**SCHEDULE OF TRAINING PROGRAM**

Date	3.00 pm to 3.45 pm	3.45 pm to 4.30 pm
21.8.2019	Creating Arrays-Numpy Data types-Array Mathematics	Array Manipulation-Sub setting,
22.8.2019	slicing, Indexing-boolean Indexing	Array Manipulation-Reshaping, Transposing,
27.8.2019	splitting and combining arrays-	Inspecting Array and aggregating array. Project/Practice
29.8.2019	Series-Data frame-Importing pandas-Dictionary into data frames, ,	read and write to CSV and Excel, selecting, Boolean Indexing,
3.9.2019	setting, dropping, soring, filling missing values,	getting data frame information and retrieving series
4.9.2019.	summary and applying lambda function.	Project/Practice
5.9.2019	Figures - Subplot	Colors-Markers-Line styles
6.9.2019	Ticks-Labels-Legens	Drawing subplots
9.9.2019	Line plot- Barplot	Scatter Plot-Histograms
11.9.2019	OOPS concepts	creating class-Object-PRACTICE
12.9.2019	accessing class members	Inheritance Concepts
17.9.2019	abstract class	Practice Programs
19.9.2019	Introduction to Machine Learning	types of learning
24.9.2019	supervised -unsupervised	K means Clustering
26.9.2019	Hierarchical Clustering	Project/Practice

*R. Dayana*  
VAC Coordinator

(R. DAYANA)  
AP/CSE

*Shyam*  
Head of the Department

[DR. J. FARITHA BANU]

*J. M. J.*  
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VALUE ADDED COURSE DETAILS  
ACADEMIC YEAR 2019-2020  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE CERTIFYING ORGANIZATION	CERTIFICATE(YES/NO)
1	2017-2021/CSE/III/05	Arun Kumar. S	Advanced Python and Introduction to Machine Learning	30 Hrs	Anna University	YES
2	2017-2021/CSE/III/05	Benninton. S	Advanced Python and Introduction to Machine Learning	30 Hrs	Anna University	YES
3	2017-2021/CSE/III/05	Bouna Das. K	Advanced Python and Introduction to Machine Learning	30 Hrs	Anna University	YES
4	2017-2021/CSE/III/05	Chandra Suriya. M	Advanced Python and Introduction to Machine Learning	30 Hrs	Anna University	YES
5	2017-2021/CSE/III/05	Gopi Rajan. K	Advanced Python and Introduction to Machine Learning	30 Hrs	Anna University	YES
6	2017-2021/CSE/III/05	Monisha. E	Advanced Python and Introduction to Machine Learning	30 Hrs	Anna University	YES
7	2017-2021/CSE/III/05	Naveen Kumar. T	Advanced Python and Introduction to Machine Learning	30 Hrs	Anna University	YES
8	2017-2021/CSE/III/05	Nis Shammini Nimsha. R	Advanced Python and Introduction to Machine Learning	30 Hrs	Anna University	YES
9	2017-2021/CSE/III/05	Rohit. K	Advanced Python and Introduction to Machine Learning	30 Hrs	Anna University	YES
10	2017-2021/CSE/III/05	Shanu. S	Advanced Python and Introduction to Machine Learning	30 Hrs	Anna University	YES
11	2017-2021/ECE/III/05	Gowri R	Advanced Python and Introduction to Machine Learning	30 Hrs	Anna University	YES
12	2017-2021/ECE/III/05	Kalaiselvi G	Advanced Python and Introduction to Machine Learning	30 Hrs	Anna University	YES
13	2017-2021/ECE/III/05	Karthik G	Advanced Python and Introduction to Machine Learning	30 Hrs	Anna University	YES
14	2017-2021/ECE/III/05	Mahalakshmi T	Advanced Python and Introduction to Machine Learning	30 Hrs	Anna University	YES
15	2017-2021/EEE/III/05	Aravindh P	Advanced Python and Introduction to Machine Learning	30 Hrs	Anna University	YES
16	2017-2021/EEE/III/05	Sriram P	Advanced Python and Introduction to Machine Learning	30 Hrs	Anna University	YES

*R. Dayana*  
VAC COORDINATOR  
(R. DAYANA)

*J. N. h*  
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING  
VALUE ADDED COURSE -ATTENDANCE  
IVA066- MACHINE LEARNING TECHNIQUES  
ACADEMIC YEAR 2019-2020

SL.NO	REG.NO	NAME	21.8.2019	22.8.2019	23.8.2019	29.8.2019	30.8.2019	4.9.2019	5.9.2019	6.9.2019	7.9.2019	11.9.2019	12.9.2019	17.9.2019	18.9.2019	24.9.2019	26.9.2019
1	210617104005	ARUN KUMAR S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2	210617104009	BENNINTON S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	210617104012	BOINA DAS Y	a	/	/	/	/	/	/	/	a	/	/	/	/	/	a
4	210617104013	CHANDRA SURIYA M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	210617104017	GOPI RAJAN K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	210617104033	MUNISHA E	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	210617104037	NAVEEN KUMAR T	/	/	a	/	/	/	/	/	/	/	/	/	/	/	/
8	210617104039	NILS SHAMMINI NIMSHI A R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
9	210617104045	ROHIT K	/	/	/	/	/	/	/	/	/	/	/	/	/	a	/
10	210617104048	SHANU S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11	210617106034	GOWRI R	/	/	/	/	/	/	a	/	/	/	/	/	/	/	/
12	210617106044	KALAISELVI G	/	/	/	/	/	/	/	/	/	a	/	/	/	a	/
13	210617106046	KARTHIK G	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
14	210617106052	MAHALAKSHMI T	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15	210617105004	ARAVINTH P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
16	210617105038	SRIRAM P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Total Strength			16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Total Present			15	15	15	16	15	16	15	16	15	16	15	16	16	15	14
Total Absent			1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Signature																	

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### VALUE ADDED COURSE- FEEDBACK FORM

Academic Year : 2019 - 2020

Year/Sem: III 105

Name of the VAC Coordinator : R. Dayana

VAC Duration : 21.8.2019 to 26.9.2019

Name (Optional) : Arunkumar S.

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?		✓		
2	How interested were the content present at VAC?	✓			
3	How useful was the VAC from the knowledge and information point of view	✓			
4	The VAC Presented were congruent with the VAC syllabus	✓			
5	How well was the event space set up?		✓		
6	Expert technical knowledge of the subject	✓			
7	The expert provided adequate time for asking questions and answered them effectively	✓			
8	The materials Provided were useful		✓		
9	The experts demonstrated student centered learning strategies and techniques	✓			
10	Overall effectiveness of the program		✓		

Any Additional comments and suggestions for improvement:-

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## **ADVANCED PYTHON PROGRAMMING AND INTRODUCTION TO MACHINE LEARNING**

### **SUMMARY REPORT**

Department of Computer Science and Engineering has organized Anna University Approved value added course on “ADVANCED PYTHON PROGRAMMING AND INTRODUCTION TO MACHINE LEARNING” from 21.08.2019 to 29.09.2019 in Computer Science and Engineering Laboratory for all third year students for a duration of 30 Hrs. Total of 16 students enrolled in the course. Evaluation process is carried out through internal assessment and the same was reported to the Anna University. The students were graded based on the internal assessment and all the enrolled students completed the course successfully. The course has enabled the students to identify the datasets, compare data with various applications and integrate machine learning libraries, mathematical tools for different ML techniques, thereby providing training for the students to meet the placement requisites.

**VAC Co Ordinator**

(R. DAYANA)

**HOD**

[Dr. J. FARITHABANU]

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## Curriculum for Machine Learning Techniques

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### Objective:

- To introduce students to the basic concepts and techniques of Machine Learning.
- To become familiar with regression methods, classification methods, clustering methods.
- To become familiar with Dimensionality Reduction Techniques and SVM.

### **Unit 1      Introduction to Machine Learning**

3+3

Introduction to Machine Learning - Types of learning - Introduction to Statistics -Handling missing values -Evaluation and Cross validation - Unsupervised Learning (Clustering) – K means Clustering - Hierarchical Clustering- Demonstration and Hands-on practice for Clustering algorithms.

### **Unit 2      Classification and Regression**

3+3

Linear Classification - Linear Regression - Multi linear Regression -Polynomial Regression - Stochastic Gradient Descent Regression – Demonstration and Hands-on practice for linear Regression and Classification.

### **Unit 3      Decision Trees**

3+3

Decision trees – Learning decision trees – Representation - Ranking and probability estimation trees – Regression trees – Overfitting- Building simple models with Decision trees.

### **Unit 4      Bayesian Learning**

3+3

Bayesian Learning - Naive Bayes Classifier-Bayesian Belief Network-Bayesian Network – Implementation of Naive Bayes Algorithm.

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## **UNIT 5     Support Vector Machine**

**3+3**

Support Vector Machine (SVM) - Large margin classifiers - Maximum Margin with Noise - Soft margin SVM - Nonlinear SVM and Kernel Function- Implementing real life applications of SVM.

**Mini Project-** Building models using any Machine Learning Algorithms for Real life applications.

### **Prerequisites: Python Programming**

### **Outcome:**

The Student will be able to:

- Gain knowledge about basic concepts of Machine Learning.
- Identify machine learning techniques suitable for a given problem
- Solve the problems using various machine learning techniques

**Total period: 15+15(Theory, Practice& project) = 30 Periods.**

### **Reference Books:**

1. Introduction to Machine Learning with Python: A Guide for Data Scientists  
Andreas C. Müller, O'REILLY, 5<sup>th</sup> Edition
2. Practical Statistics for Data Scientists, Andrew Bruce, O'REILLY, 2<sup>nd</sup> Edition
3. Python 3 Object Oriented Programming, Dusty Phillips, Packt Publishing
4. Python Machine Learning by Example, Yuxi (Hayden) Liu, Packt Publishing, 2017

a) Course Name : **Machine Learning Techniques**

b) Branch : CSE, IT, ECE, EEE & MECH

*D.N.H*

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## Trainers Details

S.No	Name	Designation	Company
1.	Mr. Sai Ram	Trainer	Geoinskysoft, Chennai
2.	Mr. Shiva Shankar J	Software Engineer	Infosys Pvt Ltd
3.	Ms. Asha H	Software Engineer	Cognizant Technology Solutions
4	Mrs.R.Dayana	Assistant Professor	Jeppiaar Institute Of Technology



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## SCHEDULE OF TRAINING PROGRAM:

Date	3.00 pm to 3.45 pm	3.45 pm to 4.30 pm
10.07.2020	Introduction to Machine Learning - Types of learning	Introduction to Statistics -Handling missing values/ Practical Session
17.07.2020	Evaluation and Cross validation	Unsupervised Learning (Clustering) – K means Clustering
24.07.2020	Hierarchical Clustering	Demonstration and Hands-on practice for Clustering algorithms.
31.07.2020	Linear Classification - Linear Regression - Regression	Multi linear Regression
7.08.2020	Polynomial Regression	Stochastic Gradient Descent
14.08.2020	Demonstration and Hands-on practice for linear Regression and Classification.	Demonstration and Hands-on practice for Classification.
21.08.2020	Decision trees Overfitting-	Learning decision trees
28.08.2020	Representation - Ranking and probability	estimation trees – Regression trees
04.09.2020	Building simple models with Decision trees.	Model Building - Practical Session
11.09.2020	Bayesian Learning	Naive Bayes Classifier
18.09.2020	Bayesian Belief Network	Bayesian Network
25.09.2020	Implementation of Naive Bayes Algorithm.	Naive Bayes-Practical Session
1.10.2020	Support Vector Machine (SVM)	Large margin classifiers - Maximum Margin with Noise
9.10.2020	Soft margin SVM	Nonlinear SVM and Kernel Function
16.10.2020	Implementing real life applications of SVM.	Applications using SVM -Practical Session

R. Dayana  
VAC Coordinator

R. DAYANA  
AP/CSE

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SRIPERUMBUDUR - 631604.

L.N.H

Head of the Department

[DR. J. FATHABANU]



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VALUE ADDED COURSE DETAILS

ACADEMIC YEAR 2020-2021

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE CERTIFYING ORGANIZATION	CERTIFICATE(YES/NO)
1	2017-2021/ECE/III/05	STANISH ROSHAN P	Machine Learning Techniques	30 Hrs	Anna University	YES
2	2018-2022/CSE/III/05	Abara.E	Machine Learning Techniques	30 Hrs	Anna University	YES
3	2018-2022/CSE/III/05	Adhwaitha Jasmith	Machine Learning Techniques	30 Hrs	Anna University	YES
4	2018-2022/CSE/III/05	Arunkumar S	Machine Learning Techniques	30 Hrs	Anna University	YES
5	2018-2022/CSE/III/05	Bibilin manuela	Machine Learning Techniques	30 Hrs	Anna University	YES
6	2018-2022/CSE/III/05	Geethanjali R	Machine Learning Techniques	30 Hrs	Anna University	YES
7	2018-2022/CSE/III/05	Gowshika. R	Machine Learning Techniques	30 Hrs	Anna University	YES
8	2018-2022/CSE/III/05	KG Haarish Kannan	Machine Learning Techniques	30 Hrs	Anna University	YES
9	2018-2022/CSE/III/05	Julie Christina J	Machine Learning Techniques	30 Hrs	Anna University	YES
10	2018-2022/CSE/III/05	Kaviya M	Machine Learning Techniques	30 Hrs	Anna University	YES
11	2018-2022/CSE/III/05	Kaviya O	Machine Learning Techniques	30 Hrs	Anna University	YES
12	2018-2022/CSE/III/05	Keerthika K	Machine Learning Techniques	30 Hrs	Anna University	YES
13	2018-2022/CSE/III/05	Moreen Joice J	Machine Learning Techniques	30 Hrs	Anna University	YES
14	2018-2022/CSE/III/05	Muthukrishnan	Machine Learning Techniques	30 Hrs	Anna University	YES
15	2018-2022/CSE/III/05	Prabha.k	Machine Learning Techniques	30 Hrs	Anna University	YES
16	2018-2022/CSE/III/05	Pranesh S	Machine Learning Techniques	30 Hrs	Anna University	YES
17	2018-2022/CSE/III/05	Parveen Kumar K K	Machine Learning Techniques	30 Hrs	Anna University	YES
18	2018-2022/CSE/III/05	Ravi bharathi R	Machine Learning Techniques	30 Hrs	Anna University	YES
19	2018-2022/CSE/III/05	Saranya	Machine Learning Techniques	30 Hrs	Anna University	YES
20	2018-2022/CSE/III/05	B.Sharu Bency	Machine Learning Techniques	30 Hrs	Anna University	YES
21	2018-2022/CSE/III/05	Suren Raj. P	Machine Learning Techniques	30 Hrs	Anna University	YES
22	2018-2022/CSE/III/05	Swetha.P	Machine Learning Techniques	30 Hrs	Anna University	YES
23	2018-2022/CSE/III/05	Teena D	Machine Learning Techniques	30 Hrs	Anna University	YES
24	2018-2022/CSE/III/05	Vidula	Machine Learning Techniques	30 Hrs	Anna University	YES

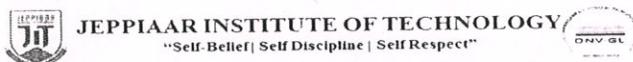
R. Dayana

VAC COORDINATOR

(R. DAYANA )

L. N. K

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING  
VALUE ADDED COURSE - ATTENDANCE  
IVA066- MACHINE LEARNING TECHNIQUES  
ACADEMIC YEAR 2020 TO 2021

SL.NO	REG.NO	NAME	10.07.2020	17.07.2020	24.07.2020	31.07.2020	07.08.2020	14.08.2020	21.08.2020	28.08.2020	04.09.2020	11.09.2020	18.09.2020	25.09.2020	02.10.2020	09.10.2020	16.10.2020
1	210617104005	ARUN KUMAR S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2	210617104009	BENNINTON S.	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	210617104012	BOUNA DAS Y	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4	210617104013	CHANDRA SURIYA M.	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	210617104017	GOPI RAJAN K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	210617104033	MUNISHA E.	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	210617104037	NAVEEN KUMAR T.	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
8	210617104039	NIS SHAMMINI NIMSHA R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
9	210617104043	ROHIT K	/	/	/	/	/	/	/	/	/	/	a	/	/	/	/
10	210617104048	SHANU S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11	210617106034	GOWRI R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
12	210617106044	KALAISELVIG	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13	210617106046	KARTHIK G	/	/	/	/	/	/	/	a	/	/	/	/	/	/	/
14	210617106052	MAHALAKSHMI T	/	/	/	/	/	/	/	/	/	/	/	/	a	/	/
15	210617105004	ARAVINTH P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
16	210617105038	SRIRAM P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
17	210618104001	ABARNA E	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
18	210618104002	ADHIWAITHA JASMITH	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
19	210618104006	ARUNKUMAR S	/	/	a	/	/	/	/	/	/	/	/	/	/	/	/
20	210618104008	BIHIN MANUELA	/	a	/	/	/	/	/	/	/	/	/	/	/	/	/
21	210618104013	GEETHANJALI R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
22	210618104015	GOWSHIKA R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
23	210618104017	HAAARISSH KANNAN K G	/	/	/	/	/	/	/	/	/	/	a	/	/	/	/
24	210618104021	JULIE CHRISTINA J	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
25	210618104023	NAVIYA M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
26	210618104024	NAVIYA O	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
27	210618104025	KEFRTHIKA K	/	/	/	/	/	/	/	/	/	/	/	/	/	a	/
28	210618104030	MOREEN JOICE J	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
29	210618104031	MUTHUKRISHNAN P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
30	210618104032	PRABHA K	/	/	/	/	a	/	/	/	/	/	/	/	/	/	/
31	210618104034	PRANEETH S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
32	210618104035	PARVEEN KUMAR K K	/	/	/	/	/	/	/	/	/	/	a	/	/	/	/
33	210618104038	RAVI BHARATHI R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
34	210618104045	SARANYA I	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
35	210618104047	SHARU BENCY	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
36	210618104050	SUREN RAJ P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
37	210618104052	SWETHA P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
38	210618104053	TEENA D	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
39	210618104054	VIDULA V	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
40	210618106037	STANISH ROSHAN P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Total Strength			40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Total Present			39	39	39	40	39	40	40	40	40	40	40	40	40	39	40
Total Absent			d	d	d	d	d	d	d	d	d	d	d	d	d	d	d
Signature																	

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## MACHINE LEARNING TECHNIQUES

### SUMMARY REPORT

Department of Computer Science and Engineering has organized Anna University Approved value added course on “MACHINE LEARNING TECHNIQUES” from 10.07.2020 to 16.10.2020 in online mode for all third year students for a duration of 30 Hrs. Total of 24 students enrolled in the course. Evaluation process is carried out through internal assessment and the same was reported to the Anna University. The students were graded based on the internal assessment and all the enrolled students completed the course successfully. The course has enabled the students to identify the datasets, compare data with various applications and integrate machine learning libraries, mathematical tools for different ML techniques, thereby providing training for the students to meet the placement requisites

*R. Dayana*  
VAC Co Ordinator

(R. DAYANA)

*Elam*

HOD

[ Dr. J. FARITHA BANU ]

*D.N.H*

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**Curriculum for Interactive Web Designing and Progressive Java**

**Objective**

- Students can design web page and create interactive websites
- Can perform client side validation using Java script
- Students develop flexible and extensible web applications
- Students can upgrade the server side programs into struts framework

**WEB PROGRAMMING BASICS**

4+2

Introduction to websites and web server- HTTP Protocol, methods. Web application architecture- HTML: Basic tags, list , form , tables , and CSS:Colors, Borders, Padding, Margin, Animation, Model, Creating web pages

**JAVA SCRIPT**

4+2

JAVASCRIPT introduction, syntax, variables, expressions, control statements arrays, error handling, functions, Event handling, HTML DOM, Objects. XML- Basics, need of XML, elements, attributes. Creating interactive Web Pages. Overview of AngularJS

**SERVLET**

5+2

Introduction to servlet-servlet API-Architecture of Servlet- Life cycle-comparison of GET and POST, creating first servlet- deployment descriptor-servlet request-response-init params- servlet config and servlet context-Session Management: HttpSession- Cookies. Creating dynamic web pages.

**JAVA SERVER PAGES**

4+2

Introduction to JSP-Lifecycle of JSP-JSP elements-Creating first JSP--JSP implicit object-standard actions-expression language-JSTL-custom tags-Java Beans.

**WEB APPLICATION FRAMEWORK**

3+2

Struts- Framework-Architecture-validator-lifecycle-action-tags-annotations-Database Access.

Mini project

Total period: 20+10(Practice& project) = 30 Periods.

Total No. of Hrs: 30hrs

Prerequisite: Java Programming

*D. N. Raja*

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## **OUTCOMES:**

- Can implement applications with model view controller pattern
- Could develop server side applications
- Create applications with Session Tracking
- Can create applications in frameworks

## **References:**

1. Bryan Basham, Kathy Sierra, Bert Bates, O'Reilly - Head First Servlets and JSP, 2<sup>nd</sup> Edition
2. Jim Keogh, J2EE: The Complete Reference, Sep 2002
3. James Holmes, Struts: The Complete Reference, 2004
4. Budi. Kurniawan, Java for the Web with Servlets, JSP, and EJB

### **EXTERNAL TRAINER DETAILS**

S.No	Name	Designation	Company
1.	Ms. Saranya.R	Associate Consultant	Accenture , Chennai
2.	Mr. Mahesh S	Mobile Application Developer	Tavapan Technologies, Chennai
3.	Mr. A.Vinod	Software consultant	Altimetrix
4	Mr. Dinesh Kumar	Web Developer	Cognizant Technologies Pvt.Ltd.

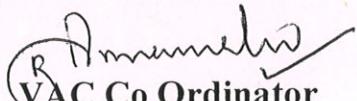
### **INTERNAL TRAINER DETAILS**

S.No	Name	Designation	Company
1	Mr R Annamalai	Associate Professor	Jeppiaar Institute of Technology

*J. N. R. H.*  
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## SCHEDULE OF TRAINING PROGRAM

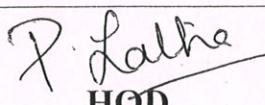
Date	3.00 pm to 3.45 pm	3.45 pm to 4.30 pm
21.8.2019	Introduction to websites and web server	HTTP Protocol,methods
22.8.2019	Web application architecture	HTML: Basic tags
27.8.2019	list , form , tables	CSS:Colors
29.8.2019	Borders, Padding	Margin, Animation, Model
3.9.2019	Creating web pages	JAVASCRIPT introduction, syntax, variables, expressions
4.9.2019	JAVASCRIPT introduction, syntax, variables, expressions	error handling, functions
5.9.2019	Event handling	HTML DOM, Objects
6.9.2019	XML- Basics	need of XML elements, attributes
9.9.2019	Creating interactive Web Pages. Overview of AngularJS	Introduction to servlet-servlet API
11.9.2019	Architecture of Servlet	Life cycle-comparison of GET and POST
12.9.2019	creating first servlet	deployment descriptor-servlet request-response-init params
17.9.2019	servlet config and servlet context	Session Management: HttpSession- Cookies. Creating dynamic web pages.
19.9.2019	Introduction to JSP-Lifecycle of JSP	JSP implicit object- standard actions-expression language-JSTL-custom tags-Java Beans.
24.9.2019	Struts- Framework-Architecture-validator	lifecycle-action-tags
26.9.2019	annotations-Database Access	Mini project

  
VAC Co Ordinator

Ammalai R  
Asso. Prof / I

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DR. P. UTTEN  
HOD / IT


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**VALUE ADDED COURSE DETAILS  
ACADEMIC YEAR 2019-2020**
**DEPARTMENT OF INFORMATION TECHNOLOGY**

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE CERTIFYING ORGANIZATION	CERTIFICATE(YES/NO)
1	2017-2021/IT/III/V	Abishek T	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
2	2017-2021/IT/III/V	Aishwarya R	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
3	2017-2021/IT/III/V	Dinesh V	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
4	2017-2021/IT/III/V	Durgadevi R	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
5	2017-2021/IT/III/V	Ebinaser E	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
6	2017-2021/IT/III/V	Gnana Harish N	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
7	2017-2021/IT/III/V	Goutham H	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
8	2017-2021/IT/III/V	Jayasri S M	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
9	2017-2021/IT/III/V	Jeeson S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
10	2017-2021/IT/III/V	Jividesh R	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
11	2017-2021/IT/III/V	Kamali A	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
12	2017-2021/IT/III/V	Keerthana S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
13	2017-2021/IT/III/V	Lalitha K	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
14	2017-2021/IT/III/V	Lekha Sree G	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
15	2017-2021/IT/III/V	Madhan K	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
16	2017-2021/IT/III/V	Madhusree J	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
17	2017-2021/IT/III/V	Maheshvaran G R	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
18	2017-2021/IT/III/V	Manush K	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
19	2017-2021/IT/III/V	Mohan Raj S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
20	2017-2021/IT/III/V	Monisha M	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
21	2017-2021/IT/III/V	Monisha V	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
22	2017-2021/IT/III/V	Murugeswari M	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
23	2017-2021/IT/III/V	Muthu Pradhiksha M R	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
24	2017-2021/IT/III/V	Nithish Krishna A G	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
25	2017-2021/IT/III/V	Praveen Kuamr S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
26	2017-2021/IT/III/V	Praveen Kumar R	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
27	2017-2021/IT/III/V	Rachana Senapati	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
28	2017-2021/IT/III/V	Ranjani P	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
29	2017-2021/IT/III/V	Salai Yugathavasu M	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
30	2017-2021/IT/III/V	Sathish S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
31	2017-2021/IT/III/V	Swethaa K.J	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
32	2017-2021/IT/III/V	Tamil Selvan S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
33	2017-2021/IT/III/V	Thulasi Abirami T	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
34	2017-2021/IT/III/V	Vignesh E	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
35	2017-2021/IT/III/V	Vishwanathan K	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes

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36	2017-2021/IT/III/V	Vignesh.R	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
37	2017-2021/CSE/III/V	Abilash. V	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
38	2017-2021/CSE/III/V	Abinaya.P	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
39	2017-2021/CSE/III/V	Adhithya	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
40	2017-2021/CSE/III/V	Prabakaran.S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
41	2017-2021/CSE/III/V	Arun Terrance. V	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
42	2017-2021/CSE/III/V	Ashika K	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
43	2017-2021/CSE/III/V	Balaji. S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
44	2017-2021/CSE/III/V	Bhavani. S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
45	2017-2021/CSE/III/V	Dhana Chezhian. K	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
46	2017-2021/CSE/III/V	Dhinesh Kumar. P	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
47	2017-2021/CSE/III/V	Dhivakar. R	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
48	2017-2021/CSE/III/V	Hariprasath S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
49	2017-2021/CSE/III/V	Hemanth. P	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
50	2017-2021/CSE/III/V	Hemanthraj. T	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
51	2017-2021/CSE/III/V	Janardh. K	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
52	2017-2021/CSE/III/V	Jeflin. F	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
53	2017-2021/CSE/III/V	Jefri Malin Raj. A	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
54	2017-2021/CSE/III/V	Lingesh. A	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
55	2017-2021/CSE/III/V	Madhan Kumar. S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
56	2017-2021/CSE/III/V	Manjesh Kumar. S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
57	2017-2021/CSE/III/V	Mansoor Siraj. Kss	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
58	2017-2021/CSE/III/V	Mohan Raj. R	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
59	2017-2021/CSE/III/V	Mythily. B	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
60	2017-2021/CSE/III/V	Naveen.B	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
61	2017-2021/CSE/III/V	Naveen.S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
62	2017-2021/CSE/III/V	Nishanth Kumar. S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
63	2017-2021/CSE/III/V	Nithesh. S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
64	2017-2021/CSE/III/V	Poovarasan. S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
65	2017-2021/CSE/III/V	Pranav. R	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
66	2017-2021/CSE/III/V	Pushparaj. K	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
67	2017-2021/CSE/III/V	Rajkumar. PM	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
68	2017-2021/CSE/III/V	Ronni Bert. M	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
69	2017-2021/CSE/III/V	Senthazhal. M	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
70	2017-2021/CSE/III/V	Shiden David	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
71	2017-2021/CSE/III/V	Shiva. B	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
72	2017-2021/CSE/III/V	Shrinath. K	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
73	2017-2021/CSE/III/V	Shyam. W	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
74	2017-2021/CSE/III/V	Thalariventhan KR	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes

*L.N-hs*

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75	2017-2021/CSE/III/V	Thenmozhi. R	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
76	2017-2021/CSE/III/V	Vasantha Kumar. K	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
77	2017-2021/CSE/III/V	Vignesh. M	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
78	2017-2021/ECE/III/5	Ajith Kumar	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
79	2017-2021/ECE/III/5	Akash B	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
80	2017-2021/ECE/III/5	Balaji S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
81	2017-2021/ECE/III/5	Balakumar	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
82	2017-2021/ECE/III/5	Dominic P	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
83	2017-2021/ECE/III/5	Jaya Kumar D	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
84	2017-2021/ECE/III/5	Pravin .S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
85	2017-2021/ECE/III/5	Raja Annamalai P	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
86	2017-2021/ECE/III/5	Shachinkguru S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
87	2017-2021/ECE/III/5	Siva	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
88	2017-2021/ECE/III/5	Sudakar	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
89	2017-2021/ECE/III/5	Thennarasu	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
90	2017-2021/ECE/III/5	Venkatesh	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
91	2017-2021/ECE/III/5	Vetrivel L	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
92	2017-2021/ECE/III/5	Vignesh M	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
93	2017-2021/ECE/III/5	Vignesh P	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
94	2017-2021/EEE/III/5	Ashwin M	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
95	2017-2021/EEE/III/5	Vijaya Kumar S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
96	2017-2021/EEE/III/5	Ashok Kumar	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
97	2017-2021/EEE/III/5	Dhamodaran NS	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
98	2017-2021/EEE/III/5	Jaya Prakash V	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
99	2017-2021/EEE/III/5	Samuel Rajan J	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
100	2017-2021/EEE/III/5	Sriram D	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
101	2017-2021/Mech/III/5	Antony Chackravarthy	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
102	2017-2021/Mech/III/5	Benito Daniel O	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes

*L.N. he*

*R. Ammalai R*  
VAc - Co-ordinator  
(Annamalai R)

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## **INTERACTIVE WEB DESIGNING AND PROGRESSIVE JAVA**

### **SUMMARY REPORT**

The Department of Information Technology has organized Anna University Approved value added course on “INTERACTIVE WEB DESIGNING AND PROGRESSIVE JAVA” from 21.08.2019 to 29.09.2019 in Information and Technology Laboratory for all third year students for a duration of 30 Hrs. Total of 102 students enrolled in the course. Evaluation process is carried out through internal assessment and the same was reported to the Anna University. The students were graded based on the internal assessment and all the enrolled students completed the course successfully. The course has provided adequate training for the students to learn and understand the elements that are used in web designing and web development. It enabled the students to get skilled as a web developer, thereby building appealing, innovative and responsive websites which meets the industry requisites.

  
VAC Co Ordinator

Amrana M. R  
Asso. Prof / IT

  
DR. P. LATHA  
HOD/IT

  
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**VALUE ADDED COURSE- FEEDBACK FORM**

Academic Year : 2019 - 2020

Year/Sem: III / V

Name of the VAC Coordinator : Mr. R. Annamalai

VAC Duration : 21.8.19 to 26.9.19

Name (Optional) :

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?	✓			
2	How interested were the content present at VAC?	✓			
3	How useful was the VAC from the knowledge and information point of view	✓			
4	The VAC Presented were congruent with the VAC syllabus	✓			
5	How well was the event space set up?		✓		
6	Expert technical knowledge of the subject	✓			
7	The expert provided adequate time for asking questions and answered them effectively	✓			
8	The materials Provided were useful	✓			
9	The experts demonstrated student centered learning strategies and techniques		✓		
10	Overall effectiveness of the program	✓			

Any Additional comments and suggestions for improvement: The entire Content was very informative and excellent

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**Curriculum for Interactive Web Designing and Progressive Java**  
**Objective**

- Students can design web page and create interactive websites
- Can perform client side validation using Java script
- Students develop flexible and extensible web applications
- Students can upgrade the server side programs into struts framework

**WEB PROGRAMMING BASICS**

4+2

Introduction to websites and web server- HTTP Protocol, methods. Web application architecture- HTML: Basic tags, list , form , tables , and CSS:Colors, Borders, Padding, Margin, Animation, Model, Creating web pages

**JAVA SCRIPT**

4+2

JAVASCRIPT introduction, syntax, variables, expressions, control statements arrays, error handling, functions, Event handling, HTML DOM, Objects. XML- Basics, need of XML, elements, attributes. Creating interactive Web Pages. Overview of AngularJS

**SERVLET**

5+2

Introduction to servlet-servlet API-Architecture of Servlet- Life cycle-comparison of GET and POST, creating first servlet- deployment descriptor-servlet request-response-init params- servlet config and servlet context-Session Management: HttpSession- Cookies. Creating dynamic web pages.

**JAVA SERVER PAGES**

4+2

Introduction to JSP-Lifecycle of JSP-JSP elements-Creating first JSP--JSP implicit object-standard actions-expression language-JSTL-custom tags-Java Beans.

**WEB APPLICATION FRAMEWORK**

3+2

Struts- Framework-Architecture-validator-lifecycle-action-tags-annotations-Database Access.

Mini project

Total period: 20+10(Practice& project) = 30 Periods.

**Total No. of Hrs:** 30hrs

**Prerequisite:** Java Programming

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## **OUTCOMES:**

- Can implement applications with model view controller pattern
- Could develop server side applications
- Create applications with Session Tracking
- Can create applications in frameworks

## **References:**

1. Bryan Basham, Kathy Sierra, Bert Bates, O'Reilly - Head First Servlets and JSP, 2<sup>nd</sup> Edition
2. Jim Keogh, J2EE: The Complete Reference, Sep 2002
3. James Holmes, Struts: The Complete Reference, 2004
4. Budi. Kurniawan, Java for the Web with Servlets, JSP, and EJB

**Course Name: Interactive Web Designing and Progressive Java (IWDPJ)**

### **EXTERNAL TRAINER DETAILS**

S.No	Name	Designation	Company
1.	Ms. Saranya.R	Associate Consultant	Accenture , Chennai
2.	Mr. Mahesh S	Mobile Application Developer	Tavapan Technologies, Chennai
3.	Mr. A.Vinod	Software consultant	Altimetrix
4	Mr. Dinesh Kumar	Web Developer	Cognizant Technologies Pvt.Ltd.

### **INTERNAL TRAINER DETAILS**

S.No	Name	Designation	Company
1	Mr R Annamalai	Associate Professor	Jeppiaar Institute of Technology



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## SCHEDULE OF TRAINING PROGRAM

Date	3.00 pm to 3.45 pm	3.45 pm to 4.30 pm
10.07.2020	Introduction to websites and web server	HTTP Protocol,methods
17.07.2020	Web application architecture	HTML: Basic tags
24.07.2020	list , form , tables	CSS:Colors
31.07.2020	Borders, Padding	Margin, Animation, Model
7.08.2020	Creating web pages	JAVASCRIPT introduction, syntax, variables, expressions
14.08.2020	JAVASCRIPT introduction, syntax, variables, expressions	error handling, functions
21.08.2020	Event handling	HTML DOM, Objects
28.08.2020	XML- Basics	need of XML elements, attributes
04.09.2020	Creating interactive Web Pages. Overview of AngularJS	Introduction to servlet-servlet API
11.09.2020	Architecture of Servlet	Life cycle-comparison of GET and POST
18.09.2020	creating first servlet	deployment descriptor-servlet request-response-init params
25.09.2020	servlet config and servlet context	Session Management: HttpSession- Cookies. Creating dynamic web pages.
1.10.2020	Introduction to JSP-Lifecycle of JSP	JSP implicit object- standard actions-expression language-JSTL-custom tags-Java Beans.
9.10.2020	Struts- Framework-Architecture-validator	lifecycle-action-tags
16.10.2020	annotations-Database Access	Mini project

  
**VAC Co Ordinator**  
 ANNAMALAIAU  
 Aso Prof / ST

  
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**SRIPERUMBUDUR - 631604.**

  
**HOD**  
 DR. P. UDAYA  
 HOD/ IT



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VALUE ADDED COURSE DETAILS  
ACADEMIC YEAR 2020-2021

DEPARTMENT OF INFORMATION TECHNOLOGY

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE CERTIFYING ORGANIZATION	CERTIFICATE(YES/NO)
1	2018-2022/IT/III/5	ASHWIN J	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
2	2018-2022/IT/III/5	GURU PRASATH B	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
3	2018-2022/IT/III/5	HARISH R	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
4	2018-2022/IT/III/5	HEMANATHAN N	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
5	2018-2022/IT/III/5	INIANRAJ P	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
6	2018-2022/IT/III/5	JAGANATHAN K	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
7	2018-2022/IT/III/5	JAYA SURYA V	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
8	2018-2022/IT/III/5	JEEVITHA M K	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
9	2018-2022/IT/III/5	JEJIN MERSON RAJA V	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
10	2018-2022/IT/III/5	KISHORE R R S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
11	2018-2022/IT/III/5	LINGANATHAN G	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
12	2018-2022/IT/III/5	MANIKANDAN P	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
13	2018-2022/IT/III/5	PONKUMAR. K	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
14	2018-2022/IT/III/5	PRAGADEESH L	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
15	2018-2022/IT/III/5	PRAKASH B	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
16	2018-2022/IT/III/5	PRAVEEN M	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
17	2018-2022/IT/III/5	RAGUL DRAVID K	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
18	2018-2022/IT/III/5	RAMYA C	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
19	2018-2022/IT/III/5	SRI DINESH G	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
20	2018-2022/IT/III/5	SYED AFRIDI S Y	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
21	2018-2022/IT/III/5	TAMILARASAN S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
22	2018-2022/IT/III/5	VALLARASU A	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
23	2018-2022/IT/III/5	VISHNU PRASATH R	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
24	2018-2022/IT/III/5	YUKESH S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
25	2018-2022/CSE/III/5	Aravindar G D	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
26	2018-2022/CSE/III/5	Deshmukh P	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
27	2018-2022/CSE/III/5	Emmanuel Johnson Paul	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
28	2018-2022/CSE/III/5	Gowtham	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
29	2018-2022/CSE/III/5	HariKrishnan DR	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
30	2018-2022/CSE/III/5	Joanprince A.S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
31	2018-2022/CSE/III/5	Keshav.P	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
32	2018-2022/CSE/III/5	Lakshman prasath	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
33	2018-2022/CSE/III/5	Liroshin	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
34	2018-2022/CSE/III/5	mohamed Ameer A	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
35	2018-2022/CSE/III/5	Ragul.R	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
36	2018-2022/CSE/III/5	Ruban melo	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
37	2018-2022/CSE/III/5	Sangam Malla B	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes

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38	2018-2022/CSE/III/5	S P Saran Raj	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
39	2018-2022/CSE/III/5	Sharmila Roselin P B	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
40	2018-2022/CSE/III/5	Sivanesh R	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
41	2018-2022/CSE/III/5	SRIHARI P	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
42	2018-2022/CSE/III/5	Vijitta A	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
43	2018-2022/CSE/III/5	Rajesh	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
44	2018-2022/CSE/III/5	V.Aswini	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
45	2018-2022/CSE/III/5	V.Jaya	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
46	2018-2022/CSE/III/5	S.Jayalakshmi	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
47	2018-2022/CSE/III/5	S.Neela	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
48	2018-2022/CSE/III/5	P.Poovarasan	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
49	2018-2022/CSE/III/5	Prabhakaran	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
50	2018-2022/CSE/III/5	A.Pushparaj	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
51	2018-2022/CSE/III/5	V.N.Supriya	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
52	2018-2022/CSE/III/5	Suriyakanth	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
53	2018-2022/CSE/III/5	M.Swetha	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
54	2018-2022/CSE/III/5	P.Udhayaraj	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
55	2018-2022/CSE/III/5	R.Yugendran	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
56	2018-2022/ECE/III/5	ABILASH N	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
57	2018-2022/ECE/III/5	RAMYA S	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes
58	2018-2022/ECE/III/5	SRIVATHSAN R	Interactive web designing and Progressive Java	30 Hrs	Anna University	yes

Rammelv  
 [AmmaMAlAI-R]  
 VAC - COORDINATOR

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SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	10 1 10	11 1 10	12 1 10	13 1 10	14 1 10	15 1 10	16 1 10	17 1 10	18 1 10	19 1 10	20 1 10	21 1 10	22 1 10	23 1 10	24 1 10	25 1 10	26 1 10	27 1 10	28 1 10	29 1 10	30 1 10	31 1 10	32 1 10	
1	2018-2022/IT/10/5	Ashwin J	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2	2018-2022/IT/10/5	Guru Prashith B	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	2018-2022/IT/10/5	Harihar R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4	2018-2022/IT/10/5	Hemanathan N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	2018-2022/IT/10/5	Imamura P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	2018-2022/IT/10/5	Jaganathan K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	2018-2022/IT/10/5	Jeya Surya V	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
8	2018-2022/IT/10/5	Jeevitha M K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
9	2018-2022/IT/10/5	Jeetu Menon Raju V	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
10	2018-2022/IT/10/5	Kishore R R S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11	2018-2022/IT/10/5	Linganathan G	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
12	2018-2022/IT/10/5	Mainakandan P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13	2018-2022/IT/10/5	Manikumar K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
14	2018-2022/IT/10/5	Pradeesh L	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15	2018-2022/IT/10/5	Priakash B	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
16	2018-2022/IT/10/5	Praveen M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
17	2018-2022/IT/10/5	Rajul Dinesh K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
18	2018-2022/IT/10/5	Ramya C	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
19	2018-2022/IT/10/5	Sn Dhnech G	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
20	2018-2022/IT/10/5	Syed Afzid S Y	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
21	2018-2022/IT/10/5	Tamilrajan S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
22	2018-2022/IT/10/5	Vallarsu A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
23	2018-2022/IT/10/5	Vishnu Preeth R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
24	2018-2022/IT/10/5	Yukesh S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
25	2018-2022/CSE/10/5	Aravender G D	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
26	2018-2022/CSE/10/5	Deshmukh P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
27	2018-2022/CSE/10/5	Emmanuel Johnson Paul	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
28	2018-2022/CSE/10/5	Gowtham	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
29	2018-2022/CSE/10/5	Harikrishnan DR	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
30	2018-2022/CSE/10/5	Joymprince A S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
31	2018-2022/CSE/10/5	Kechav P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
32	2018-2022/CSE/10/5	Lakshminarayana Prasath	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
33	2018-2022/CSE/10/5	Liroshan	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
34	2018-2022/CSE/10/5	Mohamed Ameer A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
35	2018-2022/CSE/10/5	Ragul R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
36	2018-2022/CSE/10/5	Ruben Melo	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
37	2018-2022/CSE/10/5	Sangam Mehta B	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
38	2018-2022/CSE/10/5	S P Sutan Raj	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
39	2018-2022/CSE/10/5	Sharmila Roselin P B	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
40	2018-2022/CSE/10/5	Sivaneeth R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
41	2018-2022/CSE/10/5	Srehan P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
42	2018-2022/CSE/10/5	Vijutta A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
43	2018-2022/CSE/10/5	Rajesh	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
44	2018-2022/CSE/10/5	V Aswini	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
45	2018-2022/CSE/10/5	V Jaye	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
46	2018-2022/CSE/10/5	S Jayalakshmi	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
47	2018-2022/CSE/10/5	S Neela	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
48	2018-2022/CSE/10/5	P Poovarsam	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
49	2018-2022/CSE/10/5	Prabhakaran	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
50	2018-2022/CSE/10/5	A Pushpare	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
51	2018-2022/CSE/10/5	V N Suparna	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
52	2018-2022/CSE/10/5	Suriyakanth	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

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J. H. W.

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SRIPERUMBUDUR - 631604.**



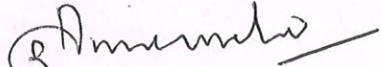
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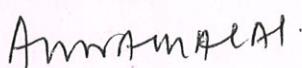


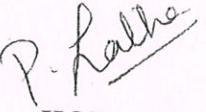
## **INTERACTIVE WEB DESIGNING AND PROGRESSIVE JAVA**

### **SUMMARY REPORT**

The Department of Information Technology has organized Anna University Approved value added course on “INTERACTIVE WEB DESIGNING AND PROGRESSIVE JAVA” from 10.07.2020 to 16.10.2020 in online mode for all third year students for a duration of 30 Hrs. Total of 58 students enrolled in the course. Evaluation process is carried out through internal assessment and the same was reported to the Anna University. The students were graded based on the internal assessment and all the enrolled students completed the course successfully. The course has provided adequate training for the students to learn and understand the elements that are used in web designing and web development. It enabled the students to get skilled as a web developer, thereby building appealing, innovative and responsive websites which meets the industry requisites.

  
**VAC Co Ordinator**

  
**Amrutha**

  
**HOD**  
**DR P LATHA**

  
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## CURRICULUM FOR ETHICAL HACKING AND CYBER SECURITY

### CERTIFIED PENETRATION TESTING PROFESSIONAL (CPTP)

#### Course Objective:

- understanding the real world attack vectors
- Understanding the linux commands
- train the students from understanding and performing basics to sophisticated attacks
- Understanding the Social Engineering Attacks

#### UNIT – I    **BASICS OF KALI LINUX AND RECONNAISSANCE**

3T + 7 P

##### Basics of Kali Linux

Getting comfortable with Kali Linux ,Using and Installing programs, Basic commands, Starting and stopping services, Finding files and services (find, locate, which, whereis), Basics of bash scripting Using NC for file transfers and Remote administration, Introduction to cron jobs, File permissions, Set owner User ID (SUID)

##### Reconnaissance

Introduction, Open Source Intelligence (OSINT)- Google Hacking, Shodan, Using tools and scripts to collect information from social medias, Metadata extraction, Organization information gathering (Public IP's/Domain information gathering)

#### UNIT – II    **SCANNING, VULNERABILITY SCANNING, PASSWORD ATTACKS**

3T+ 7 P

##### Scanning

Understanding the target architecture-Ping sweep, Port scan, How port scanner works, Using various switches on nmap (Scanning options, results outputs), UDP scans, DNS enumeration, NS lookup, Zone transfer, Service enumeration, SMB enumeration, SNMP enumeration, SMTP enumeration

##### Vulnerability Scanning

Introduction to Nessus, OpenVAS, Nikto, NSE for vulnerability scanning

##### Password attacks

Hashing vs. Encryption, Identifying the hashing and encryption algorithms, Password dumping (AD, local machines, Linux), Offline password cracking (John the ripper, etc.,) Password profiling, Online password cracking (medusa, ncrack, hydra, etc.,)

#### UNIT – III    **PENETRATION TESTING BASICS, USING METASPLOIT, PRIVILEGE ESCALATION**

3T+ 7 P

##### Penetration testing basics

Searching exploits on Kali, Searching exploits on internet, Analyzing and Compiling the exploits

Using Metasploit

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SRIPERUMBUDUR - 631604.

Introduction,Metasploit basics, Exploiting vulnerabilities, Adding exploits to Metasploit, Post exploitation

Privilege escalation

Using windows and Linux privilege escalation scripts, Using meterpreter session to escalate privileges, Pass the hash,Token impersonation, MimiKatz,AD enumeration (Blood Hound) Pivoting and Port forwarding, SSL tunneling, HTTPS tunneling

#### **UNIT – IV      BUFFER OVERFLOW**

3T+ 7 P

Buffer overflow

Introduction,Type of buffer overflow,Current security mechanisms to stop buffer overflows Step by step development of Windows/Linux buffer overflow exploits-Fuzzing, Identifying the Buffer size,Overwriting EIP,Developing shell code,Obtaining the shell

#### **UNIT – V    SNIFFING , WEB APPLICATION ASSESSMENT**

3T+ 7 P

Sniffing

ARP poisoning, DNS poisoning, LLMNR and WPAD attacks

Web application Assessment

Introduction to web application security and OWASP,Using Burp Suite (Spider, Repeater, scanner, Extender, etc.,),Automated web application scanners,Input validation flaws-SQL injection,cross site scripting,XXE (XML external entity),Parameter tampering,Remote file inclusions,Local File inclusions,Web application password attacks and parameter tampering,Scanning based on CMS (Content management systems),Using google dork to find web application vulnerabilities

#### **UNIT – VI SOCIAL ENGINEERING AND CLIENT SIDE ATTACKS**

3T+ 7 P

Social Engineering

Pre texting, Phishing

Client side attacks,

Java signed applet attack, Live infrastructure for testing, Forums and resources, Accessing the defsecone lab and exploiting.

**Total Hours (18 – Theory + 42 Practical) :60 hrs.**

#### **Course Outcomes**

- ability to perform ethical hacking
- ability to use various Os and Application level exploits
- detect and perform network related attacks
- perform advance hacking techniques

#### **Text Book:**

- The Penetration Tester's Guide 1st Edition (Author: David Kennedy,Jim O'Gorman, Devon Kearns,Mati Aharoni)

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**Reference Book:**

- Network Exploration and Security Auditing Cookbook - Second Edition: Network discovery and security scanning at your fingertips 2nd Revised edition Edition (Author: Paulino Calderon (Author) )
- Algorithms for OSINT (Author: Robert Layton, Paul A Watters)

**Online resources:**

- <https://resources.infosecinstitute.com/>
- <https://exploit-db.com>
- <https://guif.re/>
- <https://www.hackingarticles.in/>

**EXTERNAL AND INTERNAL TRAINER DETAILS**

S.No	Name of the Trainer	Designation	Company
1	Mr.Giri.V.V	Director,DefsecOne Consulting and Technologies Pvt Ltd	DefsecOne Consulting and Technologies Pvt Ltd, F 408, TVS Emerald Green Acres, Kolappakkam, Chennai - 600 127: Ph: +91 7397235 274
2	Ms Sonia Jenifer Rayen	Assistant Professor/IT	Jeppiaar Institute of Technology



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### Reference Book:

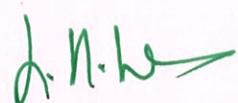
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2	Ms Sonia Jenifer Rayen	Assistant Professor/IT	Jeppiaar Institute of Technology



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## SCHEDULE OF TRAINING PROGRAM

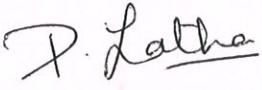
<b>Date</b>	<b>8.00 am to 10.30 am</b>	<b>10.30 am to 2.45 pm</b>
12.09.2019	Basics of Kali Linux Getting comfortable with Kali Linux ,Using and Installing programs, Basic commands, Starting and stopping services, Finding files and services	Basics of bash scripting Using NC for file transfers and Remote administration
19.09.2019	Introduction to cron jobs, File permissions, Set owner User ID (SUID)	Introduction,Open Source Intelligence (OSINT)- Google Hacking, Shodan
10.10.2019	Using tools and scripts to collect information from social medias,Metadata extraction,Organization information gathering	Understanding the target architecture-Ping sweep,Port scan, How port scanner works,Using various switches on nmap
17.10.2019	Introduction to Nessus, OpenVAS, Nikto,NSE for vulnerability scanning	Hashing vs. Encryption
24.10.2019	Identifying the hashing and encryption algorithms, Password dumping	Offline password cracking (John the ripper, etc.,)Password profiling, Online password cracking (medusa, ncrack, hydra, etc.,)
31.10.2019	Searching exploits on Kali,Searching exploits on internet,Analyzing and Compiling the exploits	Introduction,Metasploit basics, Exploiting vulnerabilities, Adding exploits to Metasploit, Post exploitation
07.11.2019	Using windows and Linux privilege escalation scripts, Using meterpreter session to escalate privileges	Step by step development of Windows/Linux buffer overflow exploits-Fuzzing
14.11.2019	Identifying the Buffer size,Overwriting EIP,Developing shell code,Obtaining the shell	ARP poisoning, DNS poisoning, LLMNR and WPAD attacks
21.11.2019	Introduction to web application security and OWASP,Using Burp Suite (Spider, Repeater, scanner, Extender, etc.,),Automated web application scanners	Input validation flaws-SQL injection,cross site scripting,XXE (XML external entity),Parameter tampering,Remote file inclusions,Local File inclusions. Scanning based on CMS (Content

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		management systems), Using google dork to find web application vulnerabilities
28.11.2019	Pre textng, Phishing, Java signed applet attack	Live infrastructure for testing, Forums and resources, Accessing the defsecne lab and exploiting.

  
VAC CoOrdiantor  
SONIA RAVEN

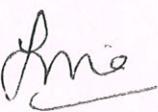
  
HOD  
DR. P. LATHA

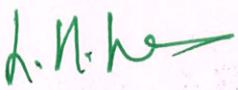
  
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SRI LANKA



VALUE ADDED COURSE DETAILS  
ACADEMIC YEAR 2019-2020

DEPARTMENT OF INFORMATION TECHNOLOGY						
SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE CERTIFYING ORGANIZATION	CERTIFICATE(YE/S/NO)
1	2018-2022/IT/II/03	R. Vishnu Prasath	Cyber Security	60 Hrs	Auriseg Private Limited	yes
2	2018-2022/IT/II/03	G.Sneha	Cyber Security	60 Hrs	Auriseg Private Limited	yes
3	2018-2022/CSE/II/03	H.G.Harish Kannan	Cyber Security	60 Hrs	Auriseg Private Limited	yes
4	2018-2022/CSE/II/03	P.Kesav	Cyber Security	60 Hrs	Auriseg Private Limited	yes
5	2018-2022/CSE/II/03	A.S.Joan Prince	Cyber Security	60 Hrs	Auriseg Private Limited	yes
6	2018-2022/CSE/II/03	D.R.Harikrishnan	Cyber Security	60 Hrs	Auriseg Private Limited	yes
7	2018-2022/CSE/II/03	Emmanuel Johnson	Cyber Security	60 Hrs	Auriseg Private Limited	yes
8	2018-2022/CSE/II/03	Rahul	Cyber Security	60 Hrs	Auriseg Private Limited	yes
9	2018-2022/IT/II/03	Ebinaser E	Cyber Security	60 Hrs	Auriseg Private Limited	yes
10	2018-2022/IT/II/03	Lekha Sree G	Cyber Security	60 Hrs	Auriseg Private Limited	yes
11	2018-2022/IT/II/03	Murugeswari M	Cyber Security	60 Hrs	Auriseg Private Limited	yes
12	2018-2022/CSE/II/05	Dhinesh Kumar	Cyber Security	60 Hrs	Auriseg Private Limited	yes
13	2018-2022/CSE/II/05	Balaji S	Cyber Security	60 Hrs	Auriseg Private Limited	yes
14	2018-2022/IT/III/05	G.Lekhasree	Cyber Security	60 Hrs	Auriseg Private Limited	yes
15	2018-2022/IT/III/05	R.Aishwarya	Cyber Security	60 Hrs	Auriseg Private Limited	yes
16	2018-2022/IT/III/05	K.Lalitha	Cyber Security	60 Hrs	Auriseg Private Limited	yes
17	2018-2022/CSE/II/05	Jeflin.F	Cyber Security	60 Hrs	Auriseg Private Limited	yes
18	2016-2020/IT/IV/07	Anadh Raj	Cyber Security	60 Hrs	Auriseg Private Limited	yes
19	2016-2020/IT/IV/07	Vignesh	Cyber Security	60 Hrs	Auriseg Private Limited	yes
20	2016-2020/IT/IV/07	Stephan John	Cyber Security	60 Hrs	Auriseg Private Limited	yes

  
SONIA RAYEN



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SL.NO	BATCH/DEPT/YEAR	NAME OF THE STUDENT	12-9-2019	19-9-2019	16-10-2019	24-10-2019	31-10-2019	7-11-2019	14-11-2019	21-11-2019	28-11-2019
1	2018-2022/IT/IU/03	R. Vishnu Prasath	/	/	/	/	/	/	/	/	/
2	2018-2022/IT/IU/03	G.Sneha	/	/	/	/	/	/	/	/	/
3	2018-2022/CSE/IU/03	H.G.Harish Kannan	/	/	/	/	/	/	/	/	/
4	2018-2022/CSE/IU/03	P.Kesav	/	/	/	/	/	/	/	/	/
5	2018-2022/CSE/IU/03	A.S.Jain Prince	/	/	/	/	/	/	/	/	/
6	2018-2022/CSE/IU/03	D.R.Harikrishnan	/	/	/	/	/	/	/	/	/
7	2018-2022/CSE/IU/03	Emmanuel Johnson	/	/	/	/	/	/	/	/	/
8	2018-2022/CSE/IU/03	Rahul	/	/	/	/	/	/	/	/	/
9	2018-2022/IT/IU/03	Ebinaser E.	/	/	/	/	/	/	/	/	/
10	2018-2022/IT/IU/03	Lekha Soce G	/	/	/	/	/	/	/	/	/
11	2018-2022/IT/IU/03	Mongeswari M	a	/	/	/	/	/	/	/	/
12	2018-2022/CSE/IU/05	Dhinesh Kumar	/	/	/	/	/	/	/	/	/
13	2018-2022/CSE/IU/05	Balaji S	/	/	/	/	/	/	/	/	/
14	2018-2022/IT/IU/05	G.Lekhasree	/	/	a	/	/	/	/	/	/
15	2018-2022/IT/IU/05	R.Aishwarya	/	/	/	a	/	/	/	/	/
16	2018-2022/IT/IU/05	K.Lalitha	/	/	/	/	/	/	/	/	/
17	2018-2022/CSE/IU/05	Jefin F	/	/	/	/	/	/	/	/	/
18	2016-2020/IT/IV/07	Anadhi Raj	/	/	/	/	/	/	/	/	/
19	2016-2020/IT/IV/07	Vigresh	/	/	/	/	/	/	/	/	/
20	2016-2020/IT/IV/07	Stephan John	/	/	/	/	/	/	/	/	/
	Total Strength		20	20	20	20	20	20	20	20	20
	Total Present		19	20	20	18	19	19	17	20	20
	Total Absent		01	00	00	02	00	00	03	00	02
	Signature										



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## JEPPIAAR INSTITUTE OF TECHNOLOGY

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### VALUE ADDED COURSE- FEEDBACK FORM

Academic Year : 2019 - 2020

Year/Sem: IV / 07

Name of the VAC Coordinator : Mr. V. V. GIRI

VAC Duration : 12.09.2019 to 28.11.2019

Name (Optional) :

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?	✓			
2	How interested were the content present at VAC?		✓		
3	How useful was the VAC from the knowledge and information point of view	✓			
4	The VAC Presented were congruent with the VAC syllabus	✓			
5	How well was the event space set up?		✓		
6	Expert technical knowledge of the subject	✓			
7	The expert provided adequate time for asking questions and answered them effectively	✓			
8	The materials Provided were useful		✓		
9	The experts demonstrated student centered learning strategies and techniques		✓		
10	Overall effectiveness of the program	✓			

Any Additional comments and suggestions for improvement: - The entire session was excellent

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## **ETHICAL HACKING AND CYBER SECURITY**

### **SUMMARY REPORT**

Department of Information Technology has organized Anna University Approved value added course on “ETHICAL HACKING AND CYBER SECURITY ” from 12.09.2019 to 28.11.2019 in Information Technology Laboratory for all third year students for a duration of 30 Hrs. Total of 17 students enrolled in the course all the enrolled students completed the course successfully. This Cyber Security provides a fundamental understanding of skills needed to analyze an organization’s data assets and security measures. This comprehensive training program explores hacking through an in-depth study of the technologies and frameworks required to protect organizations from various security threats. The Students will develop the professional skills to encounter the constantly-varying demands of today's digital world.

VAC Co Ordinator

SONIA RAVEN

HOD

DR. P. LATHA

HOD/ IT

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## CURRICULUM FOR ETHICAL HACKING AND NETWORK SECURITY

### CERTIFIED PENETRATION TESTING PROFESSIONAL (CPTP)

#### **Course Objective:**

- understanding the real world attack vectors
- Understanding the linux commands
- train the students from understanding and performing basics to sophisticated attacks
- Understanding the Social Engineering Attacks

UNIT – I    **BASICS OF KALI LINUX AND RECONNAISSANCE**

3T + 7 P

#### Basics of Kali Linux

Getting comfortable with Kali Linux ,Using and Installing programs, Basic commands, Starting and stopping services, Finding files and services (find, locate, which, whereis),Basics of bash scripting Using NC for file transfers and Remote administration, Introduction to cron jobs, File permissions, Set owner User ID (SUID)

#### Reconnaissance

Introduction,Open Source Intelligence (OSINT)- Google Hacking, Shodan, Using tools and scripts to collect information from social medias,Metadata extraction,Organization information gathering (Public IP's/Domain information gathering)

UNIT – II    **SCANNING, VULNERABILITY SCANNING, PASSWORD ATTACKS**

3T+ 7 P

#### Scanning

Understanding the target architecture-Ping sweep,Port scan, How port scanner works,Using various switches on nmap (Scanning options, results outputs),UDP scans,DNS enumeration,NS lookup,Zone transfer,Service enumeration, SMB enumeration,SNMP enumeration,SMTP enumeration

#### Vulnerability Scanning

Introduction to Nessus, OpenVAS, Nikto,NSE for vulnerability scanning

#### Password attacks

Hashing vs. Encryption, Identifying the hashing and encryption algorithms, Password dumping (AD, local machines, Linux),Offline password cracking (John the ripper, etc.,)Password profiling, Online password cracking (medusa, ncrack, hydra, etc.,)

UNIT – III    **PENETRATION TESTING BASICS, USING METASPLOIT, PRIVILEGE**

**ESCALATION**

3T+ 7 P

#### Penetration testing basics

Searching exploits on Kali,Searching exploits on internet,Analyzing and Compiling the exploits

Using Metasploit

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Introduction, Metasploit basics, Exploiting vulnerabilities, Adding exploits to Metasploit, Post exploitation

Privilege escalation

Using windows and Linux privilege escalation scripts, Using meterpreter session to escalate privileges, Pass the hash, Token impersonation, Mimikatz, AD enumeration (Blood Hound) Pivoting and Port forwarding, SSL tunneling, HTTPS tunneling

#### UNIT – IV    **BUFFER OVERFLOW**

3T+ 7 P

Buffer overflow

Introduction, Type of buffer overflow, Current security mechanisms to stop buffer overflows  
Step by step development of Windows/Linux buffer overflow exploits-Fuzzing, Identifying the Buffer size, Overwriting EIP, Developing shell code, Obtaining the shell

#### UNIT – V    **SNIFFING , WEB APPLICATION ASSESSMENT**

3T+ 7 P

Sniffing

ARP poisoning, DNS poisoning, LLMNR and WPAD attacks

Web application Assessment

Introduction to web application security and OWASP, Using Burp Suite (Spider, Repeater, scanner, Extender, etc.,), Automated web application scanners, Input validation flaws-SQL injection, cross site scripting, XXE (XML external entity), Parameter tampering, Remote file inclusions, Local File inclusions, Web application password attacks and parameter tampering, Scanning based on CMS (Content management systems), Using google dork to find web application vulnerabilities

#### UNIT – VI    **SOCIAL ENGINEERING AND CLIENT SIDE ATTACKS**

3T+ 7 P

Social Engineering

Pre-texting, Phishing

Client side attacks,

Java signed applet attack, Live infrastructure for testing, Forums and resources, Accessing the defcon lab and exploiting.

**Total Hours (18 – Theory + 42 Practical) :60 hrs.**

#### **Course Outcomes**

- ability to perform ethical hacking
- ability to use various Os and Application level exploits
- detect and perform network related attacks
- perform advance hacking techniques

#### **Text Book:**

- The Penetration Tester's Guide 1st Edition (Author: David Kennedy, Jim O'Gorman, Devon Kearns, Mati Aharoni)



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**Reference Book:**

- Network Exploration and Security Auditing Cookbook - Second Edition: Network discovery and security scanning at your fingertips 2nd Revised edition Edition (Author: Paulino Calderon (Author) )
- Algorithms for OSINT (Author: Robert Layton, Paul A Watters)

**Online resources:**

- <https://resources.infosecinstitute.com/>
- <https://exploit-db.com>
- <https://guif.re/>
- <https://www.hackingarticles.in/>

**EXTERNAL AND INTERNAL TRAINER DETAILS**

S.No	Name of the Trainer	Designation	Company
1	Mr.Giri.V.V	Director,DefsecOne Consulting and Technologies Pvt Ltd	DefsecOne Consulting and Technologies Pvt Ltd, F 408, TVS Emerald Green Acres, Kolappakkan, Chennai - 600 127: Ph: +91 7397235 274
2	Ms Sonia Jenifer Rayen	Assistant Professor/IT	Jeppiaar Institute of Technology

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## SCHEDULE OF TRAINING PROGRAM

Date	8.00 am to 10.30 am	10.30 am to 2.45 pm
10.07.2020	Basics of Kali Linux Getting comfortable with Kali Linux ,Using and Installing programs	Basic commands, Starting and stopping services, Finding files and services
17.07.2020	Basics of bash scripting Using NC for file transfers and Remote administration	Introduction to cron jobs, File permissions, Set owner User ID (SUID)
24.07.2020	Introduction,Open Source Intelligence (OSINT)	Google Hacking, Shodan
31.07.2020	Using tools and scripts to collect information from social medias	Metadata extraction,Organization information gathering
7.08.2020	Understanding the target architecture-Ping sweep	Port scan, How port scanner works,Using various switches on nmap
14.08.2020	Introduction to Nessus, OpenVAS, Nikto,NSE for vulnerability scanning	Hashing vs. Encryption
21.08.2020	Identifying the hashing and encryption algorithms, Password dumping	Offline password cracking (John the ripper, etc.,)Password profiling
28.08.2020	, Online password cracking (medusa, ncrack, hydra, etc.,)	Searching exploits on Kali,Searching exploits on internet
04.09.2020	Analyzing and Compiling the exploits	Introduction,Metasploit basics, Exploiting vulnerabilities
11.09.2020	Adding exploits to Metasploit, Post exploitation	Using windows and Linux privilege escalation scripts
18.09.2020	Using meterpreter session to escalate privileges	Step by step development of Windows/Linux buffer overflow exploits-Fuzzing
25.09.2020	Identifying the Buffer size,Overwriting EIP,Developing shell code,Obtaining the shell	ARP poisoning, DNS poisoning
1.10.2020	LLMNR and WPAD attacks	Introduction to web application security and OWASP,Using Burp Suite

*A.N. Heg*

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9.10.2020	Automated web application scanners	Input validation flaws-SQL injection,cross site scripting,XXE (XML external entity),Parameter tampering,Remote file inclusions,Local File inclusions. Scanning based on CMS (Content management systems),Using google dork to find web application vulnerabilities
16.10.2020	Pre textng, Phishing, Java signed applet attack	Live infrastructure for testing, Forums and resources, Accessing the defsecone lab and exploiting.

  
 VAC CoOrdinator  
 SONIA RAKEN

  
 HOD  
 DR. P. LATHA

  
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## VALUE ADDED COURSE DETAILS

ACADEMIC YEAR 2020-2021

DEPARTMENT OF INFORMATION TECHNOLOGY						
SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE CERTIFYING ORGANIZATION	CERTIFICATE(YES/NO)
1	2018-2022/CSE/III/05	Balaji R	Ethical Hacking and Network Security	60 Hrs	Anna University	yes
2	2018-2022/CSE/III/05	Bhuvanesh waran	Ethical Hacking and Network Security	60 Hrs	Anna University	yes
3	2018-2022/CSE/III/05	Harish.R	Ethical Hacking and Network Security	60 Hrs	Anna University	yes
4	2018-2022/CSE/III/05	Kalaiarasan A	Ethical Hacking and Network Security	60 Hrs	Anna University	yes
5	2018-2022/CSE/III/05	Richard Joseph P P	Ethical Hacking and Network Security	60 Hrs	Anna University	yes

Ami  
SONIA RAVIEN

J. M. M.

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SL.NO	BATCH/DEPT/YEAR/ SEM	NAME OF THE STUDENT	ACADEMIC YEAR 2020-2021												
			10-07-2020	17-07-2020	24-07-2020	31-07-2020	07-08-2020	14-08-2020	21-08-2020	28-08-2020	04-09-2020	11-09-2020	18-09-2020	25-09-2020	02-10-2020
1	2018-2022/CSE/II/05	Balaji R	/	/	/	/	a	/	a	/	/	/	/	/	/
2	2018-2022/CSE/II/05	Bhuvaresh waran	/	a	/	/	/	/	/	a	/	/	/	/	/
3	2018-2022/CSE/II/05	Haresh R	/	/	/	/	/	/	/	/	/	/	/	/	/
4	2018-2022/CSE/II/05	Kalaarasan A	/	/	/	/	/	a	/	/	a	/	a	/	/
5	2018-2022/CSE/II/05	Richard Joseph P P	/	a	/	/	/	a	/	/	a	/	a	/	/
	Total Strength		5	5	5	5	5	5	5	5	5	5	5	5	5
	Total Present		5	03	5	5	4	4	3	4	5	4	5	5	4
	Total Absent		-	02	-	-	01	01	02	01	-	02	-	02	-
	Signature		*	*	*	*	*	*	*	*	*	*	*	*	*

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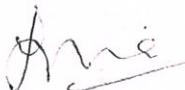
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## **ETHICAL HACKING AND NETWORK SECURITY**

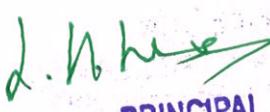
### **SUMMARY REPORT**

Department of Information Technology has organized Anna University Approved value added course on “ETHICAL HACKING AND NETWORK SECURITY” from 10.07.2020 to 16.10.2020 in online mode for all third year students for a duration of 30 Hrs. Total of 5 students enrolled in the course. Evaluation process is carried out through internal assessment and the same was reported to the Anna University. The students were graded based on the internal assessment and all the enrolled students completed the course successfully. This Cyber Security provides a fundamental understanding of skills needed to analyze an organization’s data assets and security measures. This comprehensive training program explores hacking through an in-depth study of the technologies and frameworks required to protect organizations from various security threats. The Students will develop the professional skills to encounter the constantly-varying demands of today's digital world.

  
**VAC Co Ordinator**

SONIA RAVEN

  
**HOD**  
DR. P. UTHAI

  
**PRINCIPAL**  
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## CURRICULUM FOR ROBOTICS AND ITS APPLICATIONS

## **Course Objective:**

- To learn the basic components of Robotics.
  - To learn the concepts of types and motors and sensors.
  - To understand the basic of ‘C’ Programming.
  - Design a system, component or process to meet desired needs within realistic constraints

<b>UNIT I</b>	<b>INTRODUCTION</b>	<b>3+3</b>
Introduction to Robotics-VEX parts-Motion-Control-Tools Subsystems-Introduction to Cortex Microcontroller.		
<b>UNIT II</b>	<b>MOTOR AND SENSOR</b>	<b>3+3</b>
Two wire Motor-DC motor – AC motor – servo motor and its specification - Three wire Motor Sensors-Types of sensors – rotational sensor – touch sensor – limit sensor – light sensor - ultrasonic sensor - line follower sensor.		
<b>UNIT – III</b>	<b>GEAR AND SWITCHS</b>	<b>3+3</b>
Types of gears – spur gear – Helical gear – Rack - Bevel gear – Spiral Bevel gear – Miter gear and internal gear - Types of switches – Limit Switch – Range limit switch.		
<b>UNIT – IV</b>	<b>ROBOT C PROGRAMMING</b>	<b>3+3</b>
Introduction to robot c – Sample programs – connecting robot to PC-Firmware downloading- Robot Programming- Moving forward and backward and Turning a robot using Robot C - Giving Directions and Signs in program.		

A handwritten signature "J.N. h" is written above the institutional details. The details below are as follows:

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**TIME TABLE- ROBOTICS & ITS APPLICATION**

DAY	BATCH	08:00 am - 10:00 am	10.00 am to 10.15 am	10:15 am - 12:00 pm	12.00 Noon to 12.45 pm	12:45 pm - 02:45 pm
MON 01.08.2016	Topic	Introduction to robotics – VEX parts	Break	VEX parts	Lunch	Robotics parts
TUE 02.08.2016	Topic	Introduction to cortex		Introduction to cortex microcontroller		two wire three wire motors setup
WED 03.08.2016	Topic	Sensors & its types		touch sensor, light sensor,		ultrasonic sensor, line follower).
THU 04.08.2016	Topic	Introduction to Robot C programming,		basics & firmware download procedure		basics & firmware download procedure
FRI 05.08.2016	Topic	Robot programming – forward & backward		turning a robot by directions		turning a robot by directions
MON 08.08.2016	Topic	Design a robot with motors		sensor setup		sensor setup
TUE 09.08.2016	Topic	Arm & Claw moment robot design using limit switch		Arm & Claw moment robot design using limit switch		Arm & Claw moment robot design using limit switch
WED 10.08.2016	Topic	Line follower		Line follower		Line follower
THU 11.08.2016	Topic	Design a robot with motors & sensor setup		sensor setup		sensor setup
FRI 12.08.2016	Topic	ROBOT EXPO		test		test

**Training Staff Incharge:**

1.Mr.K. JAYAVELU/AP/EEE - *K. Jayavelu*

2.Ms.A.RAMYA/AP/EEE - *A. Ramya*

*J. N. h*

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**VALUE ADDED COURSE DETAILS**  
ACADEMIC YEAR 2016-2017

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE ORGANIZATION	CERTIFICATE(YES/NO)
1	2013-2017/EEE/VII/IV	ASHOK E	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
2	2013-2017/EEE/VII/IV	BHAVANI C	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
3	2013-2017/EEE/VII/IV	ETHISH M	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
4	2013-2017/EEE/VII/IV	HARISH C	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
5	2013-2017/EEE/VII/IV	JAYAPRAKASH K	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
6	2013-2017/EEE/VII/IV	KAVITHA R	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
7	2013-2017/EEE/VII/IV	MAHEEJI R	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
8	2013-2017/EEE/VII/IV	MANO RANJAN M	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
9	2013-2017/EEE/VII/IV	RAGHUL V	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
10	2013-2017/EEE/VII/IV	RANJITH KUMAR K	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
11	2013-2017/EEE/VII/IV	SIVASANKAR S	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
12	2013-2017/EEE/VII/IV	SUJITHKUMAR J	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
13	2013-2017/EEE/VII/IV	SUSHMITHA L	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
14	2013-2017/EEE/VII/IV	AMARNATH P R	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
15	2013-2017/EEE/VII/IV	KARTHIICK.G	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
16	2013-2017/EEE/VII/IV	KARTHIKEYAN.B	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
17	2013-2017/EEE/VII/IV	REVANTH.B	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
18	2013-2017/EEE/VII/IV	SATHISH KUMAR.G	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
19	2013-2017/EEE/VII/IV	SUNDAR.D	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
20	2013-2017/EEE/VII/IV	VENKATESAN.A	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
21	2013-2017/EEE/VII/IV	VIGNESH.P	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
22	2013-2017/EEE/VII/IV	VIJAYAKUMAR.K	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
23	2013-2017/EEE/VII/IV	GOKUL V	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
24	2013-2017/EEE/VII/IV	KESAVAN R	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
25	2013-2017/EEE/VII/IV	RAMPRASATH R	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
26	2013-2017/EEE/VII/IV	SAHAYA THANISH A	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
27	2013-2017/EEE/VII/IV	SANGEETHA A	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
28	2013-2017/EEE/VII/IV	SHANMUGA PRIYA DHARSHINI V	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
29	2013-2017/EEE/VII/IV	VENUKA P	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
30	2013-2017/EEE/VII/IV	NISHANTH D	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
31	2013-2017/EEE/VII/IV	ABINASH K	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
32	2013-2017/EEE/VII/IV	ALPHONSE	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
33	2013-2017/EEE/VII/IV	BHARATHI A	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
34	2013-2017/EEE/VII/IV	DIVYA V	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
35	2013-2017/EEE/VII/IV	DIVYA JANANI N	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
36	2013-2017/EEE/VII/IV	DAYANA JOSEPHINE A	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
37	2013-2017/EEE/VII/IV	GAJA LAKSHMI S	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
38	2013-2017/EEE/VII/IV	ISAAC SILVIN DASS	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
39	2013-2017/EEE/VII/IV	JAMAL MAHAMED H	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
40	2013-2017/EEE/VII/IV	JAYA VENKATESH K	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
41	2013-2017/EEE/VII/IV	KANIMOZHI L	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
42	2013-2017/EEE/VII/IV	MARIA OROTHY DEVI	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes
43	2013-2017/EEE/VII/IV	MATHINI A	Robotics and Its Application	30 Hrs	JIT GLOBAL	Yes

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K.Jayavelu  
[K.JAYAELU]



STUDENT ATTENDANCE DETAILS

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	01.06.2016	02.06.2016	03.06.2016	04.06.2016	05.06.2016	06.06.2016	07.06.2016	08.06.2016	09.06.2016	10.06.2016	11.06.2016	12.06.2016
1	VII/V/2013-2017	ASHOK E	/	/	/	/	/	/	/	/	/	/	/	/
2	VII/V/2013-2017	BHAVANI C	/	/	/	/	/	/	/	/	/	/	/	/
3	VII/V/2013-2017	ETHISH M	/	/	/	/	/	/	/	/	/	/	/	/
4	VII/V/2013-2017	HARISH C	/	/	/	/	/	/	/	/	/	/	/	/
5	VII/V/2013-2017	JAYAPRAKASH K	/	/	/	/	/	/	/	/	/	/	/	/
6	VII/V/2013-2017	KAWITHA R	/	/	/	/	/	/	/	/	/	/	/	/
7	VII/V/2013-2017	MAHESH R	/	/	/	/	/	/	/	/	/	/	/	/
8	VII/V/2013-2017	MANO RANJAN M	/	/	/	/	/	/	/	/	/	/	/	/
9	VII/V/2013-2017	RAGHUL V	/	/	/	/	/	/	/	/	/	/	/	/
10	VII/V/2013-2017	RANJITH KUMAR K	/	/	/	/	/	/	/	/	/	/	/	/
11	VII/V/2013-2017	SIVASANKAR S	/	/	/	/	/	/	/	/	/	/	/	/
12	VII/V/2013-2017	SUJITHKUMAR J	/	/	/	/	/	/	/	/	/	/	/	/
13	VII/V/2013-2017	SUSHMITHA L	/	/	/	/	/	/	/	/	/	/	/	/
14	VII/V/2013-2017	AMARNATH P R	/	/	/	/	/	/	/	/	/	/	/	/
15	VII/V/2013-2017	KARTHIK G	/	/	/	/	/	/	/	/	/	/	/	/
16	VII/V/2013-2017	KARTHIKEYAN B	/	/	/	/	/	/	/	/	/	/	/	/
17	VII/V/2013-2017	REVANTH.B	/	/	/	/	/	/	/	/	/	/	/	/
18	VII/V/2013-2017	SATHISH KUMAR.G	/	/	/	/	/	/	/	/	/	/	/	/
19	VII/V/2013-2017	SUNDAR.D	/	/	/	/	/	/	/	/	/	/	/	/
20	VII/V/2013-2017	VENKATESANA	/	/	/	/	/	/	/	/	/	/	/	/
21	VII/V/2013-2017	VIGNESH.P	/	/	/	/	/	/	/	/	/	/	/	/
22	VII/V/2013-2017	VIJAYAKUMAR.K	/	/	/	/	/	/	/	/	/	/	/	/
23	II/II/2015-2019	GOKUL V	/	/	/	/	/	/	/	/	/	/	/	/

*J. H. L.*

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## JEPPIAAR INSTITUTE OF TECHNOLOGY

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### VALUE ADDED COURSE- FEEDBACK FORM

Academic Year : 2016-2017

Year/Sem: II / III

Name of the VAC Coordinator : Mr. K Jayavelu, Ms. Ramya

: 01.06.2016 to 12.06.2016

VAC Duration

Name (Optional) :

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?	✓			
2	How interested were the content present at VAC?		✓		
3	How useful was the VAC from the knowledge and information point of view	✓			
4	The VAC Presented were congruent with the VAC syllabus		✓		
5	How well was the event space set up?	✓			
6	Expert technical knowledge of the subject	✓			
7	The expert provided adequate time for asking questions and answered them effectively	✓			
8	The materials Provided were useful	✓			
9	The experts demonstrated student centered learning strategies and techniques	✓			
10	Overall effectiveness of the program	✓			

Any Additional comments and suggestions for improvement:

*robot box understanding*

*need for practical*

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## **ROBOTICS AND ITS APPLICATIONS**

### **SUMMARY REPORT**

Department of Electrical and Electronics Engineering, Jeppiaar Institute of Technology organized value added course on “Robotics and its Applications” from 01.08.2016 to 12.08.2016 for a duration of 30 hours.. A Total of 43 students enrolled in the course and everyone successfully completed the course and got certified.. The course has provided sufficient training for individuals to develop their interpersonal skills and knowledge for creating innovative projects. The training covers effective teaching learning process to enhance their level of understanding in robotics and its applications. The students have gained sufficient potential to create new projects thereby improving the knowledge on Robotics as well as enhancing their interpersonal skills

*Jayy*  
VAC Co Ordinator  
(K. Jayavelu)

*J. N. W*  
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KUNNAM, SUNGUVARCHATRAM,  
SRIPERUMBUDUR - 631604.

*C. Rajes Kumar*  
HOD  
(Dr. C. Rajes Kumar)



## JEPPIAAR INSTITUTE OF TECHNOLOGY

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### CURRICULUM FOR ROBOTICS AND ITS APPLICATIONS

#### Course Objective:

- To learn the basic components of Robotics.
- To learn the concepts of types and motors and sensors.
- To understand the basic of ‘C’ Programming.
- Design a system, component or process to meet desired needs within realistic constraints.

#### UNIT I

#### INTRODUCTION

3+3

Introduction to Robotics-VEX parts-Motion-Control-Tools Subsystems-Introduction to Cortex Microcontroller.

#### UNIT II

#### MOTOR AND SENSOR

3+3

Two wire Motor-DC motor – AC motor – servo motor and its specification - Three wire Motor-Sensors-Types of sensors – rotational sensor – touch sensor – limit sensor – light sensor – ultrasonic sensor - line follower sensor.

#### UNIT – III

#### GEAR AND SWITCHES

3+3

Types of gears – spur gear – Helical gear – Rack - Bevel gear – Spiral Bevel gear – Miter gear and internal gear - Types of switches – Limit Switch – Range limit switch.

#### UNIT – IV

#### ROBOT C PROGRAMMING

3+3

Introduction to robot c – Sample programs – connecting robot to PC-Firmware downloading-Robot Programming- Moving forward and backward and Turning a robot using Robot C - Giving Directions and Signs in program.

A handwritten signature in black ink, appearing to read "J. N. S. H.", is placed above the title "PRINCIPAL".

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**Vision:** “Jeppiaar Institute of Technology aspires to promote futuristic technical education with the perspective of industrial innovative and social applications for the betterment of Humanity”.

**TIME TABLE ROBOTICS & ITS APPLICATION**

DAY	08:00 am - 10:00 am	10.00 am to 10.15 am	10:15 am - 12:00 pm	12.00 Noon to 12.45 pm	12:45 pm - 02:45 pm
THU 01.06.2017	Introduction to robotics – VEX parts	Break	VEX parts	Lunch	Robotics parts
FRI 02.06.2017	Introduction to cortex		Introduction to cortex microcontroller		two wire three wire motors setup
MON 05.06.2017	Sensors & its types		touch sensor, light sensor,		ultrasonic sensor, line follower).
TUE 06.06.2017	Introduction to Robot C programming,		basics & firmware download procedure		basics & firmware download procedure
WED 07.06.2017	Robot programming – forward & backward		turning a robot by directions		turning a robot by directions
THU 08.06.2017	Design a robot with motors		sensor setup		sensor setup
FRI 09.06.2017	Arm & Claw moment robot design using limit switch		Arm & Claw moment robot design using limit switch		Arm & Claw moment robot design using limit switch
MON 12.06.2017	Line follower		Line follower		Line follower
TUE 13.06.2017	Design a robot with motors & sensor setup		sensor setup		sensor setup
WED 14.06.2017	ROBOT EXPO		test		test

Training Staff Incharge:

1.Mr.K.Jayavelu/AP/EEE ~ K.Jayavelu

L.N.W

2.Ms.A.Ramya/AP/EEE ~ A.Ramya

PRINCIPAL

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VALUE ADDED COURSE DETAILS  
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING  
ACADEMIC YEAR 2017-2018

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE ORGANIZATION	CERTIFICATE(YES/NO)
1	2016-2020/EEE/II/03	AHMED MOHAMED J	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
2	2016-2020/EEE/II/03	AMOS S	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
3	2016-2020/EEE/II/03	ARUN B	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
4	2016-2020/EEE/II/03	ARUN PANDIYAN R	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
5	2016-2020/EEE/II/03	BHARATH B	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
6	2016-2020/EEE/II/03	DEEPA R	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
7	2016-2020/EEE/II/03	DHARANI K	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
8	2016-2020/EEE/II/03	DHESHIKA K	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
9	2016-2020/EEE/II/03	DINESH KUMAR S	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
10	2016-2020/EEE/II/03	ELAVARASAN S	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
11	2016-2020/EEE/II/03	GAYATHRI S	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
12	2016-2020/EEE/II/03	HRISHIKESH V P	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
13	2016-2020/EEE/II/03	JAYACHANDRAN K	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
14	2016-2020/EEE/II/03	JAYARAJ J	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
15	2016-2020/EEE/II/03	JHONSON P	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
16	2016-2020/EEE/II/03	KANAGASAHPATHI B	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
17	2016-2020/EEE/II/03	SANGEETHA A	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
18	2016-2020/EEE/II/03	SANJAI KUMAR D	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
19	2016-2020/EEE/II/03	SANJEEV S	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
20	2016-2020/EEE/II/03	SANTHOSHKUMAR V	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
21	2016-2020/EEE/II/03	SIVABALAN A	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
22	2016-2020/EEE/II/03	SOWMIYA M	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
23	2016-2020/EEE/II/03	VIVEDHA R	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
24	2016-2020/EEE/II/03	YOGESWARAN T	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
25	2016-2020/EEE/II/03	YUVARAJ K	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
26	2016-2020/EEE/II/03	SANTHOSH KUMAR	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
27	2016-2020/EEE/II/03	RAMPRASATH R	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
28	2016-2020/EEE/II/03	SAHAYA THANISH A	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
29	2016-2020/EEE/II/03	SANGEETHA A	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
30	2016-2020/EEE/II/03	SHANMUGA PRIYA DHARSHINI V	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
31	2016-2020/EEE/II/03	VENUKA P	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
32	2016-2020/EEE/II/03	NISHANTH D	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES

*J. N. W.*  
PRINCIPAL

*K. Jayavelu*  
[K. JAYADEVU]

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**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**  
**NAME OF THE VALUE ADDED COURSE ROBOTICS AND ITS APPLICATIONS**  
**ACADEMIC YEAR 2017-2018**

**STUDENT ATTENDANCE DETAILS**

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	01.06.2017	02.06.2017	05.06.2017	06.06.2017	07.06.2017	08.06.2017	09.06.2017	10.06.2017	11.06.2017	12.06.2017
1	III/II/2016-2020	AHMED MOHAMED J	/	/	/	/	/	/	/	/	/	/
2	III/II/2016-2020	AMOS S	/	/	/	/	/	/	/	/	/	/
3	III/II/2016-2020	ARUN B	A	/	/	/	/	/	/	/	/	/
4	III/II/2016-2020	ARUN PANDIYAN R	/	/	/	/	/	/	/	/	/	/
5	III/II/2016-2020	BHARATH B	/	/	/	/	/	/	/	/	/	/
6	III/II/2016-2020	DEEPA R	/	/	/	/	/	/	/	/	/	/
7	III/II/2016-2020	DHARANI K	/	/	/	/	/	/	/	/	/	/
8	III/II/2016-2020	DHESHIKA K	/	/	/	/	/	/	/	/	/	/
9	III/II/2016-2020	DINESH KUMAR S	/	/	/	/	/	/	/	/	/	/
10	III/II/2016-2020	ELAVARASAN S	/	/	/	/	/	/	/	/	/	/
11	III/II/2016-2020	GAYATHRI S	/	/	/	/	/	/	/	/	/	/
12	III/II/2016-2020	HRISHIKESH V P	A	/	/	/	/	/	/	/	/	/
13	III/II/2016-2020	JAYACHANDRAN K	/	/	/	/	/	/	/	/	/	/
14	III/II/2016-2020	JAYARAJ J	/	/	/	/	/	/	/	/	/	/
15	III/II/2016-2020	JHONSON P	/	/	/	/	/	/	/	/	/	/

*J. N. I.*

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**VALUE ADDED COURSE- FEEDBACK FORM**

Academic Year

: 2017-2018

Year/Sem: III/VI

Name of the VAC Coordinator

: Mrs. A Ramya

VAC Duration

: (01.06.2017 to 12.06.2017)

Name (Optional) :

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?	✓			
2	How interested were the content present at VAC?	✓			
3	How useful was the VAC from the knowledge and information point of view	✓			
4	The VAC Presented were congruent with the VAC syllabus		✓		
5	How well was the event space set up?	✓			
6	Expert technical knowledge of the subject	✓	✓		
7	The expert provided adequate time for asking questions and answered them effectively		✓		
8	The materials Provided were useful	✓			
9	The experts demonstrated student centered learning strategies and techniques	✓			
10	Overall effectiveness of the program	✓			

Any Additional comments and suggestions for improvement:

*Need Industrial visit*

*for practical exposure*

*J. N. H*

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## JEPPIAAR INSTITUTE OF TECHNOLOGY

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### ROBOTICS AND ITS APPLICATIONS

### SUMMARY REPORT

Department of Electrical and Electronics Engineering, Jeppiaar Institute of Technology organized value added course on “Robotics and its Applications” from 01.06.2017 to 14.06.2017 for a duration of 30 hours.. A Total of 32 students enrolled in the course and everyone successfully completed the course and got certified.. The course has provided sufficient training for individuals to develop their interpersonal skills and knowledge for creating innovative projects. The training covers effective teaching learning process to enhance their level of understanding in robotics and its applications. The students have gained sufficient potential to create new projects thereby improving the knowledge on Robotics as well as enhancing their interpersonal skills

VAC Co Ordinator

(Ms. A. Ramya)

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HOD

(Dr C. Rajeshkumar)

**CURRICULUM FOR ROBOTICS AND ITS APPLICATIONS****Course Objective:**

- To learn the basic components of Robotics.
- To learn the concepts of types and motors and sensors.
- To understand the basic of 'C' Programming.
- Design a system, component or process to meet desired needs within realistic constraints.

**UNIT I****INTRODUCTION****3+3**

Introduction to Robotics-VEX parts-Motion-Control-Tools Subsystems-Introduction to Cortex Microcontroller.

**UNIT II****MOTOR AND SENSOR****3+3**

Two wire Motor-DC motor – AC motor – servo motor and its specification - Three wire Motor-Sensors-Types of sensors – rotational sensor – touch sensor – limit sensor – light sensor – ultrasonic sensor - line follower sensor.

**UNIT – III****GEAR AND SWITCHES****3+3**

Types of gears – spur gear – Helical gear – Rack - Bevel gear – Spiral Bevel gear – Miter gear and internal gear - Types of switches – Limit Switch – Range limit switch.

**UNIT – IV****ROBOT C PROGRAMMING****3+3**

Introduction to robot c – Sample programs – connecting robot to PC-Firmware downloading-Robot Programming- Moving forward and backward and Turning a robot using Robot C - Giving Directions and Signs in program.

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Department Of Electrical and Electronics Engineering

Academic Year 2018 - 19

## TIME TABLE-ROBOTICS &amp; ITS APPLICATION

DAY	08:00 am - 10:00 am	10.00 am to 10.15 am	10:15 am - 12:00 pm	12.00 Noon to 12.45 pm	12:45 pm - 02:45 pm
MON 15.10.2018	Introduction to robotics – VEX parts	Break	Motion-Control-Tools Subsystems	Lunch	Introduction to Cortex Microcontroller.
TUE 16.10.2018	Two wire Motor-DC motor		AC motor – servo motor and its specification		Three wire Motor-Sensors-Types of sensors
WED 17.10.2018	rotational sensor – touch sensor		limit sensor – light sensor		ultrasonic sensor - line follower sensor
THU 18.10.2018	Types of gears – spur gear		Helical gear – Rack - Bevel gear		Spiral Bevel gear – Miter gear
FRI 19.10.2018	and internal gear - Types of switches		Limit Switch – Range limit switch		Limit Switch – Range limit switch
MON 22.10.2018	Introduction to robot c – Sample programs		– connecting robot to PC- Firmware downloading		Robot Programming- Moving forward
TUE 23.10.2018	backward and Turning a robot using Robot C robot design using limit switch		Giving Directions and Signs in program.		Designing Robot with 4 motors
WED 24.10.2018	2 motor - with and without claw-Sensors		gears and switches		gears and switches
THU 25.10.2018	Program using Touch Sensors		Line Tracking Sensor		optical Shaft encode – Limit switch sensors.
FRI 26.10.2018	ROBOT EXPO		test		test

Training Staff Incharge:

1. Mr.A.Antony Charles,AP/EEE -
2. Mr.S.Pawankumar/AP/EEE

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VALUE ADDED COURSE DETAILS

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

ACADEMIC YEAR 2018-2019

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE ORGANIZATION	CERTIFICATE(YES/NO)
1	2017-2021/EEE/II/03	AMALEK SATHEESH MON M	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
2	2017-2021/EEE/II/03	ANANDHAMANIYAN A	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
3	2017-2021/EEE/II/03	ANUSHASHREE A	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
4	2017-2021/EEE/II/03	ARAVINTH P	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
5	2017-2021/EEE/II/03	ASHOK KUMAR N	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
6	2017-2021/EEE/II/03	ASHWIN M	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
7	2017-2021/EEE/II/03	BHUVANESHKUMAR S	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
8	2017-2021/EEE/II/03	DEEPIKA B	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
9	2017-2021/EEE/II/03	DELHI GANESH J	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
10	2017-2021/EEE/II/03	DHAMOTHARAN S	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
11	2017-2021/EEE/II/03	DHARMA PRAVEEN B	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
12	2017-2021/EEE/II/03	DINESH KUMAR P	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
13	2017-2021/EEE/II/03	GUNASUNTHARI R	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
14	2017-2021/EEE/II/03	HARIKRISHNA D	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
15	2017-2021/EEE/II/03	HARISH P P	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
16	2017-2021/EEE/II/03	JAYAPRAKASH V	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
17	2017-2021/EEE/II/03	SIVASUBRAMANIYAN M	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
18	2017-2021/EEE/II/03	SOWMYA U	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
19	2017-2021/EEE/II/03	SRI THUSHARA S S	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
20	2017-2021/EEE/II/03	SRIRAM D	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
21	2017-2021/EEE/II/03	SRIRAM P	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
22	2017-2021/EEE/II/03	SURIYA K	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
23	2017-2021/EEE/II/03	VIJAYA KUMAR S	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
24	2017-2021/EEE/II/03	PARTHASARATHI	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
25	2016-2020/EEE/III/05	RAJARAM A	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
26	2016-2020/EEE/III/05	RATHIKA T	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
27	2016-2020/EEE/III/05	REVATHI S	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
28	2016-2020/EEE/III/05	ROOPNATH A	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
29	2016-2020/EEE/III/05	SANGEETHA A	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
30	2016-2020/EEE/III/05	SANJAI KUMAR D	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
31	2016-2020/EEE/III/05	SANJEEV S	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES

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32	2016-2020/EEE/III/05	SANTHOSHKUMAR V	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
33	2016-2020/EEE/III/05	SIVABALAN A	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
34	2016-2020/EEE/III/05	SOWMIYA M	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
35	2016-2020/EEE/III/05	VIVEDHA R	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
36	2016-2020/EEE/III/05	YOGESWARAN T	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
37	2016-2020/EEE/III/05	YUVARAJ K	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
38	2016-2020/EEE/III/05	SANTHOSH KUMAR	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
39	2016-2020/EEE/III/05	CLADIEN P	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
40	2016-2020/EEE/III/05	DHARANI P	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
41	2016-2020/EEE/III/05	GOKUL V	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
42	2016-2020/EEE/III/05	JENIFER J	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
43	2016-2020/EEE/III/05	KESAVAN R	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
44	2016-2020/EEE/III/05	MAHISH SIVAN S	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
45	2016-2020/EEE/III/05	NARENDERAN A S	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
46	2016-2020/EEE/III/05	PREETHI B	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
47	2016-2020/EEE/III/05	RAMPRASTH R	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
48	2016-2020/EEE/III/05	SANGEETHA A	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
49	2016-2020/EEE/III/05	SHANMUGA PRIYA DHARSHINI V	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
50	2016-2020/EEE/III/05	VENUKA P	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES
51	2016-2020/EEE/III/05	NISHANTH D	ROBOTICS AND ITS APPLICATIONS	30 Hrs	JIT GLOBAL	YES

J. N. h

PRINCIPAL

JEPPIAAR INSTITUTE OF TECHNOLOGY  
KUNNAM, SUNGUVARCHATRAM,  
SRIPERUMBUDUR - 631604.

Antony charles  
(A. ANTHONY CHARLES)



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING  
NAME OF THE VALUE ADDED COURSE ROBOTICS AND ITS APPLICATIONS  
ACADEMIC YEAR 2018-2019

STUDENT ATTENDANCE DETAILS

SL.NO	BATCH/DEPT/YEAR/ SEM	NAME OF THE STUDENT	15.10.2018	16.10.2018	17.10.2018	18.10.2018	19.10.2018	22.10.2018	23.10.2018	24.10.2018	25.10.2018	26.10.2018
1	III/IU/2017-2021	AMALEK SATHEESH MON M	/	/	/	/	/	/	*	/	/	)
2	III/IU/2017-2021	ANANDHAMANIYAN A	1	1	1	1	1	1	1	1	1	(
3	III/IU/2017-2021	ANUSHASHREE A	/	1	1	1	1	1	1	1	1	1
4	III/IU/2017-2021	ARAVINTH P	/	1	1	1	1	1	1	1	1	1
5	III/IU/2017-2021	ASHOK KUMAR N	1	1	1	1	1	1	1	1	1	1
6	III/IU/2017-2021	ASHWIN M	1	1	1	1	1	1	1	1	1	1
7	III/IU/2017-2021	BHUDEVANESHKUMAR S	1	1	1	1	1	1	1	1	1	1
8	III/IU/2017-2021	DEEPIKA B	1	1	1	1	1	1	1	1	1	1
9	III/IU/2017-2021	DELHI GANESH J	1	1	1	1	1	1	1	1	1	1
10	III/IU/2017-2021	DHAMOTHARAN S	1	1	1	1	1	1	1	1	1	1
11	III/IU/2017-2021	DHARMA PRAVEEN B	1	1	1	1	1	1	1	1	1	1
12	III/IU/2017-2021	DINESH KUMAR P	1	1	1	1	1	1	1	1	1	1
13	III/IU/2017-2021	GUNASUNTHARIR	1	1	1	1	1	1	1	1	1	1
14	III/IU/2017-2021	HARIKRISHNA D	1	1	1	1	1	1	1	1	1	1
15	III/IU/2017-2021	HARSHI P R	1	1	1	1	1	1	1	1	1	1
16	III/IU/2017-2021	JAYAPRAKASH V	1	1	1	1	1	1	1	1	1	1
17	III/IU/2017-2021	SIVASUBRAMANIA N M	1	1	1	1	1	1	1	1	1	1
18	III/IU/2017-2021	SOWMYA U	1	1	1	1	1	1	1	1	1	1
19	III/IU/2017-2021	SRI THUSHARA S S	1	1	1	1	1	1	1	1	1	1
20	III/IU/2017-2021	SRI RAM D	1	1	1	1	1	1	1	1	1	1
21	III/IU/2017-2021	SRI RAM P	1	1	1	1	1	1	1	1	1	1
22	III/IU/2017-2021	SURYA K	1	1	1	1	1	1	1	1	1	1
23	III/IU/2017-2021	VIJAYA KUMAR S	1	1	1	1	1	1	1	1	1	1
24	III/IU/2017-2021	PARTHASARATHI	1	1	1	1	1	1	1	1	1	1
25	III/IU/2016-2020	RAJARAM A	1	1	1	1	1	1	1	1	1	1
26	III/IU/2016-2020	RATHIKAT	1	1	1	1	1	1	1	1	1	1
27	III/IU/2016-2020	REVATHI S	1	1	1	1	1	1	1	1	1	1
28	III/IU/2016-2020	ROOPNATHA	1	1	1	1	1	1	1	1	1	1
29	III/IU/2016-2020	SANGEETHA A	1	1	1	1	1	1	1	1	1	1

**J. M. K. H. PRINCIPAL**

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## VALUE ADDED COURSE- FEEDBACK FORM

Academic Year : 2018-2019

Year/Sem: III/V

Name of the VAC Coordinator : Mr A Antony Charles

VAC Duration : 15.10.2018 to 26.10.2018

Name (Optional) :

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?	✓			
2	How interested were the content present at VAC?	✓	✓		
3	How useful was the VAC from the knowledge and information point of view	✓	✓		
4	The VAC Presented were congruent with the VAC syllabus	✓	✓		
5	How well was the event space set up?	✓			
6	Expert technical knowledge of the subject		✓		
7	The expert provided adequate time for asking questions and answered them effectively	✓			
8	The materials Provided were useful		✓		
9	The experts demonstrated student centered learning strategies and techniques	✓			
10	Overall effectiveness of the program		✓		

Any Additional comments and suggestions for improvement:-

NIC

L.N.L

PRINCIPAL

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KUNNAM, SUNGUARCHATRAM,  
SRIPERUMBUDUR - 631604.



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## **ROBOTICS AND ITS APPLICATIONS**

### **SUMMARY REPORT**

Department of Electrical and Electronics Engineering, Jeppiaar Institute of Technology organized value added course on "Robotics and its Applications" from 15.10.2018 to 26.10.2018 for a duration of 30 hours.. A Total of 51 students enrolled in the course and everyone successfully completed the course and got certified.. The course has provided sufficient training for individuals to develop their interpersonal skills and knowledge for creating innovative projects. The training covers effective teaching learning process to enhance their level of understanding in robotics and its applications. The students have gained sufficient potential to create new projects thereby improving the knowledge on Robotics as well as enhancing their interpersonal skills

*Mr. A. Antony Charles*  
WACCO Ordinator

*J.N.W.*  
PRINCIPAL  
JEPPIAAR INSTITUTE OF TECHNOLOGY  
KUNNAM, SUNGUVARCHATRAM,  
SRIPERUMBUDUR - 631604.

*C. Rajeshkumar*  
HOD  
*(Dr. C. Rajeshkumar)*

**CURRICULUM FOR ROBOTICS AND ITS APPLICATIONS****Course Objective:**

- To learn the basic components of Robotics.
- To learn the concepts of types and motors and sensors.
- To understand the basic of ‘C’ Programming.
- Design a system, component or process to meet desired needs within realistic constraints.

**UNIT I****INTRODUCTION****3+3**

Introduction to Robotics-VEX parts-Motion-Control-Tools Subsystems-Introduction to Cortex Microcontroller.

**UNIT II****MOTOR AND SENSOR****3+3**

Two wire Motor-DC motor – AC motor – servo motor and its specification - Three wire Motor-Sensors-Types of sensors – rotational sensor – touch sensor – limit sensor – light sensor – ultrasonic sensor - line follower sensor.

**UNIT – III****GEAR AND SWITCHES****3+3**

Types of gears – spur gear – Helical gear – Rack - Bevel gear – Spiral Bevel gear – Miter gear and internal gear - Types of switches – Limit Switch – Range limit switch.

**UNIT – IV****ROBOT C PROGRAMMING****3+3**

Introduction to robot c – Sample programs – connecting robot to PC-Firmware downloading-Robot Programming- Moving forward and backward and Turning a robot using Robot C - Giving Directions and Signs in program.

**UNIT – V****ROBOT DESIGN AND ITS APPLICATION**

*d.n.h*  
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## TIME TABLE ROBOTICS & ITS APPLICATION

DAY	08:00 am - 10:00 am	10.00 am to 10.15 am	10:15 am - 12:00 pm	12.00 Noon to 12.45 pm	12:45 pm - 02:45 pm
10.07.2020 FRIDAY	Introduction to robotics – VEX parts	Break	Motion-Control-Tools Subsystems	Lunch	Introduction to Cortex Microcontroller.
17.07.2020 FRIDAY	Two wire Motor-DC motor		AC motor – servo motor and its specification		Three wire Motor-Sensors-Types of sensors
31.07.2020 FRIDAY	rotational sensor – touch sensor		limit sensor – light sensor		ultrasonic sensor - line follower sensor
07.08.2020 FRIDAY	Types of gears – spur gear		Helical gear – Rack - Bevel gear		Spiral Bevel gear – Miter gear
14.08.2020 FRIDAY	and internal gear - Types of switches		Limit Switch – Range limit switch		Limit Switch – Range limit switch
28.08.2020 FRIDAY	Introduction to robot c – Sample programs		– connecting robot to PC- Firmware downloading		Robot Programming- Moving forward
04.09.2020 FRIDAY	backward and Turning a robot using Robot C robot design using limit switch		Giving Directions and Signs in program.		Designing Robot with 4 motors
18.09.2020 FRIDAY	2 motor - with and without claw-Sensors		gears and switches		gears and switches
09.10.2020 FRIDAY	Program using Touch Sensors		Line Tracking Sensor		optical Shaft encoder Limit switch sensors.
16.10.2020 FRIDAY	ROBOT EXPO		test		test

### Training Staff Incharge:

1.Mr.A.Antony Charles

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**VALUE ADDED COURSE DETAILS**

ACADEMIC YEAR 2019-2020

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE CERTIFYING ORGANIZATION	CERTIFICATE(YES/NO)
1	2017-2021/EEE/III/05	Amalek Satheesh Mon M	Robotics and its Applications	30 Hrs	Anna University	YES
2	2017-2021/EEE/III/05	Deepika B	Robotics and its Applications	30 Hrs	Anna University	YES
3	2017-2021/EEE/III/05	Dinesh Kumar P	Robotics and its Applications	30 Hrs	Anna University	YES
4	2017-2021/EEE/III/05	Harikrishna D	Robotics and its Applications	30 Hrs	Anna University	YES
5	2017-2021/EEE/III/05	Krishna Kanth J	Robotics and its Applications	30 Hrs	Anna University	YES
6	2017-2021/EEE/III/05	Manjupriya S	Robotics and its Applications	30 Hrs	Anna University	YES
7	2017-2021/EEE/III/05	Michael Jackson M	Robotics and its Applications	30 Hrs	Anna University	YES
8	2017-2021/EEE/III/05	Mugesh M	Robotics and its Applications	30 Hrs	Anna University	YES
9	2017-2021/EEE/III/05	Nandini S	Robotics and its Applications	30 Hrs	Anna University	YES
10	2017-2021/EEE/III/05	Ruthra Kotti C	Robotics and its Applications	30 Hrs	Anna University	YES
11	2017-2021/EEE/III/05	Praveen K	Robotics and its Applications	30 Hrs	Anna University	YES
12	2017-2021/EEE/III/05	Sri Thushara S S	Robotics and its Applications	30 Hrs	Anna University	YES
13	2017-2021/EEE/III/05	Suriya K	Robotics and its Applications	30 Hrs	Anna University	YES
14	2018-2022/EEE/II/03	Lokesh	Robotics and its Applications	30 Hrs	Anna University	YES
15	2018-2022/EEE/II/03	Sukumar	Robotics and its Applications	30 Hrs	Anna University	YES
16	2018-2022/EEE/II/03	Siva Sambu Paikaray	Robotics and its Applications	30 Hrs	Anna University	YES

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[A-Anony CHARLES]  
[A-Anony CHARLES]



DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING  
 NAME OF THE VALUE ADDED COURSE ROBOTICS AND ITS APPLICATIONS  
 ACADEMIC YEAR 2020-2021

STUDENT ATTENDANCE DETAILS

SL.NO	BATCH/DEPT/YEAR /SEM	NAME OF THE STUDENT	10.7.20	17.7.20	24.7.20	31.7.20	7.8.20	14.8.20	21.8.20	28.8.20	4.9.20	11.9.20	18.9.20	25.9.20	1.10.20	8.10.20	15.10.20
1	III/I/2018-2022	BHARATHIRAJA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	III/I/2018-2022	IVYSHWARINYA A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	III/I/2018-2022	LOKESHWARAN V	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	III/I/2018-2022	SUKUMARAN P	1	1	1	A	1	1	A	1	1	1	1	1	1	1	1
5	III/I/2018-2022	RAJESH R	1	1	1	1	1	1	A	1	1	1	1	1	1	1	1
6	III/I/2018-2022	SIVA SAMBU PAIKARAYA B	A	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Total Strength	06	06	06	06	06	06	06	06	06	06	06	06	06	06	06	06	06
Total Present	05	06	06	05	06	06	06	05	06	06	06	06	06	06	06	06	06
Total Absent	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
Signature	KZ																

(Attendance)

06	06	06	06	06	06	06	06	06	06	06	06	06	06	06	06	06	06
05	06	06	05	06	06	06	05	06	06	06	06	06	06	06	06	06	06
01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
KZ																	

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 SRIPERUMBUDUR - 631604.



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## VALUE ADDED COURSE- FEEDBACK FORM

Academic Year

: 2019-2020

Year/Sem:

14/V

Name of the VAC Coordinator

: Mr. A. Antony Charles

VAC Duration

: 09.08.2019 to 26.09.2019

Name (Optional)

:

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?	✓			
2	How interested were the content present at VAC?		✓		
3	How useful was the VAC from the knowledge and information point of view	✓			
4	The VAC Presented were congruent with the VAC syllabus	✓			
5	How well was the event space set up?		✓		
6	Expert technical knowledge of the subject	✓			
7	The expert provided adequate time for asking questions and answered them effectively		✓		
8	The materials Provided were useful	✓			
9	The experts demonstrated student centered learning strategies and techniques		✓		
10	Overall effectiveness of the program		✓		

N1

Any Additional comments and suggestions for improvement:

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## ROBOTICS AND ITS APPLICATIONS

### SUMMARY REPORT(2019-2020)

Department of Electrical and Electronics Engineering, Jeppiaar Institute of Technology organized a value added course on “Robotics and its Applications” from 09.08.2019 to 26.09.2019 for a duration of 30 hours, approved by Centre for Academics Courses, Anna University. A total of 13 students enrolled in the course, Students Progress was monitored through the Internal assessment test and reported the same to Anna University through web portal. Based on which the student was graded in their marksheets for the respective semester. The course has provided sufficient training for individuals to develop their interpersonal skills and knowledge for creating innovative projects. The training covers effective teaching learning process to enhance their level of understanding in robotics and its applications. The students have gained sufficient potential to create new projects thereby improving the knowledge on Robotics as well as enhancing their interpersonal skills.

YACCO-ORDINATOR

(Mr. A. Anthony Charles)

HoD

(Mrs. T. Muthukumar)

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KUNNAM, SUNGUVARCHATRAM,  
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**CURRICULUM FOR ROBOTICS AND ITS APPLICATIONS****Course Objective:**

- To learn the basic components of Robotics.
- To learn the concepts of types and motors and sensors.
- To understand the basic of 'C' Programming.
- Design a system, component or process to meet desired needs within realistic constraints.

<b>UNIT I</b>	<b>INTRODUCTION</b>	<b>3+3</b>
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Introduction to Robotics-VEX parts-Motion-Control-Tools Subsystems-Introduction to Cortex Microcontroller.

<b>UNIT II</b>	<b>MOTOR AND SENSOR</b>	<b>3+3</b>
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Two wire Motor-DC motor – AC motor – servo motor and its specification - Three wire Motor-Sensors-Types of sensors – rotational sensor – touch sensor – limit sensor – light sensor – ultrasonic sensor - line follower sensor.

<b>UNIT – III</b>	<b>GEAR AND SWITCHES</b>	<b>3+3</b>
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Types of gears – spur gear – Helical gear – Rack - Bevel gear – Spiral Bevel gear – Miter gear and internal gear - Types of switches – Limit Switch – Range limit switch.

<b>UNIT – IV</b>	<b>ROBOT C PROGRAMMING</b>	<b>3+3</b>
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Introduction to robot c – Sample programs – connecting robot to PC-Firmware downloading-Robot Programming- Moving forward and backward and Turning a robot using Robot C - Giving Directions and Signs in program.

<b>UNIT – V</b>	<b>ROBOT DESIGN AND ITS APPLICATION</b>	<b>2+4</b>
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Dr. N. PAL

**JEPPIAAR INSTITUTE OF TECHNOLOGY  
KUNNAM, SUNGUVARACHARAM,  
SRIPERUMBUDUR - 631604.**



**TIME TABLE ROBOTICS & ITS APPLICATION**

DAY	08:00 am - 10:00 am	10.00 am to 10.15 am	10:15 am - 12:00 pm	12.00 Noon to 12.45 pm	12:45 pm - 02:45 pm
MON 09.08.2019	Introduction to robotics – VEX parts	Break	Motion-Control-Tools Subsystems	Lunch	Introduction to Cortex Microcontroller.
TUE 12.08.2019	Two wire Motor-DC motor		AC motor – servo motor and its specification		Three wire Motor-Sensors-Types of sensors
WED 13.08.2019	rotational sensor – touch sensor		limit sensor – light sensor		ultrasonic sensor - line follower sensor
THU 19.08.2019	Types of gears – spur gear		Helical gear – Rack - Bevel gear		Spiral Bevel gear – Miter gear
FRI 20.08.2019	and internal gear - Types of switches		Limit Switch – Range limit switch		Limit Switch – Range limit switch
MON 05.09.2019	Introduction to robot c – Sample programs		– connecting robot to PC- Firmware downloading		Robot Programming- Moving forward
TUE 06.09.2019	backward and Turning a robot using Robot C robot design using limit switch		Giving Directions and Signs in program.		Designing Robot with 4 motors
WED 19.09.2019	2 motor - with and without claw-Sensors		gears and switches		gears and switches
THU 20.09.2019	Program using Touch Sensors		Line Tracking Sensor		optical Shaft encoder Limit switch sensors.
FRI 26.09.2019	ROBOT EXPO		test		test

**Training Staff Incharge:**

1.Mr.A.Antony Charles

AL

2.Ms.E.Priya

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SRIPERUMBUDUR - 631604.



## VALUE ADDED COURSE DETAILS

ACADEMIC YEAR 2020-2021

## DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE CERTIFYING ORGANIZATION	CERTIFICATE(YES/NO)
1	2018-2022/EEE/III/05	IYSHWARIA JK	Robotics and its Applications	30 Hrs	Anna University	YES
2	2018-2022/EEE/III/05	SIVA SAMBU PAIKARAY.B	Robotics and its Applications	30 Hrs	Anna University	YES
3	2018-2022/EEE/III/05	LOKESHWARAN.V	Robotics and its Applications	30 Hrs	Anna University	YES
4	2018-2022/EEE/III/05	RAJESH.R	Robotics and its Applications	30 Hrs	Anna University	YES
5	2018-2022/EEE/III/05	BHRATHIRAJA.A	Robotics and its Applications	30 Hrs	Anna University	YES
6	2018-2022/EEE/III/05	SUGUMARAN PONNURANGAM	Robotics and its Applications	30 Hrs	Anna University	YES

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[A. AMMY CHARLES]





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## VALUE ADDED COURSE- FEEDBACK FORM

Academic Year

: 2020-2021

Year/Sem: III / V

Name of the VAC Coordinator

: Mr. A Antony Charles

VAC Duration

: 10.07.2020 To 16.10.2020

Name (Optional)

:

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?	✓			
2	How interested were the content present at VAC?	✓			
3	How useful was the VAC from the knowledge and information point of view	✓			
4	The VAC Presented were congruent with the VAC syllabus		✓		
5	How well was the event space set up?	✓			
6	Expert technical knowledge of the subject	✓			
7	The expert provided adequate time for asking questions and answered them effectively	✓	✓		
8	The materials Provided were useful	✓			
9	The experts demonstrated student centered learning strategies and techniques	✓			
10	Overall effectiveness of the program	✓			

Any Additional comments and suggestions for improvement:

NIC

D-N-he  
PRINCIPAL  
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## ROBOTICS AND ITS APPLICATIONS

### SUMMARY REPORT(2020-2021)

Department of Electrical and Electronics Engineering, Jeppiaar Institute of Technology organized a value added course on "Robotics and its Applications" from 10.07.2020 to 16.10.2020 for a duration of 30 hours, approved by Centre for Academics Courses, Anna University. A total of 6 students enrolled in the course, Students Progress was monitored through the Internal assessment test and reported the same to Anna University through web portal. Based on which the student was graded in their marksheet for the respective semester. The course has provided sufficient training for individuals to develop their interpersonal skills and knowledge for creating innovative projects. The training covers effective teaching learning process to enhance their level of understanding in robotics and its applications. The students have gained sufficient potential to create new projects thereby improving the knowledge on Robotics as well as enhancing their interpersonal skills.

VAC Co Ordinator

Mr. A. Anthony Charles

L. M. K.

HoD

(Dr. T. Muthukumar)

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## CURRICULUM FOR PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO & ROBOTICS

### Course Objective:

- To learn the basic structure of embedded systems.
- To understand the basic concept of Robotics with Arduino IDE
- To apply the PCB fabrication process.
- To be familiar with embedded computing platform design and analysis
- To design a system, component or process to meet desired needs within realistic constraints.

### UNIT – I

### INTRODUCTION

**3 T + 3 P**

Introduction – Embedded system – Microcontroller/Microprocessor - Types – Pin Details - Difference – Real time Application. Arduino Introduction – Atmega32 Microcontroller – Arduino Pin Details – Specification of Arduino Prototypes – Types – Interface with computer. Installation of Arduino IDE – Configuration Setting – Testing Arduino Board – Working With Arduino IDE - Explanation of Structure, Functions, Variables, Data Types – Sample Program.

### UNIT – II

### INTRODUCTION TO ARDUINO

**3 T+ 3 P**

Installation of Proteus 7 IDE – Working With Proteus ISIS Circuit Simulator – Draw Sample Circuit – Run Simulation. Blinking LED and IR module Program, Button Program, Loop Program, Analog Input Program, Physical Pixel Program, Buzzer Program, RGB LED Program, Phototransistor Program, Proteus Simulation of Servo Motor using Arduino, Motor Driver Program, Proteus Simulation of Serial Communication Using Arduino, Relay Driver and Debounce Program, Fading and Temperature sensor Program – Explanation – Upload to Arduino Board – Testing Output.

### UNIT – III

### ADVANCE PROGRAMMING IN ARDUINO

**3 T+ 3 P**

7-segment Display and Knock Program, Boolean and Humidity Program, Battery tester and Photo cell Program, Pot Control Motor Speed Program, Knight Rider Program, Home Automation Program – Explanation – Upload to Arduino Board – Testing Output – Proteus General Simulation.

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**UNIT – IV****PCB DESIGN****3T+ 3P**

Proteus 7 IDE – Working With Proteus ARES PCB Design – Draw Sample Layout – Routing – DRC Check – Output View as 3D Image. PCB fabrication.

**UNIT – V****ROBOTICS****3T+ 3 P**

Assemble Robotic Parts – Circuit Construction for Line Follower Robot and Obstacles Avoider Robot, Circuit Construction for Light Seeking Robot and TV Remote Control Robot, Circuit Construction for Bluetooth control Robot and RF Control Robot – Testing Robots.

**Total Hours (15 Theory + 15 Practical) : 30 hrs.**

**Course Outcomes**

- Understanding of Embedded system, programming.
- Analyze Programming concepts of Arduino Microcontroller with various interfaces like memory & I/O devices.
- Apply the PCB Design and fabrication concepts.
- Design the robot using microcontroller for various applications.

**Text Book:**

1. Marilyn Wolf, "Computers as Components - Principles of Embedded Computing System Design", Third Edition, Morgan Kaufmann Publisher. ISBN: 9780123884428, 2012.

**Reference Book:**

1. Simon Monk, Duncan Amos, "Make Your Own PCBs with EAGLE: From Schematic Designs to Finished Boards", 2nd Edition, Kindle Edition, McGraw-Hill Education, ISBN-13: 978-1260019193, ISBN-10: 1260019195.
2. Michael McRoberts, Beginning Arduino, Technology in action publications.
3. Simon, D.E., An Embedded Software Primer, Dorling Kindersley, 2005.
4. K.V.K.K.Prasad, "Embedded Real-Time Systems: Concepts, Design & Programming", Dream Tech Press, 2005.

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## JEPPIAAR INSTITUTE OF TECHNOLOGY

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### TIME TABLE - PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO

Date	8.00 am to 10.00 am	10.00 am to 10.15 am	10.15 am to 12.00 Noon	12.00 Noon to 12.45 pm	12.45 pm to 02.45 pm
5.08.2015	Introduction – Embedded system - Microcontroller/Microprocessor - Types – Pin Details	Break	Difference – Real time Application	Lunch	Arduino Introduction – Atmega32 Microcontroller – Arduino Pin Details – Specification of Arduino Prototypes Types – Interface with computer
12.08.2015	Installation of Arduino IDE – Configuration Setting		Explanation of Structure, Functions, Variables, Data Types – Sample Program.		Testing Arduino Board – Working with Arduino IDE
19.8.2015	Installation of Proteus 7 IDE – Working With Proteus ISIS Circuit Simulator		Blinking LED and IR module Program		Draw Sample Circuit – Run Simulation
26.8.2015	Button Program, Loop Program		Buzzer Program, RGB LED Program, Phototransistor Program		Analog Input Program, Physical Pixel Program
02.9.2015	Proteus Simulation of Servo Motor using Arduino, Motor Driver Program		Fading and Temperature sensor Program – Explanation – Upload to Arduino Board – Testing Output		Proteus Simulation of Serial Communication Using Arduino, Relay Driver and Debounce Program
16.9.2015	7-segment Display and Knock		Pot Control		Upload to Arduino

	Program, Boolean and Humidity Program, Battery tester and Photo cell Program		Motor Speed Program, Knight Rider Program, Home Automation Program – Explanation		Board – Testing Output – Proteus General Simulation.
23.9.2015	Proteus 7 IDE – Working With Proteus ARES PCB Design		Draw Sample Layout – Routing – DRC Check		Output View as 3D Image, PCB fabrication

Training Staff Incharge:

1. Ms.G.Merine AP/ECE

*G. Merine*

2. Ms.R.Deepa AP/ECE

*R. Deepa*

*D.N. Hemalatha*  
HOD

*H. N. Hemalatha*

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## **PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO & ROBOTICS**

### **SUMMARY REPORT**

Department of Electronics and Communication Engineering has organized Anna University Approved value added course on “PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO & ROBOTICS” from 05.08.2015 to 23.09.2015 in Block 1 of Micro processor and Micro controller Laboratory for all third year students for a duration of 30 Hrs. Total of 61 students enrolled in the course. Evaluation process is carried out through internal assessment and the same was reported to the Anna University. The students were graded based on the internal assessment and all the enrolled students completed the course successfully. The course has provided sufficient training for individuals to develop their interpersonal skills and knowledge for creating innovative projects. The training covers effective teaching learning process to enhance their level of understanding in Arduino board and PCB design. The students have gained sufficient potential to create new projects thereby improving the knowledge on embedded system as well as enhancing their interpersonal skills.

R. Deepa

VAC Co Ordinator

(M.R. DEEPA)

L.N.H

HOD

L.N.H

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**JEPPIAAR INSTITUTE OF TECHNOLOGY**  
SIR BABA SINGH DISCIPLINE OF STUDY REPORT

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**PCB DESIGN, EMBEDDED SYSTEM INTERACTING WITH ARDUINO**  
**ACADEMIC YEAR 2015-2016**

**STUDENT ATTENDANCE DETAILS**

SL.NO.	BATCH/SEMESTER	NAME OF THE STUDENT	8/8/15	12/8/15	19/8/15	26/8/15	2/9/15	16/9/15	20/9/15
1	2013-2016/CT/I/II/III/5	BALAJI K	/	/	/	/	/	/	/
2	2013-2016/CT/I/II/III/5	BALAJI R	/	/	/	/	/	/	/
3	2013-2016/CT/I/II/III/5	GUNASHEELAN M	/	/	/	/	/	/	/
4	2013-2016/CT/I/II/III/5	HIMPUSHPANA A	/	/	/	/	/	/	/
5	2013-2016/CT/I/II/III/5	KARTHIK SHAARANS	/	/	/	A	/	/	/
6	2013-2016/CT/I/II/III/5	KISHORE KUMAR B	/	/	/	/	/	/	/
7	2013-2016/CT/I/II/III/5	KUMARESH K	/	/	/	/	/	/	/
8	2013-2016/CT/I/II/III/5	MUTHUKUMAR V	/	/	/	/	/	/	/
9	2013-2016/CT/I/II/III/5	NAMBIRAJAN S	/	/	/	/	/	/	/
10	2013-2016/CT/I/II/III/5	NITHALUBBEN N	/	A	/	/	/	/	/
11	2013-2016/CT/I/II/III/5	NITHISH M	/	/	/	/	/	/	/
12	2013-2016/CT/I/II/III/5	PRIETTI M	/	/	/	/	/	/	/
13	2013-2016/CT/I/II/III/5	PUSHPALAKSHMI V	/	/	/	/	/	/	/
14	2013-2016/CT/I/II/III/5	ROHIT D	/	/	/	/	/	/	/
15	2013-2016/CT/I/II/III/5	SHRUTHI P	/	/	/	/	/	/	/
16	2013-2016/CT/I/II/III/5	VASIGAR DEVANEYAN V	A	/	/	/	/	/	A
17	2013-2016/CT/I/II/III/5	VISHAL S	/	/	/	/	/	/	/
18	2013-2016/CT/I/II/III/5	V DEVANATHAN	/	/	/	/	/	/	/
19	2013-2016/CT/I/II/III/5	KOWDILYAN	/	/	/	/	/	/	/
20	2013-2016/CT/I/II/III/5	LAVANYA CHRISTY	/	/	/	/	/	/	/
21	2013-2016/CT/I/II/III/5	SYEN DBB	/	/	A	/	/	/	/
22	2013-2016/CT/I/II/III/5	DUMESH KUMAR	/	/	A	/	/	/	/
23	2013-2016/CT/I/II/III/5	RUFINA	/	/	A	/	/	/	/
24	2012-2016/CT/I/IV/7	AGALYA V	/	A	/	/	A	/	A
25	2012-2016/CT/I/IV/7	AMRIKA K	/	/	/	/	/	/	/
26	2012-2016/CT/I/IV/7	AMRITHA VINNARASI J V	/	/	/	/	/	/	/
27	2012-2016/CT/I/IV/7	ANANDHIL K	/	/	/	/	/	/	/
28	2012-2016/CT/I/IV/7	BHavya K	/	/	A	/	/	/	/
29	2012-2016/CT/I/IV/7	BLESSING DHILAK T	A	/	A	/	/	/	/
30	2012-2016/CT/I/IV/7	CHANDRASEKAR V	/	/	/	/	/	/	/
31	2012-2016/CT/I/IV/7	CHARATH RAJU L	/	/	/	/	/	/	/
32	2012-2016/CT/I/IV/7	GOVINDHARAJU V	/	/	/	/	/	/	/
33	2012-2016/CT/I/IV/7	GOWTHAMY T S	/	/	/	/	/	/	/
34	2012-2016/CT/I/IV/7	HARI NARAYANAN V	A	/	/	/	/	/	/
35	2012-2016/CT/I/IV/7	HEMA SHRI R	/	/	/	A	A	A	/
36	2012-2016/CT/I/IV/7	ILAKYAA K	/	/	A	/	A	/	/
37	2012-2016/CT/I/IV/7	JANANI R R	/	/	/	/	/	/	/
38	2012-2016/CT/I/IV/7	JYOTI AISHWARYAT	/	/	/	/	/	/	/
39	2012-2016/CT/I/IV/7	JEYASUDHA S	/	/	/	/	/	/	/
40	2012-2016/CT/I/IV/7	JOSELIN SURAJ	/	/	/	/	/	/	/
41	2012-2016/CT/I/IV/7	KEZIAH S	/	/	/	/	/	/	/
42	2012-2016/CT/I/IV/7	KIRTHANADEVI A	/	/	/	A	/	/	/
43	2012-2016/CT/I/IV/7	KOWSALYAR	/	/	/	/	/	/	/
44	2012-2016/CT/I/IV/7	KRITHIKA L	/	/	/	/	/	/	/
45	2012-2016/CT/I/IV/7	MANASA HARSHINI K	/	/	/	/	/	/	/
46	2012-2016/CT/I/IV/7	MARY ABISHA M	/	/	/	/	/	/	/
47	2012-2016/CT/I/IV/7	PHAVETHERA S V	/	/	/	/	/	/	/
48	2012-2016/CT/I/IV/7	PRAMILA T	/	/	/	/	/	/	/
49	2012-2016/CT/I/IV/7	PRATHIBA S	/	/	/	/	/	/	/
50	2012-2016/CT/I/IV/7	PRAVEEN V	/	/	/	/	/	/	/
51	2012-2016/CT/I/IV/7	PRIYAL M F	/	/	/	/	/	/	/
52	2012-2016/CT/I/IV/7	PRIYADHARSHINI N	/	/	/	/	/	A	/
53	2012-2016/CT/I/IV/7	PRIYADHARSHINI P	/	/	/	/	/	A	/
54	2012-2016/CT/I/IV/7	PRIYANKAA A	/	/	/	/	/	/	/
55	2012-2016/CT/I/IV/7	RAJAKUMARI N	/	/	/	/	/	/	/
56	2012-2016/CT/I/IV/7	RAJESWARID	/	A	/	/	/	/	/
57	2012-2016/CT/I/IV/7	ROMERA JOAN S	/	/	/	/	/	/	/
58	2012-2016/CT/I/IV/7	SOUNDARIVAA V	/	/	/	/	/	A	/
59	2012-2016/CT/I/IV/7	UMA S	/	/	/	/	/	/	/

VAC - COORDINATOR

R. Deepa

L N he

PRINCIPAL

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SRI SRIRAM

60	2012-2016 I CLAV/T	UMAYAL ALI	/	/	/	/	/	/	/	/
61	2012-2016 ECT AV/T	ATMBARASIP	/	/	/	/	/	/	/	/

J. N. W.

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**VALUE ADDED COURSE- FEEDBACK FORM**

Academic Year : 2015 - 2016 Year/Sem: IU / 05

Name of the VAC Coordinator : Mrs. R. DEEPA

VAC Duration : 5/8/2015 to 23/09/2015

Name (Optional) :

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?	✓			
2	How interested were the content present at VAC?	✓			
3	How useful was the VAC from the knowledge and information point of view	✓			
4	The VAC Presented were congruent with the VAC syllabus		✓		
5	How well was the event space set up?		✓		
6	Expert technical knowledge of the subject				
7	The expert provided adequate time for asking questions and answered them effectively	✓			
8	The materials Provided were useful		✓		
9	The experts demonstrated student centered learning strategies and techniques	✓			
10	Overall effectiveness of the program	✓			

Any Additional comments and suggestions for improvement:----- NIL

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**CURRICULUM FOR PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO & ROBOTICS**

**Course Objective:**

- To learn the basic structure of embedded systems.
- To understand the basic concept of Robotics with Arduino IDE
- To apply the PCB fabrication process.
- To be familiar with embedded computing platform design and analysis
- To design a system, component or process to meet desired needs within realistic constraints.

**UNIT – I**

**INTRODUCTION**

**3 T + 3 P**

Introduction – Embedded system – Microcontroller/Microprocessor - Types – Pin Details - Difference – Real time Application. Arduino Introduction – Atmega32 Microcontroller – Arduino Pin Details – Specification of Arduino Prototypes – Types – Interface with computer. Installation of Arduino IDE – Configuration Setting – Testing Arduino Board – Working With Arduino IDE - Explanation of Structure, Functions, Variables, Data Types – Sample Program.

**UNIT – II**

**INTRODUCTION TO ARDUINO**

**3 T+ 3 P**

Installation of Proteus 7 IDE – Working With Proteus ISIS Circuit Simulator – Draw Sample Circuit – Run Simulation. Blinking LED and IR module Program, Button Program, Loop Program, Analog Input Program, Physical Pixel Program, Buzzer Program, RGB LED Program, Phototransistor Program, Proteus Simulation of Servo Motor using Arduino, Motor Driver Program, Proteus Simulation of Serial Communication Using Arduino, Relay Driver and Debounce Program, Fading and Temperature sensor Program – Explanation – Upload to Arduino Board – Testing Output.

**UNIT – III**

**ADVANCE PROGRAMMING IN ARDUINO**

**3 T+ 3 P**

7-segment Display and Knock Program, Boolean and Humidity Program, Battery tester and Photo cell Program, Pot Control Motor Speed Program, Knight Rider Program, Home Automation Program – Explanation – Upload to Arduino Board – Testing Output – Proteus General Simulation.

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<b>UNIT – IV</b>	<b>PCB DESIGN</b>	<b>3T+ 3P</b>
Proteus 7 IDE – Working With Proteus ARES PCB Design – Draw Sample Layout – Routing – DRC Check – Output View as 3D Image. PCB fabrication.		
<b>UNIT – V</b>	<b>ROBOTICS</b>	<b>3T+ 3 P</b>

Assemble Robotic Parts – Circuit Construction for Line Follower Robot and Obstacles Avoider Robot, Circuit Construction for Light Seeking Robot and TV Remote Control Robot, Circuit Construction for Bluetooth control Robot and RF Control Robot – Testing Robots.

**Total Hours (15 Theory + 15 Practical) : 30 hrs.**

#### **Course Outcomes**

- Understanding of Embedded system, programming.
- Analyze Programming concepts of Arduino Microcontroller with various interfaces like memory & I/O devices.
- Apply the PCB Design and fabrication concepts.
- Design the robot using microcontroller for various applications.

#### **Text Book:**

1. Marilyn Wolf, “Computers as Components - Principles of Embedded Computing System Design”, Third Edition, Morgan Kaufmann Publisher. ISBN: 9780123884428, 2012.

#### **Reference Book:**

1. Simon Monk, Duncan Amos, “Make Your Own PCBs with EAGLE: From Schematic Designs to Finished Boards”, 2nd Edition, Kindle Edition, McGraw-Hill Education, ISBN-13: 978-1260019193, ISBN-10: 1260019195.
2. Michael McRoberts, Beginning Arduino, Technology in action publications.
3. Simon, D.E., An Embedded Software Primer, Dorling Kindersley, 2005.
4. K.V.K.K.Prasad, “Embedded Real-Time Systems: Concepts, Design & Programming”, Dream Tech Press, 2005.

  
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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO**

2016-2017

**STUDENT ATTENDANCE DETAILS**

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	17/10/2016	18/10/2016	19/10/2016	20/10/2016	21/10/2016	24/10/2016	25/10/2016
1	2013-201/ECE/IV/7	ABARNA.P.G	/	/	/	/	/	A	/
2	2013-201/ECE/IV/7	AFSA SANSGREAT.P	/	/	/	/	/	/	/
3	2013-201/ECE/IV/7	AGASTHIYAN.N	/	/	/	/	/	/	/
4	2013-201/ECE/IV/7	ANUSIYA.R	/	/	/	/	/	/	/
5	2013-201/ECE/IV/7	CHENCHU MADHUV	/	/	/	/	/	/	/
6	2013-201/ECE/IV/7	DEEPIKA.S	/	/	/	A	/	/	/
7	2013-201/ECE/IV/7	GAYATHRY.B	/	/	/	/	/	/	/
8	2013-201/ECE/IV/7	GUNABALA.M	/	/	/	/	/	/	/
9	2013-201/ECE/IV/7	JEFFIN DAVID JEVSON.S	/	/	/	/	/	/	/
10	2013-201/ECE/IV/7	KARTHIKEYAN.D	/	/	/	/	A	/	A
11	2013-201/ECE/IV/7	MANISHA.M	/	/	/	/	/	/	/
12	2013-201/ECE/IV/7	MONICA.X	/	/	/	/	/	/	/
13	2013-201/ECE/IV/7	MONISHA.D	/	/	/	/	/	/	/
14	2013-201/ECE/IV/7	NANDHINI.J.V	/	/	/	/	/	/	/
15	2013-201/ECE/IV/7	NAVEEN V	/	/	/	/	/	/	/
16	2013-201/ECE/IV/7	NAVEENPRADEEP.B	A	/	/	/	/	/	/
17	2013-201/ECE/IV/7	PAVITHRA.V	/	/	/	/	/	/	/
18	2013-201/ECE/IV/7	PRADEEP.A.K	/	/	/	/	/	A	/
19	2013-201/ECE/IV/7	PRADEEPKUMARS.S	/	/	/	/	/	/	/
20	2013-201/ECE/IV/7	PRAVEEN KUMAR.A.V.N	/	/	/	/	/	/	/
21	2013-201/ECE/IV/7	RAKSHANA.P	/	/	/	/	/	/	/
22	2013-201/ECE/IV/7	REHAMAD NISHA.B	/	/	A	/	/	/	/
23	2013-201/ECE/IV/7	SANDHYA DEVLE	/	/	/	A	/	/	/
24	2013-201/ECE/IV/7	SENTHILKUMAR.V	/	A	/	/	A	/	A
25	2013-201/ECE/IV/7	SHAJU CHRISTO.C	/	/	/	/	/	/	/
26	2013-201/ECE/IV/7	SOORIYA RAJAN.S	/	/	/	/	/	/	/
27	2013-201/ECE/IV/7	SUDHAN.M	/	/	/	/	/	/	/
28	2013-201/ECE/IV/7	THALAPATHI.R	/	/	/	/	/	/	/
29	2013-201/ECE/IV/7	VERONIKA MARIYA KATHERINE.M	A	/	A	/	/	/	/
30	2013-201/ECE/IV/7	VIGNESH.D	/	/	/	/	/	/	/
31	2013-201/ECE/IV/7	VIGNESH.S	/	/	/	/	/	/	/
32	2013-201/ECE/IV/7	VIJAY PRASATH.D	/	/	/	/	/	/	/
33	2013-201/ECE/IV/7	VIMAL RAJ.S	/	/	/	/	/	/	/
34	2015-2019/ECE/II/3	Aravind Babu S	A	/	/	/	/	/	A
35	2015-2019/ECE/II/3	Francis Diana A	/	/	/	/	/	/	/
36	2015-2019/ECE/II/3	Hemalatha S	/	/	/	/	/	/	/
37	2015-2019/ECE/II/3	Jabez Jogeeth Singh JS	/	/	/	A	/	/	/
38	2015-2019/ECE/II/3	Jay Prathap C	/	/	/	/	/	/	/
39	2015-2019/ECE/II/3	Kalaivani R	/	/	/	/	/	/	/
40	2015-2019/ECE/II/3	Kanimozhi K S	/	/	/	/	/	/	/
41	2015-2019/ECE/II/3	Kanimozhi R	/	/	/	/	A	/	A
42	2015-2019/ECE/II/3	Kanimozhi S	/	/	/	/	A	/	/
43	2015-2019/ECE/II/3	Karthick S	/	/	/	/	/	/	/
44	2015-2019/ECE/II/3	Karthikyan D	/	/	/	/	/	/	/
45	2015-2019/ECE/II/3	Koorthuma P	/	/	/	/	/	/	/
46	2015-2019/ECE/II/3	Kisher G Y	/	/	/	/	/	A	/
47	2015-2019/ECE/II/3	Linda Gladis R I	/	/	/	/	/	/	/
48	2015-2019/ECE/II/3	Lokesh P	/	/	/	/	/	/	/
49	2015-2019/ECE/II/3	Mohan T	/	/	/	/	/	/	/
50	2015-2019/ECE/II/3	Nivedha J T	/	/	/	/	/	/	/
51	2015-2019/ECE/II/3	Prakash S	/	/	/	/	/	/	/
52	2015-2019/ECE/II/3	Prathiba A	/	/	/	/	/	/	/
53	2015-2019/ECE/II/3	Praveen Kumar V	/	/	/	/	/	/	/
54	2015-2019/ECE/II/3	Shammukapriyan R	/	/	/	/	/	/	/
55	2015-2019/ECE/II/3	Sharulatha S	/	/	/	/	/	/	/
56	2015-2019/ECE/II/3	Soundarya R	/	/	A	/	/	/	/
57	2015-2019/ECE/II/3	Stanley Arrockiaraj S	/	/	/	/	/	/	/
58	2015-2019/ECE/II/3	Altwin Willbert G	/	/	/	/	/	/	/

*J. N. Jes*  
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VAC co-ordinator  
*D. Mehta*  
(G. Merlin)



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### TIME TABLE - PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO

Date	8.00 am to 10.00 am	10.00 am to 10.15 am	10.15 am to 12.00 Noon	12.00 Noon to 12.45 pm	12.45 pm to 02.45 pm
17.10.16	Introduction – Embedded system – Microcontroller/Microprocessor - Types – Pin Details		Difference – Real time Application		Arduino Introduction – Atmega32 Microcontroller – Arduino Pin Details – Specification of Arduino Prototypes Types – Interface with computer
18.10.16	Installation of Arduino IDE – Configuration Setting	Break	Testing Arduino Board – Working With Arduino IDE	Lunch	Explanation of Structure, Functions, Variables, Data Types – Sample Program.
19.10.16	Installation of Proteus 7 IDE – Working With Proteus ISIS Circuit Simulator		Draw Sample Circuit – Run Simulation		Blinking LED and IR module Program
20.10.16	Button Program, Loop Program		Analog Input Program, Physical Pixel Program		Buzzer Program, RGB LED Program, Phototransistor Program
21.10.16	Proteus Simulation of Servo Motor using Arduino, Motor Driver Program		Proteus Simulation of Serial Communication Using Arduino, Relay Driver and Debounce Program		Fading and Temperature sensor Program – Explanation – Upload to Arduino Board – Testing Output
24.10.16	7-segment Display and Knock Program, Boolean		Pot Control Motor Speed		Upload to Arduino

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	and Humidity Program, Battery tester and Photo cell Program		Program, Knight Rider Program, Home Automation Program – Explanation		Board – Testing Output – Proteus General Simulation.
<b>25.10.16</b>	Proteus 7 IDE – Working With Proteus ARES PCB Design		Draw Sample Layout – Routing – DRC Check		Output View as 3D Image. PCB fabrication

**Training Staff Incharge:**

1. Ms.G.Merine AP/ECE
2. Ms.R.Deepa AP/ECE

G.Merine  
G.Deepa

J.Whe  
HOD

D.N.H

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## **PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO & ROBOTICS**

### **SUMMARY REPORT**

Department of Electronics and Communication Engineering has organized Anna University Approved value added course on “PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO & ROBOTICS” from **17.10.16** to **25.10.16** in Block 1 of Micro processor and Micro controller Laboratory for all third year students for a duration of 30 Hrs. Total of 79 students enrolled in the course. Evaluation process is carried out through internal assessment and the same was reported to the Anna University. The students were graded based on the internal assessment and all the enrolled students completed the course successfully. The course has provided sufficient training for individuals to develop their interpersonal skills and knowledge for creating innovative projects. The training covers effective teaching learning process to enhance their level of understanding in Arduino board and PCB design. The students have gained sufficient potential to create new projects thereby improving the knowledge on embedded system as well as enhancing their interpersonal skills.

*M. Merlin*

**VAC Co Ordinator**

*(Cg. MERLIN)*

*D. H. Raja*

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*L. N. L.*

**HOD**



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**VALUE ADDED COURSE- FEEDBACK FORM**

Academic Year : 2016 - 2017 Year/Sem: I U 105

Name of the VAC Coordinator : G. MERLIN

VAC Duration : 17/10/16 to 25/10/16

Name (Optional) :

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?	✓			
2	How interested were the content present at VAC?	✓			
3	How useful was the VAC from the knowledge and information point of view		✓		
4	The VAC Presented were congruent with the VAC syllabus	✓			
5	How well was the event space set up?		✓		
6	Expert technical knowledge of the subject		✓		
7	The expert provided adequate time for asking questions and answered them effectively	✓			
8	The materials Provided were useful	✓			
9	The experts demonstrated student centered learning strategies and techniques	✓			
10	Overall effectiveness of the program		✓		

Any Additional comments and suggestions for improvement:----- N/L

L.N. Hemalatha

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# **CURRICULUM FOR PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO & ROBOTICS**

## **Course Objective:**

- To learn the basic structure of embedded systems.
  - To understand the basic concept of Robotics with Arduino IDE
  - To apply the PCB fabrication process.
  - To be familiar with embedded computing platform design and analysis
  - To design a system, component or process to meet desired needs within realistic constraints.

UNIT – I	INTRODUCTION	3 T + 3 P
Introduction – Embedded system – Microcontroller/Microprocessor - Types – Pin Details - Difference – Real time Application. Arduino Introduction – Atmega32 Microcontroller – Arduino Pin Details – Specification of Arduino Prototypes – Types – Interface with computer. Installation of Arduino IDE – Configuration Setting – Testing Arduino Board – Working With Arduino IDE - Explanation of Structure, Functions, Variables, Data Types – Sample Program.		

**UNIT – II**                   **INTRODUCTION TO ARDUINO**                   **3 T+ 3 P**

Installation of Proteus 7 IDE – Working With Proteus ISIS Circuit Simulator – Draw Sample Circuit – Run Simulation. Blinking LED and IR module Program, Button Program, Loop Program, Analog Input Program, Physical Pixel Program, Buzzer Program, RGB LED Program, Phototransistor Program, Proteus Simulation of Servo Motor using Arduino, Motor Driver Program, Proteus Simulation of Serial Communication Using Arduino, Relay Driver and Debounce Program, Fading and Temperature sensor Program – Explanation – Upload to Arduino Board – Testing Output.

<b>UNIT – III</b>	<b>ADVANCE PROGRAMMING IN ARDUINO</b>	<b>3 T+ 3 P</b>
7-segment Display and Knock Program, Boolean and Humidity Program, Battery tester and Photo cell Program, Pot Control Motor Speed Program, Knight Rider Program, Home Automation Program – Explanation – Upload to Arduino Board – Testing Output – Proteus General Simulation.		

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**UNIT – IV****PCB DESIGN****3T+ 3P**

Proteus 7 IDE – Working With Proteus ARES PCB Design – Draw Sample Layout – Routing – DRC Check – Output View as 3D Image. PCB fabrication.

**UNIT – V****ROBOTICS****3T+ 3 P**

Assemble Robotic Parts – Circuit Construction for Line Follower Robot and Obstacles Avoider Robot, Circuit Construction for Light Seeking Robot and TV Remote Control Robot, Circuit Construction for Bluetooth control Robot and RF Control Robot – Testing Robots.

**Total Hours (15 Theory + 15 Practical) : 30 hrs.**

**Course Outcomes**

- Understanding of Embedded system, programming.
- Analyze Programming concepts of Arduino Microcontroller with various interfaces like memory & I/O devices.
- Apply the PCB Design and fabrication concepts.
- Design the robot using microcontroller for various applications.

**Text Book:**

1. Marilyn Wolf, "Computers as Components - Principles of Embedded Computing System Design", Third Edition, Morgan Kaufmann Publisher. ISBN: 9780123884428, 2012.

**Reference Book:**

1. Simon Monk, Duncan Amos, "Make Your Own PCBs with EAGLE: From Schematic Designs to Finished Boards", 2nd Edition, Kindle Edition, McGraw-Hill Education, ISBN-13: 978-1260019193, ISBN-10: 1260019195.
2. Michael McRoberts, Beginning Arduino, Technology in action publications.
3. Simon, D.E., An Embedded Software Primer, Dorling Kindersley, 2005.
4. K.V.K.K.Prasad, "Embedded Real-Time Systems: Concepts, Design & Programming", Dream Tech Press, 2005.



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**TIME TABLE - PCB DESIGN, EMBEDDED SYSTEM  
INTERFACING WITH ARDUINO**

Date	11:15 am - 12:00 pm	11:00 Noon to 12:45 pm	12:45 pm - 02:45 pm
29.6.17	Introduction – Embedded system –		Microcontroller/Microprocessor - Types – Pin Details
06.07.2017	Real time Application. Arduino Introduction – Atmega32 Microcontroller – Arduino Pin Details		Specification of Arduino Prototypes – Types – Interface with computer.
13.7.17	Installation of Arduino IDE – Configuration Setting – Testing Arduino Board – Working With Arduino IDE	Lunch	Explanation of Structure, Functions, Variables, Data Types – Sample Program.
20.7.2017	Installation of Proteus 7 IDE – Working With Proteus ISIS Circuit Simulator		Draw Sample Circuit – Run Simulation.
27.7.2017	Blinking LED and IR module Program, Button Program		Loop Program, Analog Input Program, Physical Pixel Program, Buzzer Program
3.8.2017	RGB LED Program, Phototransistor Program, Proteus Simulation of Servo Motor using Arduino, Motor Driver Program, Proteus Simulation of Serial Communication Using Arduino		Rela Driver and Debounce Program, Fading and Temperature sensor Program – Explanation – Upload to Arduino Board – Testing Output.
10.8.2017	7-segment Display and Knock Program		Boolean and Humidity Program, Battery tester and Photo cell Program
17.8.2017	Pot Control Motor		Upload to Arduino Board – Testing Output

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	Speed Program, Knight Rider Program		
7.9.2017	Home Automation Program – Explanation		Proteus General Simulation.
18.11.2017	Proteus 7 IDE – Working With Proteus ARES PCB Design		Draw Sample Layout
20.11.2017	DRC Check – Output View as 3D Image		PCB fabrication
21.11.17	Assemble Robotic Parts		Circuit Construction for Line Follower Robot and Obstacles Avoider Robot
25.11.2017	Circuit Construction for Light Seeking Robot and TV Remote Control Robot		Circuit Construction for Bluetooth control Robot and RF Control Robot – Testing Robots

Training Staff Incharge:

1. Mr.Thandaiahprabu AP/ECE
2. Mrs.Benisha AP/ECE

*eeey*  
HOD

(Dr.S.Arun)

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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
PCB DESIGN,MBEDDED SYSTEM INTERFACING WITH ARDUINO & ROBOTICS**

2017-2018

**STUDENT ATTENDANCE DETAILS**

SL.NO	BATCH/SEM/DEPT/STAR/SEM	NAME OF THE STUDENT	29/6/17	6/7/2017	13/7/17	20/7/17	27/7/17	3/8/17	10/8/17	17/8/17	24/8/17	31/8/17	14/9/17	21/9/17	28/9/17	5/10/17
1	2016-2020 ECE II/3	Swedha E.	/	/	A	/	/	/	/	/	/	/	/	/	/	/
2	2016-2020 ECE II/3	Nikitha T.	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	2016-2020 ECE II/3	Hemapriya S. I	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4	2016-2020 ECE II/3	Madhumitha D	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	2016-2020 ECE II/3	Sowmya S	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	2016-2020 ECE II/3	Priscilla X	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	2016-2020 ECE II/3	Vaidhavy D	/	/	/	/	/	/	/	/	/	/	/	/	/	/
8	2016-2020 ECE II/3	Umaresh Raj J	A	/	/	/	/	/	/	/	/	/	/	/	/	/
9	2016-2020 ECE II/3	Priyadarshini A	/	/	/	/	/	/	/	/	/	/	/	/	/	/
10	2016-2020 ECE II/3	Aghile A.M	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11	2016-2020 ECE II/3	Akhil D George	/	/	/	/	/	/	/	/	/	/	/	/	/	/
12	2016-2020 ECE II/3	Anumardhika K S	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13	2016-2020 ECE II/3	Arulengnathivaraman C	/	/	/	/	/	/	/	/	/	/	/	/	/	/
14	2016-2020 ECE II/3	Aarthik Alif	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15	2016-2020 ECE II/3	Ashwini L	/	/	/	/	/	/	/	/	/	/	/	/	/	/
16	2016-2020 ECE II/3	Betty Vetalin Raj.B	/	/	/	/	/	/	/	/	/	/	/	/	/	/
17	2016-2020 ECE II/3	Dharanabakshi.V	/	/	/	/	/	/	/	/	/	/	/	/	/	/
18	2016-2020 ECE II/3	Gowri M	/	A	/	/	/	/	/	/	/	/	/	/	/	/
19	2016-2020 ECE II/3	Haridevika B P.L	/	/	/	/	/	/	/	/	/	/	/	/	/	/
20	2016-2020 ECE II/3	Hema Malathi K	/	/	/	/	/	/	/	/	/	/	/	/	/	/
21	2016-2020 ECE II/3	Hemanthi.C.A	/	/	/	/	/	/	/	/	/	/	/	/	/	/
22	2016-2020 ECE II/3	Jaher Paul David S.J	/	/	/	/	/	/	/	/	/	/	/	/	/	/
23	2016-2020 ECE II/3	Katili S	/	/	/	/	/	/	/	/	/	/	/	/	/	/
24	2016-2020 ECE II/3	Karthikayen S	/	/	/	/	/	/	/	/	/	/	/	/	/	/
25	2016-2020 ECE II/3	Kayalthi S	/	/	/	/	/	/	/	/	/	/	/	/	/	/
26	2016-2020 ECE II/3	Kearthika R	/	/	/	/	/	/	/	/	/	/	/	/	/	/
27	2016-2020 ECE II/3	Krithika S	/	/	/	/	/	/	/	/	/	/	/	/	/	/
28	2016-2020 ECE II/3	Leena S	/	/	/	/	/	/	/	/	/	/	/	/	/	/
29	2016-2020 ECE II/3	Matahi K	/	/	/	/	/	/	/	/	/	/	/	/	/	/
30	2016-2020 ECE II/3	Mandakaran V	/	/	/	/	/	/	/	/	/	/	/	/	/	/
31	2016-2020 ECE II/3	Meenakshi M	/	/	/	/	/	/	/	/	/	/	/	/	/	/
32	2016-2020 ECE II/3	Meghaladhi P.R	/	/	/	/	/	/	/	/	/	/	/	/	/	/
33	2016-2020 ECE II/3	Moniasha R	/	/	/	/	/	/	/	/	/	/	/	/	/	/
34	2016-2020 ECE II/3	Mugesh Kumar M	/	/	/	/	/	/	/	/	/	/	/	/	/	/
35	2016-2020 ECE II/3	Navneet Kumar M	/	A	/	/	/	/	/	/	/	/	/	/	/	/
36	2016-2020 ECE II/3	Pradeepa K	/	/	/	/	/	/	/	/	/	/	/	/	/	/
37	2016-2020 ECE II/3	Priya Dharschini S	OP	/	/	/	/	/	/	/	/	/	/	/	/	/
38	2016-2020 ECE II/3	Rajasekar M	/	/	/	/	/	/	/	/	/	/	/	/	/	/
39	2016-2020 ECE II/3	Revathi C	/	/	/	/	/	/	/	/	/	/	/	/	/	/
40	2016-2020 ECE II/3	Revathy K	/	/	/	/	/	/	/	/	/	/	/	/	/	/
41	2016-2020 ECE II/3	Sambavi S	/	/	/	/	/	/	/	/	/	/	/	/	/	/
42	2016-2020 ECE II/3	Sadhye R	/	/	/	/	/	/	/	/	/	/	/	/	/	/
43	2016-2020 ECE II/3	Shalmi D	/	/	/	/	/	/	/	/	/	/	/	/	/	/
44	2016-2020 ECE II/3	Shilpa R	/	/	/	/	/	/	/	/	/	/	/	/	/	/
45	2016-2020 ECE II/3	Sivakarthi S A V	/	/	/	/	/	/	/	/	/	/	/	/	/	/
46	2016-2020 ECE II/3	Sivakarthi S A V	/	/	/	/	/	/	/	/	/	/	/	/	/	/
47	2016-2020 ECE II/3	Swadha G	/	/	/	/	/	/	/	/	/	/	/	/	/	/
48	2016-2020 ECE II/3	Vignesh P	/	/	/	/	/	/	/	/	/	/	/	/	/	/
49	2016-2020 ECE II/3	Vijayalakshmi K	/	/	/	/	/	/	/	/	/	/	/	/	/	/
50	2016-2020 ECE II/3	Navaneet Kumar D	A	/	/	/	/	/	/	/	/	/	/	/	/	/
51	2015-2019 ECE II/5	Francis Diana A	/	/	/	/	/	/	/	/	/	/	/	/	/	/
52	2015-2019 ECE II/5	Kalaiswari R	/	/	/	/	/	/	/	/	/	/	/	/	/	/
53	2015-2019 ECE II/5	Kannimadevi K S	/	/	/	/	/	/	/	/	/	/	/	/	/	/
54	2015-2019 ECE II/5	Kannimozhi R	/	/	/	/	/	/	/	/	/	/	/	/	/	/
55	2015-2019 ECE II/5	Kannimozhi S	/	/	/	/	/	/	/	/	/	/	/	/	/	/
56	2015-2019 ECE II/5	Karunava D S	/	A	/	/	/	/	/	/	/	/	/	/	/	/
57	2015-2019 ECE II/5	Karthikamai P	/	/	/	/	/	/	/	/	/	/	/	/	/	/
58	2015-2019 ECE II/5	Linda Gladis R J	/	/	/	/	/	/	/	/	/	/	/	/	/	/
59	2015-2019 ECE II/5	Nivedha J T	/	/	/	/	/	/	/	/	/	/	/	/	/	/
60	2015-2019 ECE II/5	Parthiba A	/	/	/	/	/	/	/	/	/	/	/	/	/	/
61	2015-2019 ECE II/5	Shravani S	/	/	/	/	/	/	/	/	/	/	/	/	/	/
62	2015-2019 ECE II/5	Yogapriya K	/	/	/	/	/	/	/	/	/	/	/	/	/	/
63	2015-2019 ECE II/5	Sharmista Nafrin M	/	/	/	/	/	/	/	/	/	/	/	/	/	/
64	2016-2020 EEE II/3	AMMED MOHAMED J	/	/	/	/	/	/	/	a	/	/	/	/	/	/
65	2016-2020 EEE II/3	SIVABALAN A	/	/	/	/	/	/	/	/	/	/	/	/	/	/
66	2016-2020 EEE II/3	KANNAN P	/	A	/	/	/	/	/	/	/	/	/	/	/	/
67	2016-2020 EEE II/3	SANJAI KUMAR D	/	/	/	/	/	/	/	/	/	/	/	/	/	/
68	2016-2020 EEE II/3	SOWNDYA M	/	/	/	/	/	/	/	/	/	/	/	/	/	/
69	2016-2020 EEE II/3	YUVARAJ K	/	/	/	/	/	/	/	/	/	/	/	/	/	/
70	2016-2020 EEE II/3	LALITH KUMAR R	/	/	/	/	/	/	/	/	/	/	/	/	/	/
71	2016-2020 EEE II/3	NAVEEN KUMAR V	/	/	/	/	/	/	/	/	a	/	/	/	/	/
72	2016-2020 EEE II/3	KEERTHANA A	/	/	/	/	/	/	/	/	/	/	/	/	/	/
73	2016-2020 EEE II/3	PRATEEHSHE A	/	/	/	/	/	/	/	/	/	/	/	/	/	/
74	2016-2020 EEE II/3	POONGSHI KUMAR S	/	/	/	/	/	/	/	/	/	/	/	/	/	/
75	2016-2020 EEE II/3	JAYACHANDRAN K	/	A	/	/	/	/	/	/	/	/	/	/	/	/
76	2015-2019 EEE II/5	NAVANEETHA KRISHNAN M	/	/	/	/	/	/	/	/	/	/	/	/	/	/
77	2015-2019 EEE II/5	RAMPRASATH R	/	/	/	/	/	/	/	/	/	/	/	/	/	/
78	2015-2019 EEE II/5	PREETHI B	/	/	/	/	/	/	/	/	/	/	/	/	/	/
79	2015-2019 EEE II/5	VENUKA P	/	/	/	/	/	/	/	/	/	/	/	/	/	/

*D.N.W*  
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VAC CO-ORDINATOR  
*(M. Benisha)*



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ISO 9001:2015

## **PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO &ROBOTICS**

### **SUMMARY REPORT**

Department of Electronics and Communication Engineering has organized Anna University Approved value added course on “PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO &ROBOTICS” from 15.07.2017 to 23.11.2017 in Block 1 of Micro processor and Micro controller Laboratory for all third year students for a duration of 30 Hrs. Total of 79 students enrolled in the course. Evaluation process is carried out through internal assessment and the same was reported to the Anna University. The students were graded based on the internal assessment and all the enrolled students completed the course successfully. The course has provided sufficient training for individuals to develop their interpersonal skills and knowledge for creating innovative projects. The training covers effective teaching learning process to enhance their level of understanding in Arduino board and PCB design. The students have gained sufficient potential to create new projects thereby improving the knowledge on embedded system as well as enhancing their interpersonal skills.

**CM Benisha**  
**VAC Co Ordinator**

**J.N.W**  
**PRINCIPAL**  
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**KUNNAM, SUNGUVARCHATRAM,**  
**SRIPERUMBUDUR - 631604.**

**Dr S Arul**  
**HOD**



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**VALUE ADDED COURSE- FEEDBACK FORM**

Academic Year : 2017-2018 Year/Sem:

Name of the VAC Coordinator : Mrs. BENISHA

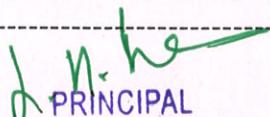
VAC Duration : 15/07/2017 - 23/11/2017

Name (Optional) :

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?	✓			
2	How interested were the content present at VAC?	✓			
3	How useful was the VAC from the knowledge and information point of view		✓		
4	The VAC Presented were congruent with the VAC syllabus	✓			
5	How well was the event space set up?		✓		
6	Expert technical knowledge of the subject	✓			
7	The expert provided adequate time for asking questions and answered them effectively	✓			
8	The materials Provided were useful		✓		
9	The experts demonstrated student centered learning strategies and techniques	✓			
10	Overall effectiveness of the program	✓			

Any Additional comments and suggestions for improvement:----- M. -----

  
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**VALUE ADDED COURSE DETAILS**  
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
ACADEMIC YEAR 2017-2018

S.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE ORGANIZATION	CERTIFICATE(YES/NO)
1	2016-2020/ECE/IU/3	Swetha K	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
2	2016-2020/ECE/IU/3	Nikitha T	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
3	2016-2020/ECE/IU/3	Hemapriya S T	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
4	2016-2020/ECE/IU/3	Madhumitha.B	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
5	2016-2020/ECE/IU/3	Sowmya S	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
6	2016-2020/ECE/IU/3	Priscilla X	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
7	2016-2020/ECE/IU/3	Vaishnavi D	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
8	2016-2020/ECE/IU/3	Hemanth Raj J	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
9	2016-2020/ECE/IU/3	Priyadarshini A	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
10	2016-2020/ECE/IU/3	Aghile A.M	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
11	2016-2020/ECE/IU/3	Akhil D George	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
12	2016-2020/ECE/IU/3	Amukarthika K S	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
13	2016-2020/ECE/IU/3	Arulmozhivarman.C	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
14	2016-2020/ECE/IU/3	Ashik Ali.L	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
15	2016-2020/ECE/IU/3	Ashwini L	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
16	2016-2020/ECE/IU/3	Betty Vefelin Raj.B	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
17	2016-2020/ECE/IU/3	Dhanalakshmi.V	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
18	2016-2020/ECE/IU/3	Gowri M	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
19	2016-2020/ECE/IU/3	Harideepika B P L	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
20	2016-2020/ECE/IU/3	Hemalatha.K	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
21	2016-2020/ECE/IU/3	Hiranmaje.A	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
22	2016-2020/ECE/IU/3	Jabez Paul David.S.I	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
23	2016-2020/ECE/IU/3	Kabil.S	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
24	2016-2020/ECE/IU/3	Karthikyan S	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
25	2016-2020/ECE/IU/3	Kayathiri S	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
26	2016-2020/ECE/IU/3	Keerthika E	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
27	2016-2020/ECE/IU/3	Krithika S	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
28	2016-2020/ECE/IU/3	Leena S	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
29	2016-2020/ECE/IU/3	Malathi K	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
30	2016-2020/ECE/IU/3	Manokaran V	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
31	2016-2020/ECE/IU/3	Meenakshi M	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
32	2016-2020/ECE/IU/3	Meghaladevi P R	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
33	2016-2020/ECE/IU/3	Monisha R	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
34	2016-2020/ECE/IU/3	Mugesh Kumar.M	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
35	2016-2020/ECE/IU/3	Naveen Kumar M	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
36	2016-2020/ECE/IU/3	Prathika K	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
37	2016-2020/ECE/IU/3	Priya Dharshani S	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
38	2016-2020/ECE/IU/3	Rajasekar M	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
39	2016-2020/ECE/IU/3	Revathi C	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
40	2016-2020/ECE/IU/3	Revathy K	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
41	2016-2020/ECE/IU/3	Sambavi S	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
42	2016-2020/ECE/IU/3	Satlyn R	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
43	2016-2020/ECE/IU/3	Shafini D	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
44	2016-2020/ECE/IU/3	Shipra R	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
45	2016-2020/ECE/IU/3	Sivakeerthana A V	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
46	2016-2020/ECE/IU/3	Sowmya J	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
47	2016-2020/ECE/IU/3	Swathika G	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
48	2016-2020/ECE/IU/3	Vignesh P	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
49	2016-2020/ECE/IU/3	Vishali K	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
50	2016-2020/ECE/IU/3	Naveen Kumar D	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
51	2015-2019/ECE/IU/5	Francis Diana A	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
52	2015-2019/ECE/IU/5	Kalaiavani R	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
53	2015-2019/ECE/IU/5	Kanimozhi K S	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
54	2015-2019/ECE/IU/5	Kanimozhi R	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
55	2015-2019/ECE/IU/5	Kanimozhi S	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
56	2015-2019/ECE/IU/5	Karunuya D S	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
57	2015-2019/ECE/IU/5	Keerthana P	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
58	2015-2019/ECE/IU/5	Linda Gladys R I	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
59	2015-2019/ECE/IU/5	Nivedha J T	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
60	2015-2019/ECE/IU/5	Prathiba A	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
61	2015-2019/ECE/IU/5	Sharulata S	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
62	2015-2019/ECE/IU/5	Yogapriya K	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
63	2015-2019/ECE/IU/5	Shashmitha Nafrin M	Pcb Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
64	2016-2020/EEE/IU/3	AHMED MOHAMED J	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
65	2016-2020/EEE/IU/3	SIVABALAN A	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
66	2016-2020/EEE/IU/3	KANNAN P	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
67	2016-2020/EEE/IU/3	SANJAI KUMAR D	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
68	2016-2020/EEE/IU/3	SOWMYA M	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
69	2016-2020/EEE/IU/3	YUVARAJ K	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
70	2016-2020/EEE/IU/3	LALITH KUMAR R	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
71	2016-2020/EEE/IU/3	NAVEEN KUMAR V	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
72	2016-2020/EEE/IU/3	KEERTHANA A	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
73	2016-2020/EEE/IU/3	PRATHEESH A	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
74	2016-2020/EEE/IU/3	DINESH KUMAR S	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
75	2016-2020/EEE/IU/3	JAYACHANDRAN K	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
76	2015-2019/EEE/III/5	NAVANEETHA KRISHNAN M	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
77	2015-2019/EEE/III/5	RAMPRASATH R	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
78	2015-2019/EEE/III/5	FREETHI B	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
79	2015-2019/EEE/III/5	VENUKA P	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES

VAC CO-ORDINATOR

(M. Benisha)

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# **CURRICULUM FOR PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO & ROBOTICS**

## **Course Objective:**

- To learn the basic structure of embedded systems.
  - To understand the basic concept of Robotics with Arduino IDE
  - To apply the PCB fabrication process.
  - To be familiar with embedded computing platform design and analysis
  - To design a system, component or process to meet desired needs within realistic constraints.

<b>UNIT – I</b>	<b>INTRODUCTION</b>	<b>3 T + 3 P</b>
Introduction – Embedded system – Microcontroller/Microprocessor - Types – Pin Details - Difference – Real time Application. Arduino Introduction – Atmega32 Microcontroller – Arduino Pin Details – Specification of Arduino Prototypes – Types – Interface with computer. Installation of Arduino IDE – Configuration Setting – Testing Arduino Board – Working With Arduino IDE - Explanation of Structure, Functions, Variables, Data Types – Sample Program.		
<b>UNIT – II</b>	<b>INTRODUCTION TO ARDUINO</b>	<b>3 T+ 3 P</b>
Installation of Proteus 7 IDE – Working With Proteus ISIS Circuit Simulator – Draw Sample Circuit – Run Simulation. Blinking LED and IR module Program, Button Program, Loop Program, Analog Input Program, Physical Pixel Program, Buzzer Program, RGB LED Program, Phototransistor Program, Proteus Simulation of Servo Motor using Arduino, Motor Driver Program, Proteus Simulation of Serial Communication Using Arduino, Relay Driver and Debounce Program, Fading and Temperature sensor Program – Explanation – Upload to Arduino Board – Testing Output.		
<b>UNIT – III</b>	<b>ADVANCE PROGRAMMING IN ARDUINO</b>	<b>3 T+ 3 P</b>
7-segment Display and Knock Program, Boolean and Humidity Program, Battery tester and Photo cell Program, Pot Control Motor Speed Program, Knight Rider Program, Home Automation Program – Explanation – Upload to Arduino Board – Testing Output – Proteus General Simulation.		

  
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<b>UNIT – IV</b>	<b>PCB DESIGN</b>	<b>3T+ 3P</b>
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Proteus 7 IDE – Working With Proteus ARES PCB Design – Draw Sample Layout – Routing – DRC Check – Output View as 3D Image. PCB fabrication.

<b>UNIT – V</b>	<b>ROBOTICS</b>	<b>3T+ 3 P</b>
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Assemble Robotic Parts – Circuit Construction for Line Follower Robot and Obstacles Avoider Robot, Circuit Construction for Light Seeking Robot and TV Remote Control Robot, Circuit Construction for Bluetooth control Robot and RF Control Robot – Testing Robots.

**Total Hours (15 Theory + 15 Practical) : 30 hrs.**

**Course Outcomes**

- Understanding of Embedded system, programming.
- Analyze Programming concepts of Arduino Microcontroller with various interfaces like memory & I/O devices.
- Apply the PCB Design and fabrication concepts.
- Design the robot using microcontroller for various applications.

**Text Book:**

1. Marilyn Wolf, "Computers as Components - Principles of Embedded Computing System Design", Third Edition, Morgan Kaufmann Publisher. ISBN: 9780123884428, 2012.

**Reference Book:**

1. Simon Monk, Duncan Amos, "Make Your Own PCBs with EAGLE: From Schematic Designs to Finished Boards", 2nd Edition, Kindle Edition, McGraw-Hill Education, ISBN-13: 978-1260019193, ISBN-10: 1260019195.
2. Michael McRoberts, Beginning Arduino, Technology in action publications.
3. Simon, D.E., An Embedded Software Primer, Dorling Kindersley, 2005.
4. K.V.K.K.Prasad, "Embedded Real-Time Systems: Concepts, Design & Programming", Dream Tech Press, 2005.

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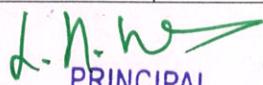
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TIME TABLE - PCB DESIGN, EMBEDDED SYSTEM  
INTERFACING WITH ARDUINO

Date	11.15 am to 12.00 Noon	12.00 to 12.45 pm Noon	12.45 pm to 02.45 pm
<b>MON</b> <b>21.01.2019</b>	Introduction – Embedded system		Microcontroller/Microprocessor - Types – Pin Details - Difference
<b>Tuesday</b> <b>22.1.2019</b>	Real time Application. Arduino Introduction – Atmega32 Microcontroller – Arduino Pin Details		Specification of Arduino Prototypes – Types – Interface with computer
<b>WED</b> <b>23.1.2019</b>	Installation of Arduino IDE – Configuration Setting – Testing Arduino Board – Working With Arduino IDE	Lunch	Explanation of Structure, Functions, Variables, Data Types – Sample Program.
<b>THURS</b> <b>24.1.2019</b>	Installation of Proteus 7 IDE – Working With Proteus ISIS Circuit Simulator		Draw Sample Circuit – Run Simulation.
<b>FRI</b> <b>25.1.2019</b>	Blinking LED and IR module Program, Button Program		Loop Program, Analog Input Program, Physical Pixel Program, Buzzer Program
<b>MON</b> <b>28.1.2019</b>	RGB LED Program, Phototransistor Program, Proteus Simulation of Servo Motor using Arduino, Motor Driver Program, Proteus Simulation of Serial Communication Using Arduino		Driver and Debounce Program, Fading and Temperature sensor Program – Explanation – Upload to Arduino Board – Testing Output.

  
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<b>TUES</b> <b>29.1.2019</b>	7-segment Display and Knock Program		Boolean and Humidity Program, Battery tester and Photo cell Program
<b>WED</b> <b>30.1.2019</b>	Pot Control Motor Speed Program, Knight Rider Program		Upload to Arduino Board – Testing Output
<b>THURS</b> <b>31.1.2019</b>	Home Automation Program – Explanation		Proteus General Simulation.
<b>FRI</b> <b>1.2.2019</b>	Proteus 7 IDE – Working With Proteus ARES PCB Design		Draw Sample Layout
<b>SAT</b> <b>2.2.2019</b>	DRC Check – Output View as 3D Image		PCB fabrication
<b>MON</b> <b>4.2.2019</b>	Assemble Robotic Parts		Circuit Construction for Line Follower Robot and Obstacles Avoider Robot
<b>TUES</b> <b>5.2.2019</b>	Circuit Construction for Light Seeking Robot and TV Remote Control Robot		Circuit Construction for Bluetooth control Robot and RF Control Robot – Testing Robots

Training Staff Incharge:

1. Mr.Thandaiahprabu AP/ECE *Prabu*
2. Mrs.Benisha AP/ECE *Mrs.Benisha*
3. MrM.Siva AP/ECE *Siva*

*eeey*  
HOD *(Dr. S. Anil)*

*J. N. W*  
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## **PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO &ROBOTICS**

### **SUMMARY REPORT**

Department of Electronics and Communication Engineering has organized Anna University Approved value added course on “PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO &ROBOTICS” from 21.01.2019 to 05.02.2019 in Block 1 of Micro processor and Micro controller Laboratory for all third year students for a duration of 30 Hrs. Total of 67 students enrolled in the course. Evaluation process is carried out through internal assessment and the same was reported to the Anna University. The students were graded based on the internal assessment and all the enrolled students completed the course successfully. The course has provided sufficient training for individuals to develop their interpersonal skills and knowledge for creating innovative projects. The training covers effective teaching learning process to enhance their level of understanding in Arduino board and PCB design. The students have gained sufficient potential to create new projects thereby improving the knowledge on embedded system as well as enhancing their interpersonal skills.

*[Signature]*  
**VAC Co Ordinator**  
**(M. Benisha)**

*[Signature]*

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*[Signature]*  
**HOD**  
**(Dr.S.Anul)**



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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO & ROBOTICS

2018-2019

**STUDENT ATTENDANCE DETAILS**

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	21-01-2019	22-01-2019	23-01-2019	24-01-2019	25-01-2019	26-01-2019	27-01-2019	28-01-2019	29-01-2019	30-01-2019	31-01-2019	1/2/19	2/2/19	4/2/19	5/2/19
1	2016-2020/ECE/II/5	ARIVAZHAGAN K	P	/	/	/	/	/	/	/	/	a	a	/	/	/	/
2	2016-2020/ECE/II/5	KHARANIDHARAN S	P	/	/	/	/	/	/	a	/	a	/	/	/	/	/
3	2016-2020/ECE/II/5	DEVAPERUMAL M	/	/	/	/	/	/	/	/	/	a	/	/	/	/	/
4	2016-2020/ECE/II/5	ELANCHEZIAN P K	/	/	/	/	/	/	/	/	/	a	/	/	/	/	/
5	2016-2020/ECE/II/5	GIRIDHARAN R	/	/	/	/	/	/	/	/	/	a	/	/	/	/	/
6	2016-2020/ECE/II/5	GOWRI M	/	/	/	/	a	/	a	/	/	/	/	/	/	/	a
7	2016-2020/ECE/II/5	GOWTHAM D	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
8	2016-2020/ECE/II/5	CURUKARTHIK S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
9	2016-2020/ECE/II/5	HARIHARAN A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
10	2016-2020/ECE/II/5	HARIHARAN S	/	b	/	/	/	a	/	/	/	/	a	/	/	/	/
11	2016-2020/ECE/II/5	HARIHARAN S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
12	2016-2020/ECE/II/5	HARIHARAN V	/	/	/	/	/	/	/	/	/	/	b	a	/	/	/
13	2016-2020/ECE/II/5	HEMALATHA K	/	/	/	/	/	/	/	/	/	/	/	/	a	/	/
14	2016-2020/ECE/II/5	HEMANTH RAJ M	/	/	/	/	/	/	/	/	/	a	/	/	/	/	/
15	2016-2020/ECE/II/5	KALAIYARASAN K	a	/	/	/	/	/	/	/	/	a	/	/	/	/	/
16	2016-2020/ECE/II/5	KIRTHIKA B	/	/	/	/	/	/	/	/	/	a	/	/	/	/	/
17	2016-2020/ECE/II/5	MOHAMMED KAMEEL A	/	/	/	/	/	/	a	/	a	/	/	/	/	/	/
18	2016-2020/ECE/II/5	MOHAMMED WASIM A H	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
19	2016-2020/ECE/II/5	NIRANJAN C B	/	/	/	/	/	/	/	a	/	/	/	/	/	/	/
20	2016-2020/ECE/II/5	PAVITHRA R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
21	2016-2020/ECE/II/5	PRIYANKA D	/	/	a	/	/	/	/	/	/	/	/	/	/	/	/
22	2016-2020/ECE/II/5	RANJITH V	/	/	/	a	/	/	/	/	/	/	/	/	/	/	/
23	2016-2020/ECE/II/5	RIYAZUDDIN A	/	/	/	a	/	/	/	/	/	/	/	/	/	/	/
24	2016-2020/ECE/II/5	SRIKRAM R	/	b	/	/	/	/	/	/	/	/	a	/	/	a	/
25	2016-2020/ECE/II/5	SURYA A	/	/	/	/	/	/	a	/	/	/	/	/	/	/	/
26	2016-2020/ECE/II/5	SURYA PRakash J P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
27	2017-2021/ECE/I/3	AJITH J	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
28	2017-2021/ECE/I/3	AJITH KUMAR N	a	/	/	/	/	/	/	a	/	a	/	/	/	/	/
29	2017-2021/ECE/I/3	AKASH B	a	/	a	/	/	/	/	a	/	/	/	/	/	/	/
30	2017-2021/ECE/I/3	ANBIN D MESHACH	/	/	/	/	/	/	/	/	/	/	a	/	/	/	/
31	2017-2021/ECE/I/3	ASFIYA NAAZ A I	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
32	2017-2021/ECE/I/3	BENIL RICHARDS R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
33	2017-2021/ECE/I/3	CHARMATHI K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
34	2017-2021/ECE/I/3	DRARINI D	a	/	/	/	/	/	a	/	/	/	/	/	/	/	/
35	2017-2021/ECE/I/3	DINU J	/	/	/	/	a	/	/	/	/	/	a	/	/	/	/
36	2017-2021/ECE/I/3	OLVYA R	/	/	/	/	a	/	/	/	/	/	a	/	/	/	/
37	2017-2021/ECE/I/3	DIVYASHREE A	/	/	/	/	a	/	/	/	/	/	/	/	/	/	/
38	2017-2021/ECE/I/3	DONNICK P	/	d	/	/	/	/	/	/	a	/	a	/	/	/	/
39	2017-2021/ECE/I/3	GIRIPRASATH P	/	d	/	/	/	a	/	/	/	a	/	/	/	/	/
40	2017-2021/ECE/I/3	GOPIKA C A	/	/	/	/	/	a	/	/	/	/	a	/	/	/	/
41	2017-2021/ECE/I/3	GOMRI POOJA S	/	a	/	/	/	/	/	/	/	/	/	/	/	/	/
42	2017-2021/ECE/I/3	GOWRI R	/	/	/	/	/	/	a	/	/	/	/	/	/	/	/
43	2017-2021/ECE/I/3	HARITHA R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
44	2017-2021/ECE/I/3	IBNEENSYA R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
45	2017-2021/ECE/I/3	INDIA B S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
46	2017-2021/ECE/I/3	FALALISELVI G	/	/	/	/	/	/	/	a	a	/	/	/	/	/	/
47	2017-2021/ECE/I/3	KARTHIKA R	/	/	/	/	/	/	/	/	a	/	/	/	/	/	/
48	2017-2021/ECE/I/3	KARTHIK R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
49	2017-2021/ECE/I/3	KARUNIYA A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
50	2017-2021/ECE/I/3	PRABAKARAN V	/	/	/	/	/	/	/	a	a	/	/	/	/	/	/
51	2017-2021/ECE/I/3	PRADEEP S	/	/	/	/	/	/	/	a	a	/	/	/	/	/	/
52	2017-2021/ECE/I/3	PRADEEP B T	/	/	/	/	/	/	/	/	/	/	/	/	/	a	/
53	2017-2021/ECE/I/3	PURUSHOTHAMAN U	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
54	2017-2021/ECE/I/3	RAGUL KAMIAH R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
55	2017-2021/ECE/I/3	RAJA ABINALAI P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
56	2017-2021/ECE/I/3	RAJASINDHYA S	/	a	/	/	/	/	/	/	/	/	/	/	/	/	/
57	2017-2021/ECE/I/3	RAMA KRISHNAN S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
58	2017-2021/ECE/I/3	REENA GLADIUS K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
59	2017-2021/ECE/I/3	SANGAVI L	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
60	2017-2021/ECE/I/3	SATHYA A D	/	/	/	a	/	/	/	/	/	/	/	/	/	/	/
61	2017-2021/ECE/I/3	SHACHINIGURU S	/	/	/	a	/	/	/	/	/	/	/	/	/	a	/
62	2017-2021/ECE/I/3	SHALUBHORATHI S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
63	2017-2021/ECE/I/3	THIRUNARASU P	/	a	/	/	/	/	/	/	/	/	/	/	/	/	/
64	2017-2021/ECE/I/3	THILOTHANAH P	/	/	b	a	/	/	/	/	/	/	a	/	/	/	/
65	2017-2021/ECE/I/3	TONIE RALPH C	/	/	/	/	/	/	/	/	/	b	/	a	/	/	/
66	2017-2021/ECE/I/3	VENKATESH J	/	/	/	/	/	/	/	b	/	a	/	a	/	/	/
67	2017-2021/ECE/I/3	YUVRAJAJA K	/	/	/	/	/	/	/	b	/	a	/	a	/	/	/

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**VALUE ADDED COURSE DETAILS**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**ACADEMIC YEAR 2018-2019**

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE ORGANIZATION	CERTIFICATE(YES/NO)
1	2016-2020/ECE/III/5	ARIVAZHAGAN K	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
2	2016-2020/ECE/III/5	BHARANIDHARAN S	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
3	2016-2020/ECE/III/5	DEVAPERUMAL M	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
4	2016-2020/ECE/III/5	ELANCHEZIAN P K	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
5	2016-2020/ECE/III/5	GIRIDHARAN R	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
6	2016-2020/ECE/III/5	GOWRI M	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
7	2016-2020/ECE/III/5	GOWTHAM D	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
8	2016-2020/ECE/III/5	GURUKARTHIK S	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
9	2016-2020/ECE/III/5	HARIHARAN A	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
10	2016-2020/ECE/III/5	HARIHARAN S	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
11	2016-2020/ECE/III/5	HARIHARAN S	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
12	2016-2020/ECE/III/5	HARIHARAN V	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
13	2016-2020/ECE/III/5	HEMALATHA K	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
14	2016-2020/ECE/III/5	HEMANTH RAAJ M	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
15	2016-2020/ECE/III/5	KALAIYARASAN K	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
16	2016-2020/ECE/III/5	KIRTHIKA B	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
17	2016-2020/ECE/III/5	MOHAMED KAMEEL A	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
18	2016-2020/ECE/III/5	MOHAMMED WASIM A H	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
19	2016-2020/ECE/III/5	NIRANJAN C B	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
20	2016-2020/ECE/III/5	PAVITHRA R	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
21	2016-2020/ECE/III/5	PRIYANKKA D	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
22	2016-2020/ECE/III/5	RANJITH V	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
23	2016-2020/ECE/III/5	RIYAZUDDIN A	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
24	2016-2020/ECE/III/5	SRIRAM R	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
25	2016-2020/ECE/III/5	SURYA A	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
26	2016-2020/ECE/III/5	SURYA PRAKASH J P	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
27	2017-2021/ECE/II/3	AJITH J	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
28	2017-2021/ECE/II/3	AJITH KUMAR M	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
29	2017-2021/ECE/II/3	AKASH B	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
30	2017-2021/ECE/II/3	ANBIN D MESHACH	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
31	2017-2021/ECE/II/3	ASFIA NAAZ A I	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
32	2017-2021/ECE/II/3	BENIL RICHARDS R	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
33	2017-2021/ECE/II/3	CHARMATHI K	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
34	2017-2021/ECE/II/3	DHARINI D	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
35	2017-2021/ECE/II/3	DINU J	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
36	2017-2021/ECE/II/3	DIVYA R	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES

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37	2017-2021/ECE/II/3	DIVYASHREE A	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
38	2017-2021/ECE/II/3	DOMINIC P	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
39	2017-2021/ECE/II/3	GIRIPRASATH P	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
40	2017-2021/ECE/II/3	GOPIKA C.A	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
41	2017-2021/ECE/II/3	GOWRI POOJA S	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
42	2017-2021/ECE/II/3	GOWRI R	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
43	2017-2021/ECE/II/3	HARITHA R	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
44	2017-2021/ECE/II/3	INBENSIYA R	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
45	2017-2021/ECE/II/3	INDIA B S	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
46	2017-2021/ECE/II/3	KALAISELVI G	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
47	2017-2021/ECE/II/3	KARTHIGA R	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
48	2017-2021/ECE/II/3	KARTHIK G	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
49	2017-2021/ECE/II/3	KARUNYA A	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
50	2017-2021/ECE/II/3	PRABAKARAN V	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
51	2017-2021/ECE/II/3	PRADEEP S	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
52	2017-2021/ECE/II/3	PRADEEP B T	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
53	2017-2021/ECE/II/3	PURUSHOTHAMAN U	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
54	2017-2021/ECE/II/3	RAGUL KANNAN R	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
55	2017-2021/ECE/II/3	RAJA ANNAMALAI P	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
56	2017-2021/ECE/II/3	RAJASINDIYA S	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
57	2017-2021/ECE/II/3	RAMA KRISHNAN S	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
58	2017-2021/ECE/II/3	REENA GLADIUS K	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
59	2017-2021/ECE/II/3	SANGAVI L	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
60	2017-2021/ECE/II/3	SATHYA A D	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
61	2017-2021/ECE/II/3	SHACHINKGURU.S	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
62	2017-2021/ECE/II/3	SHALUBHARATHI S	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
63	2017-2021/ECE/II/3	THENNARASU P	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
64	2017-2021/ECE/II/3	THILOTHAMAN P	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
65	2017-2021/ECE/II/3	TONIE RAALPH .C	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
66	2017-2021/ECE/II/3	VENKATESH J	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES
67	2017-2021/ECE/II/3	YUVARAJA K	PCB Design, Embedded System Interfacing With Arduino & Robotics	52 Hrs	JIT GLOBAL	YES



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### CURRICULUM FOR PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO & ROBOTICS

#### Course Objective:

- To learn the basic structure of embedded systems.
- To understand the basic concept of Robotics with Arduino IDE
- To apply the PCB fabrication process.
- To be familiar with embedded computing platform design and analysis
- To design a system, component or process to meet desired needs within realistic constraints.

#### UNIT – I

#### INTRODUCTION

3 T + 3 P

Introduction – Embedded system – Microcontroller/Microprocessor - Types – Pin Details - Difference – Real time Application. Arduino Introduction – Atmega32 Microcontroller – Arduino Pin Details – Specification of Arduino Prototypes – Types – Interface with computer. Installation of Arduino IDE – Configuration Setting – Testing Arduino Board – Working With Arduino IDE - Explanation of Structure, Functions, Variables, Data Types – Sample Program.

#### UNIT – II

#### INTRODUCTION TO ARDUINO

3 T+ 3 P

Installation of Proteus 7 IDE – Working With Proteus ISIS Circuit Simulator – Draw Sample Circuit -- Run Simulation. Blinking LED and IR module Program, Button Program, Loop Program, Analog Input Program, Physical Pixel Program, Buzzer Program, RGB LED Program, Phototransistor Program, Proteus Simulation of Servo Motor using Arduino, Motor Driver Program, Proteus Simulation of Serial Communication Using Arduino, Relay Driver and Debounce Program, Fading and Temperature sensor Program – Explanation – Upload to Arduino Board – Testing Output.

#### UNIT – III

#### ADVANCE PROGRAMMING IN ARDUINO

3 T+ 3 P

7-segment Display and Knock Program, Boolean and Humidity Program, Battery tester and Photo cell Program, Pot Control Motor Speed Program, Knight Rider Program, Home Automation Program – Explanation – Upload to Arduino Board – Testing Output – Proteus General Simulation.

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**UNIT – IV****PCB DESIGN****3T+ 3P**

Proteus 7 IDE – Working With Proteus ARES PCB Design – Draw Sample Layout – Routing – DRC Check – Output View as 3D Image. PCB fabrication.

**UNIT – V****ROBOTICS****3T+ 3 P**

Assemble Robotic Parts – Circuit Construction for Line Follower Robot and Obstacles Avoider Robot, Circuit Construction for Light Seeking Robot and TV Remote Control Robot, Circuit Construction for Bluetooth control Robot and RF Control Robot – Testing Robots.

**Total Hours (15 Theory + 15 Practical) : 30 hrs.****Course Outcomes**

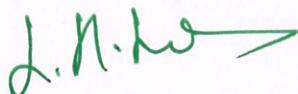
- Understanding of Embedded system, programming.
- Analyze Programming concepts of Arduino Microcontroller with various interfaces like memory & I/O devices.
- Apply the PCB Design and fabrication concepts.
- Design the robot using microcontroller for various applications.

**Text Book:**

1. Marilyn Wolf, "Computers as Components - Principles of Embedded Computing System Design", Third Edition, Morgan Kaufmann Publisher. ISBN: 9780123884428, 2012.

**Reference Book:**

1. Simon Monk, Duncan Amos, "Make Your Own PCBs with EAGLE: From Schematic Designs to Finished Boards", 2nd Edition, Kindle Edition, McGraw-Hill Education, ISBN-13: 978-1260019193, ISBN-10: 1260019195.
2. Michael McRoberts, Beginning Arduino, Technology in action publications.
3. Simon, D.E., An Embedded Software Primer, Dorling Kindersley, 2005.
4. K.V.K.K.Prasad, "Embedded Real-Time Systems: Concepts, Design & Programming", Dream Tech Press, 2005.



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### TIME TABLE- PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO &ROBOTICS

Date	3.00 pm to 3.45 pm	3.45 pm to 4.30 pm
21.8.2019	Introduction – Embedded system – Microcontroller/Microprocessor	Types – Pin Details - Difference – Real time Application.
22.8.2019	Arduino Introduction – Atmega32 Microcontroller – Arduino Pin Details	Specification of Arduino Prototypes – Types – Interface with computer.
27.8.2019	Installation of Arduino IDE – Configuration Setting – Testing Arduino Board	– Working With Arduino IDE - Explanation of Structure, Functions, Variables, Data Types – Sample Program
29.8.2019	Installation of Proteus 7 IDE – Working With Proteus ISIS Circuit Simulator – Draw Sample Circuit	Run Simulation, Blinking LED and IR Infrared Program, Button Program, Loop Program
3.9.2019	Analog Input Program, Physical Pixel Program, Buzzer Program, RGB LED Program	Phototransistor Program, Proteus Simulation of Servo Motor using Arduino, Motor Driver Program
4.9.2019	Proteus Simulation of Serial Communication Using Arduino, Relay Driver and Debounce Program	Fading and Temperature sensor Program – Explanation – Upload to Arduino Board – Testing Output.
5.9.2019	7-segment Display and Knock Program	Boolean and Humidity Program, Battery tester and Photo cell Program
6.9.2019	Pot Control Motor Speed Program, Knight Rider Program	Home Automation Program
9.9.2019	Explanation – Upload to Arduino Board	Testing Output – Proteus General Simulation
11.9.2019	Proteus 7 IDE	Working With Proteus ARES PCB Design
12.9.2019	Draw Sample Layout	Routing – DRC Check
17.9.2019	Output View as 3D Image	PCB fabrication
19.9.2019	Assemble Robotic Parts	Circuit Construction for Line Follower Robot and Obstacles Avoider Robot
24.9.2019	Circuit Construction for Light Seeking	Robot and TV Remote Control Robot
26.9.2019	Circuit Construction for Bluetooth control Robot and RF Control Robot	Testing Robots.

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### EXTERNAL TRAINER DETAILS

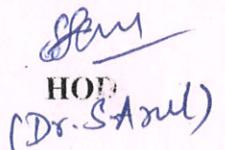
S.No	Name	Designation	Company
1.	Mr. Shabarinath Premalal	Assistant Manager	Respro Labs
2.	Mr. S.Vikram	Senior Technical Lead	Donfoss
3.	Mr. Manikandan	Technical Lead	Samsung R & D
4	Mr. Prabhu	Project Developer	Retech Solutions
5.	Mr.Venkatesh	Training Head	Trios Technologies
6.	Mr.Jay Sarathy	Project Developer	OneYes Technologies

### INTERNAL TRAINER DETAILS

S.No	Name	Designation	Company
1	Ms.R.Rubala	Assistant Professor	Jeppiaar Institute of Technology
2.	Ms.A.Parimala	Assistant Professor	Jeppiaar Institute of Technology
3.	Mr.M.Siva	Assistant Professor	Jeppiaar Institute of Technology



VAC Co Ordinator  
(A.Parimala)



HOD  
(Dr.SAnil)



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## **PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO AND ROBOTICS**

### **SUMMARY REPORT**

Department of Electronics and Communication Engineering has organized Anna University Approved value added course on "PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO &ROBOTICS" from 21.08.2019 to 29.09.2019 in Block 1 of Micro processor and Micro controller Laboratory for all third year students for a duration of 30 Hrs. Total of 20 students enrolled in the course. Evaluation process is carried out through internal assessment and the same was reported to the Anna University. The students were graded based on the internal assessment and all the enrolled students completed the course successfully. The course has provided sufficient training for individuals to develop their interpersonal skills and knowledge for creating innovative projects. The training covers effective teaching learning process to enhance their level of understanding in Arduino board and PCB design. The students have gained sufficient potential to create new projects thereby improving the knowledge on embedded system as well as enhancing their interpersonal skills.

**VAC Co Ordinator**  
(A. Parimala)

**HOD**  
(Dr. S. Arul)

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## **PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO & ROBOTICS**

### **SUMMARY REPORT**

Department of Electronics and Communication Engineering has organized Anna University Approved value added course on “PCB DESIGN, EMBEDDED SYSTEM INTERFACING WITH ARDUINO & ROBOTICS” from 21.01.2019 to 05.02.2019 in Block 1 of Micro processor and Micro controller Laboratory for all third year students for a duration of 52 Hrs. Total of 67 students enrolled in the course and all the students got certified. The course has provided sufficient training for individuals to develop their interpersonal skills and knowledge for creating innovative projects. The training covers effective teaching learning process to enhance their level of understanding in Arduino board and PCB design. The students have gained sufficient potential to create new projects thereby improving the knowledge on embedded system as well as enhancing their interpersonal skills.

*Siva.M.*

**VAC Co Ordinator**

*(M.Siva)*

*Siva*

**HOD**

*(Dr.S.Arul)*

*J.N.W*

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**VALUE ADDED COURSE- FEEDBACK FORM**

Academic Year 2019-2020 : Year/Sem: 11/05

Name of the VAC Coordinator: Ms. parumala

VAC Duration: 21.8.2019 to 26.9.2019

Name (Optional) :

Kindly put a tick mark (✓) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?		✓		
2	How interested were the content present at VAC?	✓			
3	How useful was the VAC from the knowledge and information point of view		✓		
4	The VAC Presented were congruent with the VAC syllabus	✓			
5	How well was the event space set up?	✓			
6	Expert technical knowledge of the subject		✓		
7	The expert provided adequate time for asking questions and answered them effectively		✓		
8	The materials Provided were useful	✓			
9	The experts demonstrated student centered learning strategies and techniques		✓		
10	Overall effectiveness of the program		✓		

Any Additional comments and suggestions for improvement: Good

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VALUE ADDED COURSE DETAILS  
ACADEMIC YEAR 2019-2020

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE CERTIFYING ORGANIZATION	CERTIFICATE(YES/NO)
1	2017-2021/ECE/III/5	Aishwarya V	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
2	2017-2021/ECE/III/5	Akash .U	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
3	2017-2021/ECE/III/5	Alwin Revanth p	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
4	2017-2021/ECE/III/5	Amurun E	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
5	2017-2021/ECE/III/5	Balaji V	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
6	2017-2021/ECE/III/5	Bharath Raj S	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
7	2017-2021/ECE/III/5	Campelt S	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
8	2017-2021/ECE/III/5	Elayavathi E	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
9	2017-2021/ECE/III/5	Hariprasath V	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
10	2017-2021/ECE/III/5	Haripriya H V	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
11	2017-2021/ECE/III/5	Jagadisan S	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
12	2017-2021/ECE/III/5	Loghavapithran S	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
13	2017-2021/ECE/III/5	Nivetha T	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
14	2017-2021/ECE/III/5	Pravin A	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
15	2017-2021/ECE/III/5	Raj O	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
16	2017-2021/ECU/III/5	Saravana Kumar D	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
17	2017-2021/ECE/III/5	Varshiniy M	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
18	2017-2021/ECE/III/5	Vijayanand R	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
19	2017-2021/ECE/III/5	Anbin Meshach	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES
20	2017-2021/ECE/III/5	Avil Anisha A	PCB Design, Embedded System Interfacing with Arduino & Robotics	30 Hrs	Anna University	YES

(A.Parmala)

J. N. H.

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### CURRICULUM FOR UNMANNED AERIAL VEHICLE (DRONE)

#### Course Objective:

- This course prepares students to be able to conduct conceptual design of an Unmanned Aerial Vehicle (UAV) and assess its performance and airworthiness.
- Students will be introduced to the evolution of unmanned platforms, their role and basic functional characteristics. Students will develop a holistic awareness of a range of factors that impact on drone function.

#### UNIT I INTRODUCTION TO DRONE

9

Director General of Civil Aviation (DGCA) regulations & guidelines for Drone Operations, UAV & UAS classifications, Working of Drone & its systems, Navigation & Flight Control systems, Data link and Communication systems, Selection & other systems for respective commercial Applications

#### UNIT II DRONE EQUIPMENTS

9

Introduction to Electrical systems – Motors, Batteries, Propellers & Other electrical systems Avionics Systems Introduction & working, Radio control systems – Transmission & Reception, Drones, First Person View (FPV), Camera Setup & Calibration, Gimbal setup, stabilization & Calibration, Integration of Antennas, Data link & Communication systems

#### UNIT III DRONE REPAIRS & MAINTENANCE

9

UAV maintenance, Complete Drone Calibration & Ground Testing, Dismantling & Assembling

#### UNIT IV DRONE COMMERCIAL APPLICATIONS IN DETAIL

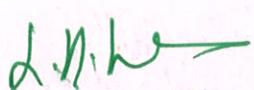
9

Surveying, GIS/Mapping, Inspection – Wind, Solar & Other Utilities, Oil & Gas, Mining, Construction & Infrastructure, Aerial Photography & Cinematography, Search & Rescue, Emergency Response, Disaster Management, Agriculture, Unmanned Cargo System.

#### UNIT V DRONE ADVANTAGES, DEMO & DISCUSSIONS

9

UAV Advantages & disadvantages for each Industry, Cost analysis. Demonstration of

  
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## JEPPIAAR INSTITUTE OF TECHNOLOGY

"Self-Belief | Self Discipline | Self Respect"

### TIME TABLE - UNMANNED AERIAL VEHICLE (DRONE)

Date	12.45 PM to 02.45 PM
20.07.17	Director General of Civil Aviation (DGCA) regulations & guidelines for Drone Operations, UAV & UAS classifications, Working of Drone & its systems.
27.07.19	Navigation & Flight Control systems, Data link and Communication systems.
03.08.17	Selection & other systems for respective commercial Applications.
10.08.17	Introduction to Electrical systems – Motors, Batteries, Propellers & Other electrical systems Avionics Systems Introduction & working.
17.08.17	Radio control systems – Transmission & Reception, Drones, First Person View (FPV), Camera Setup & Calibration.
07.09.17	Gimbal setup, stabilization & Calibration, Integration of Antennas, Data link & Communication systems.
14.09.17	UAV maintenance
04.01.18	Complete Drone Calibration & Ground Testing
11.01.18	Dismantling & Assembling
18.01.18	Surveying, GIS/Mapping, Inspection – Wind, Solar & Other Utilities
25.01.18	Oil & Gas, Mining, Construction & Infrastructure, Aerial Photography & Cinematography
01.02.18	Search & Rescue, Emergency Response, Disaster Management, Agriculture, Unmanned Cargo System
08.02.18	UAV Advantages & disadvantages for each Industry, Cost analysis.
15.02.18	Demonstration of Unmanned Engineeria's Intelligent Industrial Drone,
22.02.18	Discussion on technical, business, commercial & legal aspects of UAV integration into your workflow

#### Training Staff In charge:

1. Ms.S.Aishwarya, AP/MECH

22/01/2018

(Dr. D. Muruganandam)  
HOD/MECH

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**VALUE ADDED COURSE DETAILS  
DEPARTMENT OF MECHANICAL ENGINEERING  
ACADEMIC YEAR 2017-2018**

SL.NO	BATCH/DEPT/YEAR /SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE ORGANIZATION	CERTIFICATE(YES/NO)
1	EEE/2017-18/III/05	NIRANJAN ABISH Y P	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
2	EEE/2017-18/II/03	MOHAMMED IFRAZ C	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
3	ECE/2017-18/II/03	ASHIK ALI L	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
4	MECH/2017-18/II/03	AHIN J	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
5	MECH/2017-18/II/03	BIJILIN ROY C	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
6	MECH/2017-18/II/03	DHAMODHIRAN R	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
7	MECH/2017-18/II/03	DINESH KUMAR K	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
8	MECH/2017-18/II/03	MEGANATHAN R	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
9	MECH/2017-18/II/03	MUTHU A	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
10	MECH/2017-18/II/03	NIRANJANK KUMAR M S	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
11	MECH/2017-18/II/03	RAJESH KANNA R	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
12	MECH/2017-18/II/03	RAJ KUMAR M	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
13	MECH/2017-18/II/03	RATHNAKUMAR M	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
14	MECH/2017-18/II/03	RAXSHITH JESSO D	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
15	MECH/2017-18/II/03	SUBASH S	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
16	MECH/2017-18/II/03	UDHAY SANKAR TV	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
17	MECH/2017-18/II/03	VENGATA KRISHNAN R	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES
18	MECH/2017-18/II/03	VENKADESH A	Unmanned Aerial Vehicle (DRONE)	45 Hrs	JIT GLOBAL	YES

(S. Aishwarya)

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VALLUE ADDED COURSE - UNMANNED AERIAL VEHICLE (DRONE)  
ACADEMIC YEAR 2017-2018

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	20/7	27/7	3/8	10/8	17/8	7/9	14/9	4/11	11/1
1	2015-19/EEE/III/05	NIRANJAN ABISH Y P	/	/	/	/	/	/	/	/	/
2	2015-19/EEE/III/05	MOHAMMED IFRAZ C	/	a	/	/	/	/	/	a	/
3	2016-20/ECE/II/03	ASHIK ALI L	/	/	/	a	/	/	/	/	/
4	2016-20/MECH/II/03	AHIN J	/	/	/	/	/	/	/	/	/
5	2016-20/MECH/II/03	BIJILIN ROY C	/	/	/	/	/	/	/	/	/
6	2016-20/MECH/II/03	DHAMODHIRAN R	/	/	/	/	a	/	/	/	/
7	2016-20/MECH/II/03	DINESH KUMAR K	/	/	/	/	a	/	/	/	/
8	2016-20/MECH/II/03	MEGANATHAN R	/	/	/	/	/	/	/	/	/
9	2016-20/MECH/II/03	MUTHU A	/	/	/	/	/	/	/	/	/
10	2016-20/MECH/II/03	NIRANJANK KUMAR M S	/	/	/	/	/	/	/	/	/
11	2016-20/MECH/II/03	RAJESH KANNA R	/	/	/	/	/	/	/	/	/
12	2016-20/MECH/II/03	RAJ KUMAR M	/	/	/	/	/	/	/	/	/
13	2016-20/MECII/II/03	RATHNAKUMAR M	/	/	a	/	/	/	/	/	/
14	2016-20/MECH/II/03	RAXSHITH JESSO D	/	/	/	/	/	/	/	/	/
15	2016-20/MECH/II/03	SUBASH S	/	/	/	/	/	/	/	/	/
16	2016-20/MECH/II/03	UDHAY SANKAR TV	/	/	/	/	/	/	/	/	/
17	2016-20/MECH/II/03	VENGATA KRISHNAN R	/	/	/	/	/	/	/	/	/
18	2016-20/MECH/II/03	VENKADESH A	/	/	/	/	/	/	a	/	/
Total Strength			18	18	18	18	18	18	18	18	18
Total Present			18	17	17	17	16	18	18	18	18
Total Absent			-	1	1	1	2	-	2	-	-
Signature			✓	✓	✓	✓	✓	✓	✓	✓	✓

J. N. W.

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## VALUUE ADDED COURSE - UNMANNED AERIAL VEHICLE (DRONE)

ACADEMIC YEAR 2017-2018

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	18/1	25/1	1/2	8/2	15/2	22/2			
1	2015-19/EEE/II/05	NIRANJAN ABISH Y P	/	/	/	/	/	/			
2	2015-19/EEE/II/05	MOHAMMED IFRAZ C	/	a	/	/	/	/			
3	2016-20/ECE/II/03	ASHIK ALI L	/	a	/	/	/	/			
4	2016-20/MECH/II/03	AHIN J	/	/	/	/	/	/			
5	2016-20/MECH/II/03	BIJILIN ROY C	/	/	/	/	/	/			
6	2016-20/MECH/II/03	DHAMODHIRAN R	/	/	/	/	/	/			
7	2016-20/MECH/II/03	DINESH KUMAR K	/	/	/	/	/	/			
8	2016-20/MECH/II/03	MEGANATHAN R	/	/	/	/	/	/			
9	2016-20/MECH/II/03	MUTHU A	/	/	/	/	/	/			
10	2016-20/MECH/II/03	NIRANJANK KUMAR M S	/	a	/	/	/	/			
11	2016-20/MECH/II/03	RAJESH KANNA R	/	/	/	/	/	/			
12	2016-20/MECH/II/03	RAJ KUMAR M	/	/	/	/	/	/			
13	2016-20/MECH/II/03	RATHNAKUMAR M	/	/	/	/	/	/			
14	2016-20/MECH/II/03	RAXSHITH JESSO D	/	/	/	/	/	/			
15	2016-20/MECH/II/03	SUBASH S	/	/	/	/	/	/			
16	2016-20/MECH/II/03	UDHAY SANKAR TV	/	/	/	/	/	/			
17	2016-20/MECH/II/03	VENGATA KRISHNAN R	/	/	a	/	/	/			
18	2016-20/MECH/II/03	VENKADESH A	/	/	/	/	/	/			
			Total Strength	18	18	18	18	18	18		
			Total Present	18	15	17	18	18	18		
			Total Absent	-	3	1	-	-	-		
			Signature	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>		

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## **UNMANNED AERIAL VEHICLE (DRONE)**

### **SUMMARY REPORT**

Department of Mechanical Engineering, Jeppiaar Institute of Technology organized value added course on Unmanned Aerial Vehicle (DRONE) from 20.07.2017 to 22.02.2018 for a duration of 45 hours. Jeppiaar Institute of Technology purchased a DRONE from STORMME RACE CONTROL, Chennai to deliver a practical exposure to students. Total of 18 students enrolled in the course and everyone successfully completed the course and got certified. The course enabled the students to gain knowledge in multiple domain applications such as surveillance, photography etc. At the end of the course student were able to develop their own DRONES by assembling and controlling with new designs.

VAC Coordinator  
(S. Aishwarya)

Head of the Department  
(Dr. D. Muruganandam)

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### VALUE ADDED COURSE- FEEDBACK FORM

Academic Year

: 2017-2018

Year/Sem: II / IV

Name of the VAC Coordinator

: S - Arishwarg a

VAC Duration

: 45 hours

Name (Optional)

:

Kindly put a tick mark ( ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?	✓			
2	How interested were the content present at VAC?		✓		
3	How useful was the VAC from the knowledge and information point of view			✓	
4	The VAC Presented were congruent with the VAC syllabus	✓			
5	How well was the event space set up?	✓			
6	Expert technical knowledge of the subject		✓		
7	The expert provided adequate time for asking questions and answered them effectively		✓		
8	The materials Provided were useful			✓	
9	The experts demonstrated student centered learning strategies and techniques	✓			
10	Overall effectiveness of the program	✓			

Any Additional comments and suggestions for improvement:

No comments, class good.

L.N. Hegde

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**CURRICULUM FOR RAPID PROTOTYPING USING 3D PRINTING  
TECHNOLOGY**

**Course Objective:**

- To broaden and deepen the principle methods, capabilities in analytical and experimental research methods in rapid prototyping and its applications.
- To be familiar with characteristics of different materials used in additive manufacturing.

**UNIT - I INTRODUCTION**

9

Need for the compression in product development, history of RP systems, survey of applications, growth of RP industry, classification of RP systems, Materials for Additive Manufacturing Technology, Data Processing for Additive Manufacturing Technology: CAD model preparation – Part Orientation and support generation – Model Slicing – Tool path Generation – Softwares for Additive Manufacturing Technology: MIMICS, MAGICS - Benefits- Applications – Digital prototyping - Virtual prototyping.

**UNIT - II LIQUID BASED AND SOLID BASED RAPID PROTOTYPING SYSTEMS** 9

Stereolithography Apparatus, Fused deposition Modeling, Laminated object manufacturing, Three dimensional printing: Working Principles, details of processes, products, materials, advantages, limitations and applications - Case studies.

**UNIT - III POWDER BASED RAPID PROTOTYPING SYSTEMS**

9

Selective Laser Sintering, Direct Metal Laser Sintering, Three Dimensional Printing, Laser Engineered Net Shaping, Selective Laser Melting, Electron Beam Melting: Processes, materials, products, advantages, applications and limitations – Case Studies.

**UNIT - IV RAPID MANUFACTURING PROCESS OPTIMIZATION**

9

Factors influencing accuracy, data preparation errors, part building errors, errors in finishing, influence of part build orientation.

*L. N. W*

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### TIME TABLE - RAPID PROTOTYPING USING 3D PRINTING TECHNOLOGY

Date	12.45 PM to 02.45 PM
20.07.17	Need for the compression in product development, history of RP systems, survey of applications, growth of RP industry, classification of RP systems, Materials for Additive Manufacturing Technology
27.07.19	Data Processing for Additive Manufacturing Technology, Software for Additive Manufacturing Technology
03.08.17	MIMICS, MAGICS, Benefits - Applications
10.08.17	Digital prototyping
17.08.17	Virtual prototyping, Stereolithography Apparatus (SLA), Fused Deposition Modelling (FDM), Laminate Object Manufacturing (LOM) - working principles.
07.09.17	Details of processes, products, materials, advantages, limitations and applications.
14.09.17	Case studies, Selective Laser Sintering (SLS), Direct Metal Laser Sintering (DLMS), Three Dimensional Printing (3DP), Laser Engineered Net Shaping (LENS), Selective Laser Melting (SLM), Electron Beam Melting (EBM) - Processes, Materials, advantages, limitations and applications.
04.01.18	Case Studies, Demo - 3D Printer, Project discussions.
11.01.18	Customized implants and prosthesis: Design and production. Bio-Additive Manufacturing- Computer Aided Tissue Engineering (CATE) – Case studies.
18.01.18	Factors influencing accuracy, data preparation errors, part building errors, errors in finishing, influence of part build orientation.
25.01.18	Vacuum casting, surface digitizing, surface generation from point cloud, surface modification, data transfer to solid models.
01.02.18	Zeroth review for group assignment
08.02.18	1st review for group assignment
15.02.18	Assessment Exam - II year & 3rd review for group assignment.
22.02.18	Assessment Exam - III year & final review for group assignment.

#### Training Staff In charge:

1. Mr.S.Arun, AP/MECH
2. Mr.R.Devanathan, AP/MECH

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VALUE ADDED COURSE DETAILS  
DEPARTMENT OF MECHANICAL ENGINEERING  
ACADEMIC YEAR 2017-2018

SL.NO	BATCH/DEPT/YEAR /SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	THE ORGANIZATION	CERTIFICATE(YES/NO)
1	EEE/2017-18/III/05	CLADIER P	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
2	EEE/2017-18/III/05	DHARANI P	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
3	EEE/2017-18/III/05	JENIFER J	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
4	EEE/2017-18/III/05	NIRANJAN ABISH Y P	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
5	EEE/2017-18/III/05	SANGEETHA A	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
6	EEE/2017-18/III/05	ANMUGA PRIYA DHARSHINI	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
7	ECE/2017-18/III/05	ANTONY AJAY J	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
8	ECE/2017-18/III/05	ARAVIND BABU S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
9	ECE/2017-18/III/05	AVINASH K V	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
10	ECE/2017-18/III/05	GODSON I	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
11	ECE/2017-18/III/05	HEMALATHA S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
12	ECE/2017-18/III/05	JABEZ JOGEETH SINGH J S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
13	ECE/2017-18/III/05	KARTHICK S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
14	ECE/2017-18/III/05	LOKESH P	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
15	ECE/2017-18/III/05	MOHAN T	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
16	ECE/2017-18/III/05	NIROOBAN P	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
17	ECE/2017-18/III/05	PRAVEEN KUMAR V	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
18	ECE/2017-18/III/05	PRIYADHARSINI M	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
19	ECE/2017-18/III/05	SHABARMATHY S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
20	ECE/2017-18/III/05	SOUNDARYA R	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
21	ECE/2017-18/III/05	VINOOTH KUMAR M	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
22	ECE/2017-18/III/05	YUVALAKSHMI K	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
23	ECE/2017-18/III/05	MOHAN R	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
24	MECH/2017-18/III/05	ARUNKUMAR A	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
25	MECH/2017-18/III/05	ARUN KUMAR R	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
26	MECH/2017-18/III/05	BALAJI P J	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
27	MECH/2017-18/III/05	DHILEEP KUMAR S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
28	MECH/2017-18/III/05	ELAMPARITHI S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
29	MECH/2017-18/III/05	GOKULKUMAR S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
30	MECH/2017-18/III/05	JOHN VISHAL A	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
31	MECH/2017-18/III/05	KABILAN S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES

*J.N.W*

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32	MECH/2017-18/III/05	KUMARASWAMY R	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
33	MECH/2017-18/III/05	ROHIN R	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
34	MECH/2017-18/III/05	SHABARISH K	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
35	MECH/2017-18/III/05	SIVASURIYA S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
36	MECH/2017-18/III/05	SURYA S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
37	MECH/2017-18/III/05	THIVAGAR T	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
38	MECH/2017-18/III/05	VENKATESH SABARI N	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
39	MECH/2017-18/III/05	VIGNESH R	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
40	MECH/2017-18/III/05	YUVAN ARAVIND S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
41	MECH/2017-18/III/05	AJITH R	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
42	MECH/2017-18/III/05	ASWATH PRAVEEN S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
43	MECH/2017-18/III/05	MADHAN KUMAR G	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
44	MECH/2017-18/III/05	MUTHUKARUPPIAH B	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
45	MECH/2017-18/III/05	VINOOTH KUMAR V	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
46	MECH/2017-18/III/05	VIVEKANANDAN M	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
47	ECE/2017-18/II/03	ELANCHEZIAN P K	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
48	ECE/2017-18/II/03	GURUKARTHIK S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
49	ECE/2017-18/II/03	HARIHARAN V	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
50	ECE/2017-18/II/03	HARSHITHA S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
51	ECE/2017-18/II/03	KIRTHIKA B	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
52	ECE/2017-18/II/03	NIRANJAN C B	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
53	ECE/2017-18/II/03	PAVITHRA R	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
54	ECE/2017-18/II/03	PRIYANKA S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
55	ECE/2017-18/II/03	PRIYANKKA D	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
56	ECE/2017-18/II/03	RAMANATHAN A R	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
57	ECE/2017-18/II/03	SANJU RAJAN P	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
58	ECE/2017-18/II/03	SANTHOSHINI H	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
59	ECE/2017-18/II/03	SATHYANARAYANAN P V	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
60	ECE/2017-18/II/03	SUMANTHA N	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
61	ECE/2017-18/II/03	VASANTH KUMAR S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
62	ECE/2017-18/II/03	VISHNUPRIYA G	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
63	ECE/2017-18/II/03	VISHNU PRIYA A	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
64	MECH/2017-18/II/03	AHIN J	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
65	MECH/2017-18/II/03	ARAVIND VENKATESH K	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES

*d. n. h*

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66	MECH/2017-18/II/03	ARVIND S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
67	MECH/2017-18/II/03	ARAVIND KRISHNA K	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
68	MECH/2017-18/II/03	DHINESH P	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
69	MECH/2017-18/II/03	DINESH KUMAR K	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
70	MECH/2017-18/II/03	DIWAKAR N	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
71	MECH/2017-18/II/03	GOWTHAM T	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
72	MECH/2017-18/II/03	HARI VIGNESH N	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
73	MECH/2017-18/II/03	JERSON PAUL M	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
74	MECH/2017-18/II/03	KARTHICK M	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
75	MECH/2017-18/II/03	KUMAR B	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
76	MECH/2017-18/II/03	LOGAVIGNESH S P	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
77	MECH/2017-18/II/03	PALANI R	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
78	MECH/2017-18/II/03	PRASANTH K	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
79	MECH/2017-18/II/03	RAJAGANESH M	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
80	MECH/2017-18/II/03	RISHI KARTHIK S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
81	MECH/2017-18/II/03	RUPESHKUMAR U	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
82	MECH/2017-18/II/03	SANJAY KUMAR S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
83	MECH/2017-18/II/03	SARATH S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
84	MECH/2017-18/II/03	SUBASH S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
85	MECH/2017-18/II/03	VENGATA KRISHNAN R	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
86	MECH/2017-18/II/03	VENKATESH S	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
87	MECH/2017-18/II/03	YUGANDRAN D	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES
88	MECH/2017-18/II/03	JAYAMURUGAN V	Rapid Prototyping using 3D Printing Technology	45 Hrs	JIT GLOBAL	YES

S. A. *[Signature]*  
(S. Arz Jr.)

*L.N.H*  
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VÄLUE ADDED COURSE - RAPID PROTOTYPING USING 3D PRINTING TECHNOLOGY  
ACADEMIC YEAR 2017-2018

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	20/7	27/7	3/8	10/8	17/8	7/9	14/9	4/11	11/1
1	2015-19/EEE/III/05	CLADIEN P	/	/	/	/	/	/	/	/	/
2	2015-19/EEE/III/05	DHARANI P	/	/	/	/	/	/	/	/	/
3	2015-19/EEE/III/05	JENIFER J	/	/	/	/	/	/	/	/	/
4	2015-19/EEE/III/05	NIRANJAN ABISH Y P	/	/	/	/	/	/	/	/	/
5	2015-19/EEE/III/05	SANGEETHA A	/	/	/	/	/	/	/	/	/
6	2015-19/EEE/III/05	SHANMUGA PRIYA DHARSHINI V	/	/	/	/	/	/	/	/	/
7	2015-19/ECE/III/05	ANTONY AJAY J	/	/	/	/	/	/	/	/	/
8	2015-19/ECE/III/05	ARAVIND BABU S	/	/	/	/	/	/	/	/	/
9	2015-19/ECE/III/05	AVINASH K V	/	/	/	/	/	/	/	/	/
10	2015-19/ECE/III/05	GODSON I	/	/	/	/	/	a	/	/	/
11	2015-19/ECE/III/05	HEMALATHA S	/	/	/	/	/	/	/	/	/
12	2015-19/ECE/III/05	JABEZ JOGEETH SINGH JS	/	/	/	/	/	/	/	/	/
13	2015-19/ECE/III/05	KARTHICK S	/	/	/	/	/	/	/	/	/
14	2015-19/ECE/III/05	LOKESH P	/	/	/	/	/	/	/	/	/
15	2015-19/ECE/III/05	MOHAN T	/	/	/	/	/	/	/	/	/
16	2015-19/ECE/III/05	NIROOBAN P	/	/	/	/	/	/	/	/	/
17	2015-19/ECE/III/05	PRAVEEN KUMAR V	/	/	/	/	/	/	/	/	/
18	2015-19/ECE/III/05	PRIYADHARSINI M	a	/	/	/	/	/	/	/	/
19	2015-19/ECE/III/05	SHABARMATHY S	/	/	/	/	/	/	/	/	/
20	2015-19/ECE/III/05	SOUNDARYA R	/	/	a	/	/	/	/	/	/
21	2015-19/ECE/III/05	VINOOTH KUMAR M	/	/	/	/	/	/	/	/	/
22	2015-19/ECE/III/05	YUVALAKSHMI K	/	/	/	/	/	/	/	/	/
23	2015-19/ECE/III/05	MOHAN R	/	/	/	/	/	/	/	/	/
24	2015-19/MECH/III/05	ARUNKUMAR A	/	/	/	/	/	/	a	/	a
25	2015-19/MECH/III/05	ARUN KUMAR R	/	/	/	/	/	/	/	/	/
26	2015-19/MECH/III/05	BALAJI PJ	/	/	/	/	/	/	/	/	/
27	2015-19/MECH/III/05	DHILEEP KUMAR S	/	/	/	/	/	/	/	/	/
28	2015-19/MECH/III/05	ELAMPARITHI S	/	/	/	/	/	a	/	/	/
29	2015-19/MECH/III/05	GOKULKUMAR S	/	/	/	/	/	/	/	/	/
30	2015-19/MECH/III/05	JOHN VISHAL A	/	/	/	/	/	a	/	/	b
31	2015-19/MECH/III/05	KABILAN S	/	/	/	/	/	a	/	/	a
32	2015-19/MECH/III/05	KUMARASWAMY R	a	/	/	/	/	/	/	/	/
33	2015-19/MECH/III/05	ROHIN R	/	/	/	/	/	/	/	/	/
34	2015-19/MECH/III/05	SHABARISH K	/	/	/	/	/	/	/	/	/
35	2015-19/MECH/III/05	SIVASURIYA S	/	/	/	/	/	/	/	/	/
36	2015-19/MECH/III/05	SURYA S	/	/	/	/	/	/	/	/	/
37	2015-19/MECH/III/05	THIVAGAR T	/	/	a	/	/	/	/	/	/
38	2015-19/MECH/III/05	VENKATESH SABARI N	/	/	/	/	/	/	/	/	/
39	2015-19/MECH/III/05	VIGNESH R	/	/	/	/	/	/	/	/	/
40	2015-19/MECH/III/05	YUVAN ARAVIND S	/	/	/	/	/	/	/	/	/
41	2015-19/MECH/III/05	AJITH R	/	/	/	/	/	/	/	/	/
42	2015-19/MECH/III/05	ASWATH PRAVEEN S	/	/	/	/	/	/	/	/	/
43	2015-19/MECH/III/05	MADHAN KUMAR G	/	/	/	/	/	/	/	/	/
44	2015-19/MECH/III/05	MUTHUKARUPPIAH B	/	/	/	/	/	/	a	/	/
45	2015-19/MECH/III/05	VINOOTH KUMAR V	/	a	/	/	/	/	/	/	/
46	2015-19/MECH/III/05	VIVEKANANDAN M	/	/	/	/	/	/	/	/	/
47	2016-20/ECE/II/03	ELANCHEZIAN P K	/	/	/	/	/	/	/	/	/
48	2016-20/ECE/II/03	GURUKARTHIK S	/	/	/	/	/	/	/	/	/
49	2016-20/ECE/II/03	HARIHARAN V	/	/	/	/	/	/	/	/	/
50	2016-20/ECE/II/03	HARSHITHA S	/	/	/	/	/	/	/	/	/
51	2016-20/ECE/II/03	KIRTHIKA B	/	/	/	/	/	/	/	/	/
52	2016-20/ECE/II/03	NIRANJAN C B	/	/	/	/	/	/	a	/	/
53	2016-20/ECE/II/03	PAVITHRA R	/	/	/	/	/	/	a	/	/
54	2016-20/ECE/II/03	PRIYANKA S	/	/	a	/	/	/	/	/	/
55	2016-20/ECE/II/03	PRIYANKA D	/	/	/	/	/	/	/	/	/
56	2016-20/ECE/II/03	RAMANATHAN A R	/	/	/	/	/	/	/	/	/
57	2016-20/ECE/II/03	SANJU RAJAN P	a	/	/	/	/	/	/	/	/
58	2016-20/ECE/II/03	SANTHOSHINI H	/	/	/	/	/	/	/	/	/
59	2016-20/ECE/II/03	SATHYANARAYANAN P V	/	/	/	/	/	/	a	/	/

*d.n.w*  
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60	2016-20/ECE/II/03	SUMANTHA N	/	/	/	/	/	/	/	/	/
61	2016-20/ECE/II/03	VASANTH KUMAR S	/	/	/	/	/	/	a	/	/
62	2016-20/ECE/II/03	VISHNUPRIYA G	a	/	/	/	/	/	/	/	/
63	2016-20/ECE/II/03	VISHNU PRIYA A	/	/	/	/	/	/	/	/	/
64	2016-20/MECH/II/03	AHIN J	a	/	/	/	/	/	/	/	/
65	2016-20/MECH/II/03	ARAVIND VENKATESH K	/	/	/	/	/	a	/	/	/
66	2016-20/MECH/II/03	ARVIND S	/	/	/	/	/	/	/	/	/
67	2016-20/MECH/II/03	ARAVIND KRISHNA K	/	/	/	/	/	/	/	/	/
68	2016-20/MECH/II/03	DHINESH P	/	/	/	/	/	/	/	/	/
69	2016-20/MECH/II/03	DINESH KUMAR K	/	/	/	/	/	/	/	/	/
70	2016-20/MECH/II/03	DIWAKAR N	/	/	a	/	/	/	/	/	/
71	2016-20/MECH/II/03	GOWTHAM T	/	/	/	/	/	/	/	/	/
72	2016-20/MECH/II/03	HARI VIGNESH N	/	/	/	/	/	/	/	/	/
73	2016-20/MECH/II/03	JERSON PAUL M	/	/	/	/	/	/	/	/	/
74	2016-20/MECH/II/03	KARTHICK M	/	/	/	/	/	/	/	/	/
75	2016-20/MECH/II/03	KUMAR B	/	/	a	/	/	/	/	/	/
76	2016-20/MECH/II/03	LOGAVIGNESH S P	a	/	/	/	/	/	/	/	/
77	2016-20/MECH/II/03	PALANI R	/	/	/	/	/	/	/	/	/
78	2016-20/MECH/II/03	PRASANTH K	/	/	/	/	/	/	/	/	/
79	2016-20/MECH/II/03	RAJAGANESH M	/	/	/	/	/	/	/	/	/
80	2016-20/MECH/II/03	RISHI KARTHIK S	/	/	/	/	/	/	/	/	/
81	2016-20/MECH/II/03	RUPESHKUMAR U	a	/	/	/	/	/	/	/	/
82	2016-20/MECH/II/03	SANJAY KUMAR S	/	/	/	/	a	/	/	/	/
83	2016-20/MECH/II/03	SARATH S	/	/	/	/	/	/	/	/	/
84	2016-20/MECH/II/03	SUBASH S	/	/	/	/	/	/	/	/	/
85	2016-20/MECH/II/03	VENGATA KRISHNAN R	/	/	/	/	/	/	/	a	/
86	2016-20/MECH/II/03	VENKATESH S	/	/	/	/	/	/	/	/	/
87	2016-20/MECH/II/03	YUGANDRAN D	/	/	/	/	/	/	/	/	/
88	2016-20/MECH/II/03	JAYAMURUGAN V	/	/	/	/	/	/	/	/	a
Total Strength			88	88	88	88	88	88	88	88	88
Total Present			82	87	83	87	81	88	82	87	85
Total Absent			6	1	5	1	7	-	6	1	3
Signature			<u>Dr. N. H.</u>	<u>✓</u>							

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VALLUE ADDED COURSE - RAPID PROTOTYPING USING 3D PRINTING TECHNOLOGY  
ACADEMIC YEAR 2017-2018

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	18/1	25/1	1/2	8/2	15/2	22/2			
1	2015-19/EEE/III/05	CLADIEN P	/	/	/	/	/	/			
2	2015-19/EEE/III/05	DHARANI P	/	/	/	/	/	/			
3	2015-19/EEE/III/05	JENIFER J	/	/	/	/	/	/			
4	2015-19/EEE/III/05	NIRANJAN ABISH Y P	/	a	/	/	/	/			
5	2015-19/EEE/III/05	SANGEETHA A	/	/	/	/	/	/			
6	2015-19/EEE/III/05	SIHANMUGA PRIYA DHARSHINI V	/	/	/	/	/	/			
7	2015-19/ECE/III/05	ANTONY AJAY J	/	/	a	/	/	/			
8	2015-19/ECE/III/05	ARAVIND BABU S	/	/	/	a	/	/			
9	2015-19/ECE/III/05	AVINASH K V	/	/	a	/	/	/			
10	2015-19/ECE/III/05	GODSON I	/	/	/	/	/	/			
11	2015-19/ECE/III/05	HEMALATHA S	/	/	/	/	/	/			
12	2015-19/ECE/III/05	JABEZ JOGEETH SINGH J S	/	/	/	/	/	/			
13	2015-19/ECE/III/05	KARTHICK S	/	/	/	/	/	/			
14	2015-19/ECE/III/05	LOKESH P	/	/	/	a	/	/			
15	2015-19/ECE/III/05	MOHAN T	/	/	/	/	/	/			
16	2015-19/ECE/III/05	NIROOBAN P	/	/	/	/	/	/			
17	2015-19/ECE/III/05	PRAVEEN KUMAR V	/	/	/	/	/	/			
18	2015-19/ECE/III/05	PRIYADHARSINI M	/	/	/	/	/	/			
19	2015-19/ECE/III/05	SHABARMATHY S	/	/	/	/	/	/			
20	2015-19/ECE/III/05	SOUNDARYA R	/	/	/	/	/	/			
21	2015-19/ECE/III/05	VINOOTH KUMAR M	/	/	/	/	/	/			
22	2015-19/ECE/III/05	YUVALAKSHMI K	/	/	/	/	/	/			
23	2015-19/ECE/III/05	MOHAN R	/	/	/	/	/	/			
24	2015-19/MECH/III/05	ARUNKUMAR A	/	/	/	/	/	/			
25	2015-19/MECH/III/05	ARUN KUMAR R	/	/	/	/	/	/			
26	2015-19/MECH/III/05	BALAJI P J	/	/	/	/	/	/			
27	2015-19/MECH/III/05	DHILEEP KUMAR S	/	/	/	/	/	/			
28	2015-19/MECH/III/05	ELAMPARITHI S	/	/	/	/	/	/			
29	2015-19/MECH/III/05	GOKULKUMAR S	/	/	/	/	/	/			
30	2015-19/MECH/III/05	JOHN VISHAL A	/	/	/	/	/	/			
31	2015-19/MECH/III/05	KABILAN S	a	/	/	a	/	/			
32	2015-19/MECH/III/05	KUMARASWAMY R	/	/	/	/	/	/			
33	2015-19/MECH/III/05	ROHIN R	/	a	a	/	/	/			
34	2015-19/MECH/III/05	SHABARISH K	/	/	/	/	/	/			
35	2015-19/MECH/III/05	SIVASURIYA S	/	/	/	/	/	/			
36	2015-19/MECH/III/05	SURYA S	/	/	/	/	/	/			
37	2015-19/MECH/III/05	THIVAGAR T	/	a	/	/	/	/			
38	2015-19/MECH/III/05	VENKATESH SABARI N	/	/	/	/	/	/			
39	2015-19/MECH/III/05	VIGNESH R	/	/	/	/	/	/			
40	2015-19/MECH/III/05	YUVAN ARAVIND S	/	/	/	/	/	/			
41	2015-19/MECH/III/05	AJITH R	/	/	/	/	/	/			
42	2015-19/MECH/III/05	ASWATH PRAVEEN S	/	/	/	/	/	/			
43	2015-19/MECH/III/05	MADHAN KUMAR G	a	/	/	/	a	/			
44	2015-19/MECH/III/05	MUTHUKARUPPIAH B	/	/	/	/	a	/			
45	2015-19/MECH/III/05	VINOOTH KUMAR V	/	/	/	/	/	/			
46	2015-19/MECH/III/05	VIVEKANANDAN M	/	/	/	/	/	/			
47	2016-20/ECE/II/03	ELANCHEZIAN P K	/	/	/	/	/	/			
48	2016-20/ECE/II/03	GURUKARTHIK S	/	/	/	/	/	/			
49	2016-20/ECE/II/03	HARIHARAN V	/	/	/	/	/	/			
50	2016-20/ECE/II/03	HARSHITHA S	/	/	/	/	/	/			
51	2016-20/ECE/II/03	KIRTHIKA B	/	/	/	/	/	/			
52	2016-20/ECE/II/03	NIRANJAN C B	/	/	/	/	/	/			
53	2016-20/ECE/II/03	PAVITHRA R	/	/	/	/	/	/			
54	2016-20/ECE/II/03	PRIYANKA S	/	/	/	/	/	/			
55	2016-20/ECE/II/03	PRIYANKKA D	/	a	/	/	a	/			
56	2016-20/ECE/II/03	RAMANATHAN A R	/	/	/	/	a	/			
57	2016-20/ECE/II/03	SANJU RAJAN P	/	/	/	/	/	/			
58	2016-20/ECE/II/03	SANTHOSHINI H	/	/	/	/	/	/			
59	2016-20/ECE/II/03	SATHYANARAYANAN P V	/	/	a	/	/	/			

*L.N.W*

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60	2016-20/ECE/II/03	SUMANTHA N	/	/	/	/	/	/		
61	2016-20/ECE/II/03	VASANTH KUMAR S	/	/	/	/	/	/		
62	2016-20/ECE/II/03	VISHNUPRIYA G	/	/	/	/	/	/		
63	2016-20/ECE/II/03	VISHNU PRIYA A	/	/	/	/	/	/		
64	2016-20/MECH/II/03	AHIN J	/	/	/	/	/	/		
65	2016-20/MECH/II/03	ARAVIND VENKATESH K	/	/	/	/	/	/		
66	2016-20/MECH/II/03	ARVIND S	/	/	/	/	/	/		
67	2016-20/MECH/II/03	ARAVIND KRISHNA K	/	/	/	/	a	/		
68	2016-20/MECH/II/03	DHINESH P	/	/	/	/	/	/		
69	2016-20/MECH/II/03	DINESH KUMAR K	/	/	/	/	/	/		
70	2016-20/MECH/II/03	DIWAKAR N	a	/	/	/	/	/		
71	2016-20/MECH/II/03	GOWTHAM T	/	/	a	/	/	/		
72	2016-20/MECH/II/03	HARI VIGNESH N	/	/	/	/	/	/		
73	2016-20/MECH/II/03	JERSON PAUL M	/	/	/	/	/	/		
74	2016-20/MECH/II/03	KARTHICK M	/	/	/	/	/	/		
75	2016-20/MECH/II/03	KUMAR B	/	/	/	/	/	/		
76	2016-20/MECH/II/03	LOGAVIGNESH S P	/	/	/	/	/	/		
77	2016-20/MECH/II/03	PALANI R	/	/	/	/	a	/		
78	2016-20/MECH/II/03	PRASANTH K	/	/	/	/	/	/		
79	2016-20/MECH/II/03	RAJAGANESH M	/	/	/	/	/	/		
80	2016-20/MECH/II/03	RISHI KARTHIK S	/	/	/	/	/	/		
81	2016-20/MECH/II/03	RUPESHKUMAR U	/	/	/	/	/	/		
82	2016-20/MECH/II/03	SANJAY KUMAR S	/	/	/	/	/	/		
83	2016-20/MECH/II/03	SARATH S	/	/	a	/	/	/		
84	2016-20/MECH/II/03	SUBASH S	/	/	/	/	/	/		
85	2016-20/MECH/II/03	VENGATA KRISHNAN R	/	/	/	/	/	/		
86	2016-20/MECH/II/03	VENKATESH S	/	/	a	/	/	/		
87	2016-20/MECH/II/03	YUGANDRAN D	/	/	/	/	/	/		
88	2016-20/MECH/II/03	JAYAMURUGAN V	/	a	/	/	a	/		
Total Strength			88	88	88	88	88	88		
Total Present			84	83	81	84	83	88		
Total Absent			4	5	7	4	5	-		
Signature			DR	DR	DR	DR	DR	DR		

*d. n. he*

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### RAPID PROTOTYPING USING 3D PRINTING TECHNOLOGY SUMMARY REPORT

Department of Mechanical Engineering, Jeppiaar Institute of Technology organized value added course on Rapid Prototyping using 3D Printing from 20.07.2017 to 22.02.2018 for a duration of 45 hours. Jeppiaar Institute of Technology purchased a 3D Printer (concept of Fused Deposition Modeling) from Fractal Works, Bangalore to deliver a practical exposure to students. Total of 88 students enrolled in the course and everyone successfully completed the course and got certified. The course enabled the students to get trained in computer aided design and new product development which helps in meeting placement requisites. Students practically developed their ideas into prototype and working model to improves their design skill.

S. Arvind  
VAC Coordinator

D. Mungaiyanandam  
22/02/2018  
Head of the Department  
(Dr. D. Mungaiyanandam)

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### VALUE ADDED COURSE- FEEDBACK FORM

Academic Year : 2017-2018

Year/Sem: 111 / 06

Name of the VAC Coordinator : MR. P. DEVANATHAN

VAC Duration : 45 hrs

Name (Optional) :

Kindly put a tick mark ( ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?	✓			
2	How interested were the content present at VAC?	✓			
3	How useful was the VAC from the knowledge and information point of view	✓			
4	The VAC Presented were congruent with the VAC syllabus		✓		
5	How well was the event space set up?		✓		
6	Expert technical knowledge of the subject		✓		
7	The expert provided adequate time for asking questions and answered them effectively		✓		
8	The materials Provided were useful	✓			
9	The experts demonstrated student centered learning strategies and techniques			✓	
10	Overall effectiveness of the program	✓			

Any Additional comments and suggestions for improvement:

Related Industrial visit needed, additionally  
with the VAC

*D.N. Iyer*

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## CURRICULUM FOR 3D PRINTING

### Course Objective:

- To broaden and deepen the principle methods, capabilities in analytical and experimental research methods in rapid prototyping and its applications.
- To be familiar with characteristics of different materials used in additive manufacturing.

### UNIT I INTRODUCTION

5

Need for the compression in product development, history of RP systems, survey of applications, growth of RP industry, classification of RP systems, Materials for Additive Manufacturing Technology, Data Processing for Additive Manufacturing Technology: CAD model preparation – Part Orientation and support generation – Model Slicing – Tool path Generation – Softwares for Additive Manufacturing Technology: MIMICS, MAGICS - Benefits.

### UNIT II LIQUID BASED AND SOLID BASED RAPID PROTOTYPING SYSTEMS 7

Stereolithography Apparatus, Fused deposition Modeling, Laminated object manufacturing: Working Principles, details of processes, products, materials, advantages, limitations and applications - Case studies.

### UNIT III POWDER BASED RAPID PROTOTYPING SYSTEMS

8

Selective Laser Sintering, Laser Engineered Net Shaping, Selective Laser Melting, Electron Beam Melting: Processes, materials, products, advantages, applications and limitations – Case Studies.

### UNIT IV RAPID MANUFACTURING PROCESS OPTIMIZATION

5

Factors influencing accuracy, data preparation errors, part building errors, errors in finishing, influence of part build orientation.

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### TIME TABLE- 3D PRINTING

Date	3.00 pm to 3.45 pm	3.45 pm to 4.30 pm
21.8.2019	Need for the compression in product development, history of RP systems, survey of applications, growth of RP industry, classification of RP systems, Materials for Additive Manufacturing Technology, Data Processing for	Additive Manufacturing Technology: CAD model preparation – Part Orientation and support generation – Model Slicing – Tool path Generation
22.8.2019	Softwares for Additive Manufacturing Technology: MIMICS - Benefits.	Softwares for Additive Manufacturing Technology: MAGICS - Benefits.
27.8.2019	Stereolithography Apparatus: Working Principles, details of processes	SLA - products, materials, advantages, limitations and applications - Case studies.
29.8.2019	Laminated object manufacturing: Working Principles, details of processes	LOM - products, materials, advantages, limitations and applications - Case studies.
3.9.2019	Fused deposition Modeling: Working Principles, details of processes	FDM - products, materials, advantages, limitations and applications - Case studies.
4.9.2019	Selective Laser Sintering: Processes, materials, products	SLS - advantages, applications and limitations – Case Studies.
5.9.2019	Laser Engineered Net Shaping: Processes, materials	LENS - products, advantages, applications and limitations – Case Studies.
6.9.2019	Selective Laser Melting: Processes, materials, products	SLM - advantages, applications and limitations – Case Studies.
9.9.2019	Electron Beam Melting: Processes, materials, products	EBM - advantages, applications and limitations – Case Studies.
11.9.2019	Factors influencing accuracy	Data preparation errors
12.9.2019	Part building errors, errors in finishing, influence of part build orientation.	Demo of development of products using FDM
17.9.2019	Customized implants and prosthesis: Design and production.	Bio-Additive Manufacturing.
19.9.2019	Computer Aided Tissue Engineering (CATE)	Case studies

*L.N. K*

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VALUE ADDED COURSE DETAILS  
ACADEMIC YEAR 2019-2020

DEPARTMENT OF MECHANICAL ENGINEERING

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE CERTIFYING ORGANIZATION	CERTIFICATE(YES/NO)
1	2017-2021/MECH/III/05	Aagash Rajan J	3D PRINTING	30 Hrs	Anna University	YES
2	2017-2021/MECH/III/05	Ajith S	3D PRINTING	30 Hrs	Anna University	YES
3	2017-2021/MECH/III/05	Alice A	3D PRINTING	30 Hrs	Anna University	YES
4	2017-2021/MECH/III/05	Anandharaman M	3D PRINTING	30 Hrs	Anna University	YES
5	2017-2021/MECH/III/05	Antony Devine A	3D PRINTING	30 Hrs	Anna University	YES
6	2017-2021/MECH/III/05	Antony Hubert K	3D PRINTING	30 Hrs	Anna University	YES
7	2017-2021/MECH/III/05	Antony Nithish S	3D PRINTING	30 Hrs	Anna University	YES
8	2017-2021/MECH/III/05	Aravindan A	3D PRINTING	30 Hrs	Anna University	YES
9	2017-2021/MECH/III/05	Arul Renish S	3D PRINTING	30 Hrs	Anna University	YES
10	2017-2021/MECH/III/05	Ashwath R	3D PRINTING	30 Hrs	Anna University	YES
11	2017-2021/MECH/III/05	Balaji M	3D PRINTING	30 Hrs	Anna University	YES
12	2017-2021/MECH/III/05	Balasubramanyam D	3D PRINTING	30 Hrs	Anna University	YES
13	2017-2021/MECH/III/05	Barath Kumar S	3D PRINTING	30 Hrs	Anna University	YES
14	2017-2021/MECH/III/05	Bhuvanesh S	3D PRINTING	30 Hrs	Anna University	YES
15	2017-2021/MECH/III/05	Ferdinand B	3D PRINTING	30 Hrs	Anna University	YES
16	2017-2021/MECH/III/05	Franklin Raj A	3D PRINTING	30 Hrs	Anna University	YES
17	2017-2021/MECH/III/05	Hanishi Kumar R	3D PRINTING	30 Hrs	Anna University	YES
18	2017-2021/MECH/III/05	Hariganeesh K	3D PRINTING	30 Hrs	Anna University	YES
19	2017-2021/MECH/III/05	Infant Thanus Kodi M	3D PRINTING	30 Hrs	Anna University	YES
20	2017-2021/MECH/III/05	Jaswanth J	3D PRINTING	30 Hrs	Anna University	YES
21	2017-2021/MECH/III/05	Jayabol S	3D PRINTING	30 Hrs	Anna University	YES
22	2017-2021/MECH/III/05	Jayaram K	3D PRINTING	30 Hrs	Anna University	YES
23	2017-2021/MECH/III/05	Jebin V	3D PRINTING	30 Hrs	Anna University	YES
24	2017-2021/MECH/III/05	Jeevananthiam P	3D PRINTING	30 Hrs	Anna University	YES
25	2017-2021/MECH/III/05	Jerin Raj C	3D PRINTING	30 Hrs	Anna University	YES
26	2017-2021/MECH/III/05	Joemon J	3D PRINTING	30 Hrs	Anna University	YES
27	2017-2021/MECH/III/05	Jony V	3D PRINTING	30 Hrs	Anna University	YES
28	2017-2021/MECH/III/05	Joseph Jeffrey J	3D PRINTING	30 Hrs	Anna University	YES
29	2017-2021/MECH/III/05	Joshua N	3D PRINTING	30 Hrs	Anna University	YES
30	2017-2021/MECH/III/05	Jothibaskar M	3D PRINTING	30 Hrs	Anna University	YES
31	2017-2021/MECH/III/05	Kaliraja P	3D PRINTING	30 Hrs	Anna University	YES
32	2017-2021/MECH/III/05	Kannan V	3D PRINTING	30 Hrs	Anna University	YES
33	2017-2021/MECH/III/05	Lesley Tiwari M	3D PRINTING	30 Hrs	Anna University	YES
34	2017-2021/MECH/III/05	Mohammed Faizal M	3D PRINTING	30 Hrs	Anna University	YES
35	2017-2021/MECH/III/05	Naresh Kumar N	3D PRINTING	30 Hrs	Anna University	YES
36	2017-2021/MECH/III/05	Praveen R	3D PRINTING	30 Hrs	Anna University	YES
37	2017-2021/MECH/III/05	Ranjithkumar T	3D PRINTING	30 Hrs	Anna University	YES
38	2017-2021/MECH/III/05	Ranjith Kumar T.	3D PRINTING	30 Hrs	Anna University	YES
39	2017-2021/MECH/III/05	Rishivaranan S	3D PRINTING	30 Hrs	Anna University	YES
40	2017-2021/MECH/III/05	Roliith R	3D PRINTING	30 Hrs	Anna University	YES
41	2017-2021/MECH/III/05	Sahaya Anston S	3D PRINTING	30 Hrs	Anna University	YES
42	2017-2021/MECH/III/05	Sameer Ahamed A.W	3D PRINTING	30 Hrs	Anna University	YES
43	2017-2021/MECH/III/05	Santhosh P	3D PRINTING	30 Hrs	Anna University	YES
44	2017-2021/MECH/III/05	Santhosh Kumar J	3D PRINTING	30 Hrs	Anna University	YES
45	2017-2021/MECH/III/05	Sdvarasan	3D PRINTING	30 Hrs	Anna University	YES
46	2017-2021/MECH/III/05	Shedlin Roshan J	3D PRINTING	30 Hrs	Anna University	YES
47	2017-2021/MECH/III/05	Shunnugavel S	3D PRINTING	30 Hrs	Anna University	YES
48	2017-2021/MECH/III/05	Stefano E	3D PRINTING	30 Hrs	Anna University	YES
49	2017-2021/MECH/III/05	Surya Prakash S	3D PRINTING	30 Hrs	Anna University	YES
50	2017-2021/MECH/III/05	Tamizharigan M G	3D PRINTING	30 Hrs	Anna University	YES
51	2017-2021/MECH/III/05	Udhayan P	3D PRINTING	30 Hrs	Anna University	YES
52	2017-2021/MECH/III/05	Varun R	3D PRINTING	30 Hrs	Anna University	YES
53	2017-2021/MECH/III/05	Vasanthan A	3D PRINTING	30 Hrs	Anna University	YES
54	2017-2021/MECH/III/05	Vijay P	3D PRINTING	30 Hrs	Anna University	YES
55	2017-2021/MECH/III/05	Vijin A	3D PRINTING	30 Hrs	Anna University	YES
56	2017-2021/MECH/III/05	Vikash C.B	3D PRINTING	30 Hrs	Anna University	YES
57	2017-2021/MECH/III/05	Shaaran	3D PRINTING	30 Hrs	Anna University	YES
58	2017-2021/EEE/III/05	Anadhamaniyam A	3D PRINTING	30 Hrs	Anna University	YES
59	2017-2021/EEE/III/05	Anushastree A	3D PRINTING	30 Hrs	Anna University	YES
60	2017-2021/EEE/III/05	Guasusuthari R	3D PRINTING	30 Hrs	Anna University	YES
61	2017-2021/EEE/III/05	Laxmi Priya S	3D PRINTING	30 Hrs	Anna University	YES
62	2017-2021/EEE/III/05	Ramya S	3D PRINTING	30 Hrs	Anna University	YES
63	2017-2021/EEE/III/05	Sowmya U	3D PRINTING	30 Hrs	Anna University	YES

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VALLUE ADDED COURSE - 3D PRINTING  
ACADEMIC YEAR 2019-2020

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	9/9	11/9	12/9	17/9	19/9	24/9	26/9	
1	2017-21/MECH/III/05	AAGASH RAJAN J	/	a	/	/	/	/	/	
2	2017-21/MECH/III/05	AJTIH S	/	/	/	/	/	a	a	
3	2017-21/MECH/III/05	ALICE A	/	/	/	/	/			
4	2017-21/MECH/III/05	ANANDHARAMAN M	/	/	/	/	/	/	/	
5	2017-21/MECH/III/05	ANTONY DEVINE A	/	/	/	/	/	/	/	
6	2017-21/MECH/III/05	ANTONY HUBERT K	/	/	/	/	/	/	/	
7	2017-21/MECH/III/05	ANTONY NITHISH S	/	/	/	/	/	/	/	
8	2017-21/MECH/III/05	ARAVINDAN A	/	/	/	/	/	/	/	
9	2017-21/MECH/III/05	ARUL RENISH S	/	/	/	/	/	/	/	
10	2017-21/MECH/III/05	ASHWATH R	/	/	a	/	/	/	/	
11	2017-21/MECH/III/05	BALAJI M	/	/	/	/	/	/	/	
12	2017-21/MECH/III/05	BALASUBRAMANIYAM D	/	a	/	/	/	/	/	
13	2017-21/MECH/III/05	BARATH KUMAR S	/	/	/	/	/	/	/	
14	2017-21/MECH/III/05	BHUVANESH S	/	/	/	/	/	/	/	
15	2017-21/MECH/III/05	FERDINAND B	/	/	/	/	/	/	/	
16	2017-21/MECH/III/05	FRANKLIN RAJ A	/	/	/	/	/	/	/	
17	2017-21/MECH/III/05	HANISH KUMAR R	/	/	/	/	/	/	/	
18	2017-21/MECH/III/05	HARIGANESH K	/	/	/	/	/	/	/	
19	2017-21/MECH/III/05	INFANT THANUS KODI M	/	/	/	/	/	/	/	
20	2017-21/MECH/III/05	JASWANTH J	/	/	/	/	/	/	/	
21	2017-21/MECH/III/05	JAYABAL S	/	/	/	/	/	/	/	
22	2017-21/MECH/III/05	JAYARAM K	/	/	/	/	/	/	/	
23	2017-21/MECH/III/05	JEBIN V	a	/	/	/	/	a	/	
24	2017-21/MECH/III/05	JEEVANANTHAM P	/	/	/	/	/	/	/	
25	2017-21/MECH/III/05	JERIN RAJ C	/	/	/	/	/	/	/	
26	2017-21/MECH/III/05	JOEMON J	/	/	/	/	/	/	/	
27	2017-21/MECH/III/05	JONY V	/	/	/	/	/	/	/	
28	2017-21/MECH/III/05	JOSEPH JEFFREY J	/	/	/	/	/	/	/	
29	2017-21/MECH/III/05	JOSHUA N	/	/	/	/	/	/	/	
30	2017-21/MECH/III/05	JOTHIBASKAR M	/	/	/	/	/	/	/	
31	2017-21/MECH/III/05	KALIRAJA P	/	/	/	/	/	/	/	
32	2017-21/MECH/III/05	KANNAN V	/	/	/	/	/	/	/	
33	2017-21/MECH/III/05	LESLEY TIWANS M	/	a	/	/	/	/	a	
34	2017-21/MECH/III/05	MOHAMMED FAIZAL M	/	/	/	/	/	a	/	
35	2017-21/MECH/III/05	NARESH KUMAR N	/	/	a	/	/	/	/	
36	2017-21/MECH/III/05	PRAVEEN R	/	/	/	/	/	/	/	
37	2017-21/MECH/III/05	RANJITHKUMAR T	/	/	/	/	/	/	/	
38	2017-21/MECH/III/05	RANJITH KUMAR T.	/	/	/	/	/	/	/	
39	2017-21/MECH/III/05	RISHIVARUNAN S	/	/	/	/	/	/	/	
40	2017-21/MECH/III/05	ROHITH R	/	/	/	/	/	/	/	
41	2017-21/MECH/III/05	SAHAYA ANSTON S	/	a	/	/	/	/	/	
42	2017-21/MECH/III/05	SAMEER AHAMED A.W	/	/	/	a	/	/	/	
43	2017-21/MECH/III/05	SANTHOSH P	/	/	/	/	/	/	/	
44	2017-21/MECH/III/05	SANTHOSH KUMAR J	/	/	/	/	/	/	/	

*J.N.H*

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VALLUE ADDED COURSE - 3D PRINTING  
ACADEMIC YEAR 2019-2020

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	21/8	22/8	27/8	29/8	3/9	4/9	5/9	6/9
1	2017-21/MECH/III/05	AAGASH RAJAN J	/	/	/	/	/	/	/	/
2	2017-21/MECH/III/05	AJTIH S	/	a	/	/	/	a	/	/
3	2017-21/MECH/III/05	ALICE A	/	/	/	/	/	/	/	/
4	2017-21/MECH/III/05	ANANDHARAMAN M	/	/	/	/	/	/	/	/
5	2017-21/MECH/III/05	ANTONY DEVINE A	/	/	/	/	/	/	/	/
6	2017-21/MECH/III/05	ANTONY HUBERT K	/	/	/	/	/	/	/	/
7	2017-21/MECH/III/05	ANTONY NITHISH S	/	/	/	/	/	/	/	/
8	2017-21/MECH/III/05	ARAVINDAN A	/	/	/	/	/	/	/	/
9	2017-21/MECH/III/05	ARUL RENISH S	/	/	/	/	/	/	/	/
10	2017-21/MECH/III/05	ASHWATH R	/	/	a	/	/	/	a	/
11	2017-21/MECH/III/05	BALAJI M	/	/	/	/	/	/	/	/
12	2017-21/MECH/III/05	BALASUBRAMANIYAM D	/	/	/	/	/	/	/	/
13	2017-21/MECH/III/05	BARATH KUMAR S	/	a	/	/	a	a	/	/
14	2017-21/MECH/III/05	BHUVANESH S	/	/	/	/	/	/	/	/
15	2017-21/MECH/III/05	FERDINAND B	/	/	/	/	/	/	/	/
16	2017-21/MECH/III/05	FRANKLIN RAJ A	/	/	/	/	/	/	/	/
17	2017-21/MECH/III/05	HANISH KUMAR R	/	/	/	/	/	/	/	/
18	2017-21/MECH/III/05	HARIGANESH K	/	/	/	/	/	/	/	/
19	2017-21/MECH/III/05	INFANT THANUS KODI M	/	/	/	/	/	/	/	/
20	2017-21/MECH/III/05	JASWANTH J	/	/	/	/	/	/	/	/
21	2017-21/MECH/III/05	JAYABAL S	/	/	/	/	/	/	/	/
22	2017-21/MECH/III/05	JAYARAM K	/	/	/	/	/	/	/	/
23	2017-21/MECH/III/05	JEBIN V	/	/	a	/	/	a	/	/
24	2017-21/MECH/III/05	JEEVANANTHAM P	/	/	/	/	/	/	/	/
25	2017-21/MECH/III/05	JERIN RAJ C	/	/	/	a	/	/	/	a
26	2017-21/MECH/III/05	JOEMON J	/	/	/	/	/	/	/	/
27	2017-21/MECH/III/05	JONY V	/	/	/	/	/	/	/	/
28	2017-21/MECH/III/05	JOSEPH JEFFREY J	/	/	/	/	/	/	/	/
29	2017-21/MECH/III/05	JOSHUA N	/	/	/	/	/	/	/	/
30	2017-21/MECH/III/05	JOTHIBASKAR M	/	/	/	/	/	/	/	/
31	2017-21/MECH/III/05	KALIRAJA P	/	/	/	/	/	/	/	/
32	2017-21/MECH/III/05	KANNAN V	/	/	/	/	/	/	/	/
33	2017-21/MECH/III/05	LESLEY TIWANS M	/	a	/	/	/	/	/	/
34	2017-21/MECH/III/05	MOHAMMED FAIZAL M	/	/	/	/	/	/	/	/
35	2017-21/MECH/III/05	NARESH KUMAR N	/	/	/	/	/	/	/	/
36	2017-21/MECH/III/05	PRAVEEN R	/	/	/	/	/	/	/	/
37	2017-21/MECH/III/05	RANJITHKUMAR T	/	/	/	/	/	/	/	/
38	2017-21/MECH/III/05	RANJITH KUMAR T.	/	/	/	/	/	/	/	/
39	2017-21/MECH/III/05	RISHIVARUNAN S	/	/	/	/	/	/	/	/
40	2017-21/MECH/III/05	ROHITH R	/	/	/	/	/	/	/	/
41	2017-21/MECH/III/05	SAHAYA ANSTON S	/	a	a	/	/	/	/	/
42	2017-21/MECH/III/05	SAMEER AHAMED A.W	/	/	/	/	/	/	/	/
43	2017-21/MECH/III/05	SANTHOSH P	/	/	/	/	/	/	/	/
44	2017-21/MECH/III/05	SANTHOSH KUMAR J	/	/	/	/	/	a	/	/

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## VALUE ADDED COURSE- FEEDBACK FORM

Academic Year : 2019-2020 Year/Sem: III / 05

Name of the VAC Coordinator : Mr.S. ARUN

VAC Duration : 30 HOURS

Name (Optional) :

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?	✓			
2	How interested were the content present at VAC?		✓		
3	How useful was the VAC from the knowledge and information point of view	✓			
4	The VAC Presented were congruent with the VAC syllabus		✓		
5	How well was the event space set up?		✓		
6	Expert technical knowledge of the subject	✓			
7	The expert provided adequate time for asking questions and answered them effectively	✓			
8	The materials Provided were useful		✓		
9	The experts demonstrated student centered learning strategies and techniques	✓			
10	Overall effectiveness of the program	✓			

Any Additional comments and suggestions for improvement:

*J. N. K - ✓*

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**VALUE ADDED COURSE- FEEDBACK FORM**

Academic Year : 2019-2020

Year/Sem: III / 05

Name of the VAC Coordinator : MRS. ARUN

VAC Duration : 30 hours

Name (Optional) :

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?	✓			
2	How interested were the content present at VAC?	✓			
3	How useful was the VAC from the knowledge and information point of view	✓			
4	The VAC Presented were congruent with the VAC syllabus	✓			
5	How well was the event space set up?	✓			
6	Expert technical knowledge of the subject	✓			
7	The expert provided adequate time for asking questions and answered them effectively	✓			
8	The materials Provided were useful	✓			
9	The experts demonstrated student centered learning strategies and techniques	✓			
10	Overall effectiveness of the program	✓			

Any Additional comments and suggestions for improvement:

The VAC coordinator is good at his teachings and presented a excellent examples and I am very much interested in his class also the materials provided by him is very useful.  
J.M.H

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## 3D PRINTING

### SUMMARY REPORT

Department of Mechanical Engineering has organized Anna University Approved value-added course on "3D PRINTING" from 21.08.2019 to 29.09.2019 in CAD/CAM Laboratory for third year students of EEE and MECH for a duration of 30 Hrs. Total of 63 students enrolled in the course. Evaluation process is carried out through internal assessment and the same was reported to the Anna University. The students were graded based on the internal assessment and all the enrolled students completed the course successfully. The course has provided sufficient training for individuals to develop their interpersonal skills and knowledge for creating innovative projects. The training covers effective teaching learning process to enhance their level of understanding in Additive Manufacturing Technologies, 3D printer functions and applications. The students have gained sufficient potential to create new projects thereby improving the knowledge on 3D Printers as well as enhancing their interpersonal skills.

S. Arun  
(S. Arun)  
VAC Co Ordinator

S. Arun  
HOD

L. N. Ho

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## CURRICULUM FOR SMALL UNMANNED AERIAL VEHICLE (sUAV) - DRONE

### **Course Objective:**

- This course prepares students to be able to conduct conceptual design of an Unmanned Aerial Vehicle (UAV) and assess its performance and airworthiness.
- Students will be introduced to the evolution of unmanned platforms, their role and basic functional characteristics. Students will develop a holistic awareness of a range of factors that impact on drone function.

### **UNIT – I INTRODUCTION TO DRONE**

2T + 4 P

Director General of Civil Aviation (DGCA) regulations & guidelines for Drone Operations, UAV & UAS classifications, Working of Drone & its systems, Navigation & Flight Control systems, Data link and Communication systems, Selection & other systems for respective commercial Applications

### **UNIT – II DRONE EQUIPMENTS**

4T+ 4 P

Introduction to Electrical systems – Motors, Batteries, Propellers & Other electrical systems Avionics Systems Introduction & working, Radio control systems – Transmission & Reception, Drones, First Person View (FPV), Camera Setup & Calibration, Gimbal setup, stabilization & Calibration, Integration of Antennas, Data link & Communication systems

### **UNIT – III DRONE REPAIRS & MAINTENANCE**

2T+2 P

UAV maintenance, Complete Drone Calibration & Ground Testing, Dismantling & Assembling

### **UNIT – IV DRONE COMMERCIAL APPLICATIONS IN DETAIL**

2 T+ 4 P

Surveying, GIS/Mapping, Inspection – Wind, Solar & Other Utilities, Oil & Gas, Mining, Construction & Infrastructure, Aerial Photography & Cinematography, Search & Rescue, Emergency Response, Disaster Management, Agriculture, Unmanned Cargo System.

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## **UNIT – V DRONE ADVANTAGES, DEMO & DISCUSSIONS**

2 T+ 4 P

UAV Advantages & disadvantages for each Industry, Cost analysis, Demonstration of Unmanned Engineering's Intelligent Industrial Drone, Discussion on technical, business, commercial & legal aspects of UAV integration into your workflow

Total Hours (12 – Theory + 18 Practical) :30 hrs.

### **Course Outcomes**

- Students will be able to demonstrate understanding of the issues and challenges of the operation, design and development of drones and its application to the design of a platform for a particular role.
- Students will be able to demonstrate ability to address the various mission payloads - on board & off board, propulsion systems, integration with manned systems and regulatory issues in the design process.

### **Text Book:**

1. Mark D Smith, "Quadcopters and Drones: A Beginner's Guide to Successfully Flying and Choosing the Right Drone", Create Space Independent Publishing Platform, 2015.

### **Reference Book:**

1. A R Jha, "Theory, Design, and Applications of Unmanned Aerial Vehicles", CRC Press, 2016.
2. Kimon P. Valavanis, George J. Vachtsevanos, "Handbook of Unmanned Aerial Vehicles", Springer, 2014.
3. , Terry Kilby & Belinda Kilby "Getting Started with Drones: Build and Customize Your Own Quadcopter", Maker Media, Inc, 2015.
4. Ales Zavrsnik, "Drones and unmanned aerial systems", Springer, 2015.
5. Douglas M. Marshall, Richard K. Barnhart, Eric Shappee & Michael Thomas Most, "Introduction to Unmanned Aircraft Systems", CRC Press, 2016.

*L.N. Ho*

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**TIME TABLE- SMALL UNMANNED AERIAL VEHICLE (sUAV) - DRONE**

Date	3.00 pm to 3.45 pm	3.45 pm to 4.30 pm
21.8.2019	Director General of Civil Aviation (DGCA) regulations & guidelines for Drone Operations, UAV & UAS classifications	Working of Drone & its systems, Navigation & Flight Control systems,
22.8.2019	Data link and Communication systems, Selection & other systems for respective commercial Applications	Introduction to Electrical systems – Motors, Batteries, Propellers
27.8.2019	Other electrical systems	Avionics Systems Introduction & working, Radio control systems
29.8.2019	Transmission & Reception, Drones, First Person View (FPV), Camera Setup & Calibration	Gimbal setup, stabilization & Calibration, Integration of Antennas, Data link & Communication systems
3.9.2019	UAV maintenance	Complete Drone Calibration & Ground Testing
4.9.2019	Dismantling & Assembling procedures	Surveying, GIS/Mapping
5.9.2019	Inspection – Wind, Solar & Other Utilities	Inspection – Oil & Gas, Mining
6.9.2019	Inspection – Construction & Infrastructure	Inspection – Aerial Photography & Cinematography
9.9.2019	Inspection – Search & Rescue, Emergency Response, Disaster Management,	Inspection – Agriculture, Unmanned Cargo System
11.9.2019	UAV Advantages & disadvantages for each Industry	Cost analysis, Demonstration of Unmanned Engineeria's Intelligent Industrial Drone
12.9.2019	Discussion on technical, business	commercial & legal aspects of UAV integration into your workflow
17.9.2019	Case studies of DRONE – disaster management	Case studies of DRONE - Surveying

*J. M. K*

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19.9.2019	Case studies of DRONE - Cargo System	Case studies of DRONE – Agriculture
24.9.2019	Radio control systems - Practical session	Demo on Electrical systems – Practical session
26.9.2019	Components of DRONE - Practical session	Dismantling & Assembling - Practical session

#### EXTERNAL TRAINER DETAILS

S.No	Name	Designation	Company
1.	Mr.A.Aswinkumar	Team Lead (Design & Anaysis)	Optimuz Tech Services

#### INTERNAL TRAINER DETAILS

S.No	Name	Designation	Company
1	Mr.S.KANNAN	Assistant Professor	Jeppiaar Institute of Technology

  
 VAC Co Ordinator  
 (S. KANNAN)



  
 HOD  
 (Dr. S. BOOPATHI)

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**VALUE ADDED COURSE DETAILS  
ACADEMIC YEAR 2019-2020**

**DEPARTMENT OF MECHANICAL ENGINEERING**

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE CERTIFYING ORGANIZATION	CERTIFICATE(YES/NO)
1	2017-2021/MECH/III/05	Abhilash K.S	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
2	2017-2021/MECH/III/05	Abinash P	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
3	2017-2021/MECH/III/05	Abijeet P.	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
4	2017-2021/MECH/III/05	Abishek F	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
5	2017-2021/MECH/III/05	Abishek L	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
6	2017-2021/MECH/III/05	Akash M.	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
7	2017-2021/MECH/III/05	Andrew Yogi D	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
8	2017-2021/MECH/III/05	Antony Shanc Ajay X	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
9	2017-2021/MECH/III/05	Anul Michael Antony F	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
10	2017-2021/MECH/III/05	Azhikil Samuel G	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
11	2017-2021/MECH/III/05	Ashwin R	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
12	2017-2021/MECH/III/05	Bharath Raj D	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
13	2017-2021/MECH/III/05	Bhavan Kalyan R	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
14	2017-2021/MECH/III/05	Broosee D	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
15	2017-2021/MECH/III/05	Deepak Avinesh A	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
16	2017-2021/MECH/III/05	Dhanush S	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
17	2017-2021/MECH/III/05	Ferdinand F	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
18	2017-2021/MECH/III/05	Finney T	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
19	2017-2021/MECH/III/05	Gopinath M	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
20	2017-2021/MECH/III/05	Hariash Kannan T	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
21	2017-2021/MECH/III/05	Hemanathan R	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
22	2017-2021/MECH/III/05	Hemanth M	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
23	2017-2021/MECH/III/05	Janaki Raman	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
24	2017-2021/MECH/III/05	Jayaraman Y	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
25	2017-2021/MECH/III/05	Jerold Brijtan J	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
26	2017-2021/MECH/III/05	Jesper V	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
27	2017-2021/MECH/III/05	Kamesh M	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
28	2017-2021/MECH/III/05	Kathir M	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
29	2017-2021/MECH/III/05	Loheswaran M	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
30	2017-2021/MECH/III/05	Lokeswaran R	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
31	2017-2021/MECH/III/05	Manojkumar P	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
32	2017-2021/MECH/III/05	Maria Jesu Godwin T	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
33	2017-2021/MECH/III/05	Murali Krishnan S	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
34	2017-2021/MECH/III/05	Pradeep R	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
35	2017-2021/MECH/III/05	Prathap T	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
36	2017-2021/MECH/III/05	Proveni Kumar P	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
37	2017-2021/MECH/III/05	Rabul N	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
38	2017-2021/MECH/III/05	Rakesh S	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
39	2017-2021/MECH/III/05	Ramkumar N	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
40	2017-2021/MECH/III/05	Sanjay J	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
41	2017-2021/MECH/III/05	Saravanan C	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
42	2017-2021/MECH/III/05	Sasikumar S	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
43	2017-2021/MECH/III/05	Silvan L	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
44	2017-2021/MECH/III/05	Sriram E	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
45	2017-2021/MECH/III/05	Subramani P	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
46	2017-2021/MECH/III/05	Suraj S	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
47	2017-2021/MECH/III/05	Surya S	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
48	2017-2021/MECH/III/05	Tamilselvan K	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
49	2017-2021/MECH/III/05	Thamarai Selvan S	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
50	2017-2021/MECH/III/05	Vignesh G	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
51	2017-2021/MECH/III/05	Vignesh K.P	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
52	2017-2021/MECH/III/05	Vignesh R	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
53	2017-2021/MECH/III/05	Vignesh R.P	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
54	2017-2021/MECH/III/05	Vinayagamoorthy P	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
55	2017-2021/MECH/III/05	Karthik E	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
56	2017-2021/MECH/III/05	Mohammed Sarfaaz	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
57	2017-2021/MECH/III/05	Joshuva Santhosh	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
58	2017-2021/ECE/III/05	BHARATH KUMAR S	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
59	2017-2021/ECE/III/05	DILSHAN D	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
60	2017-2021/ECE/III/05	KRISHNA KUMAR S	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
61	2017-2021/ECE/III/05	MURALI S	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
62	2017-2021/ECE/III/05	PRADEEP S	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
63	2017-2021/ECE/III/05	RAMA KRISHNAN S	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
64	2017-2021/EEE/III/05	DHARMAPRAVEEN B	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
65	2017-2021/EEE/III/05	HARISH P P	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
66	2017-2021/EEE/III/05	KARTHIKA T	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
67	2017-2021/EEE/III/05	LOGESH N	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
68	2017-2021/EEE/III/05	PARKAVI B	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
69	2017-2021/EEE/III/05	PRAVEEN KANNA A	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
70	2017-2021/EEE/III/05	SABARI RAJAN S	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES
71	2017-2021/EEE/III/05	PARTHA SARATHI S L	Small Unmanned Aerial Vehicle (sUAV)-DRONE	30 Hrs	Anna University	YES

(S. KANNAN)  
*[Signature]*

*[Signature]*

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 VALUE ADDED COURSE - SMALL UNMANNED AERIAL VEHICLE (sUAV) - DRONE  
 ACADEMIC YEAR 2019-2020

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	21/8	22/8	23/8	24/8	3/9	4/9	5/9	6/9
1	2017-21/MECH/III/05	ABHILESH K.S	/	/	/	/	/	/	/	/
2	2017-21/MECH/III/05	ABINASH P	/	/	/	/	C	/	/	/
3	2017-21/MECH/III/05	ABINEJE P	/	/	/	/	/	/	/	/
4	2017-21/MECH/III/05	ABISHEK F.	/	/	A	/	/	/	/	/
5	2017-21/MECH/III/05	ABISHEK L.	/	/	/	/	/	/	/	/
6	2017-21/MECH/III/05	AKASH M.	A	/	/	/	/	/	/	/
7	2017-21/MECH/III/05	ANDREW YOGI D	/	/	/	/	/	/	/	/
8	2017-21/MECH/III/05	ANTONY SHANE AJAY X	/	/	/	/	A	/	/	/
9	2017-21/MECH/III/05	ARUL MICHAEL ANTONY F	/	/	/	A	/	/	/	A
10	2017-21/MECH/III/05	ASHIK SAMUEL G	/	/	/	/	/	/	/	/
11	2017-21/MECH/III/05	ASHWIN R	/	/	/	/	/	/	/	/
12	2017-21/MECH/III/05	BHARATH RAJ D	/	/	/	/	/	/	A	/
13	2017-21/MECH/III/05	BHAVAN KALYAN R	/	/	/	/	/	/	/	/
14	2017-21/MECH/III/05	BROONSE D	/	/	/	/	A	/	/	/
15	2017-21/MECH/III/05	DEEPAK AVINESH A	/	/	/	/	/	/	B	/
16	2017-21/MECH/III/05	DHANUSH S	/	A	/	/	/	A	/	/
17	2017-21/MECH/III/05	FERDINENT F	/	/	/	/	/	/	/	/
18	2017-21/MECH/III/05	FINNEY T	/	/	/	/	/	/	/	A
19	2017-21/MECH/III/05	GOPINATH M	/	/	/	/	/	/	/	/
20	2017-21/MECH/III/05	HARISH KANNA T	/	/	/	A	/	/	/	/
21	2017-21/MECH/III/05	HEMANATHAN R	A	/	/	/	/	/	/	/
22	2017-21/MECH/III/05	HEMNATH M	/	/	/	/	/	/	/	/
23	2017-21/MECH/III/05	JANAKI RAMAN	/	/	/	/	/	/	/	A
24	2017-21/MECH/III/05	JAYARAJAN Y	/	/	/	/	/	/	/	/
25	2017-21/MECH/III/05	JEROLD BRIJITAN J	/	/	/	/	R	/	/	/
26	2017-21/MECH/III/05	JESPEER V	/	/	A	/	/	/	/	/
27	2017-21/MECH/III/05	KAMESH M	/	/	/	/	/	/	/	/
28	2017-21/MECH/III/05	KATHIR M	/	/	/	/	/	/	/	/
29	2017-21/MECH/III/05	LOHESWAR M	A	/	/	/	/	/	/	/
30	2017-21/MECH/III/05	LOKESHWARAN R	/	/	/	/	/	/	/	/
31	2017-21/MECH/III/05	MANOJKUMAR P	/	/	/	/	/	/	/	/
32	2017-21/MECH/III/05	MARIA JESU GODWIN T	/	/	/	/	/	/	/	/
33	2017-21/MECH/III/05	MURALI KRISHNAN S	/	/	/	/	/	/	/	/
34	2017-21/MECH/III/05	PRADEEP R	/	A	/	/	/	/	/	/
35	2017-21/MECH/III/05	PRATHAP T	/	/	/	/	/	/	/	/
36	2017-21/MECH/III/05	PRAVEEN KUMAR P	/	/	/	/	/	/	/	/
37	2017-21/MECH/III/05	RAHUL N	/	/	/	/	R	/	/	/
38	2017-21/MECH/III/05	RAKESH S	/	A	/	/	/	/	/	/
39	2017-21/MECH/III/05	RAMKUMAR N	/	/	/	/	/	/	/	/
40	2017-21/MECH/III/05	SANJAY J	/	/	/	/	R	/	/	/
41	2017-21/MECH/III/05	SARAVANAN C	/	/	/	A	R	/	/	/
42	2017-21/MECH/III/05	SASIKUMAR S	/	/	/	/	R	/	/	/
43	2017-21/MECH/III/05	SILVAN L	A	/	/	/	/	/	/	/
44	2017-21/MECH/III/05	SRIRAM E	/	/	/	/	/	/	/	/

*D.N.N*

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VALLUE ADDED COURSE - SMALL UNMANNED AERIAL VEHICLE (sUAV) - DRONE  
ACADEMIC YEAR 2019-2020

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	9/9	11/9	12/9	17/9	19/9	24/9	29/9
1	2017-21/MECH/III/05	ABHILESH K.S	/	/	/	/	/	/	/
2	2017-21/MECH/III/05	ABINASH P	/	/	/	/	/	/	/
3	2017-21/MECH/III/05	ABINEJE P	/	/	/	/	a	a	a
4	2017-21/MECH/III/05	ABISHEK F.	/	/	/	/	/	/	/
5	2017-21/MECH/III/05	ABISHEK L.	/	/	a	/	/	/	/
6	2017-21/MECH/III/05	AKASH M.	a	/	/	/	/	/	/
7	2017-21/MECH/III/05	ANDREW YOGI D	/	/	/	/	/	/	/
8	2017-21/MECH/III/05	ANTONY SHANE AJAY X	/	/	/	/	/	/	/
9	2017-21/MECH/III/05	ARUL MICHAEL ANTONY F	/	/	/	/	/	/	/
10	2017-21/MECH/III/05	ASHIK SAMUEL G	/	/	/	a	/	/	/
11	2017-21/MECH/III/05	ASHWIN R	/	/	/	/	/	/	/
12	2017-21/MECH/III/05	BHARATH RAJ D	/	/	/	/	/	/	/
13	2017-21/MECH/III/05	BHAVAN KALYAN R	/	/	/	/	/	/	/
14	2017-21/MECH/III/05	BROONSE D	/	/	/	/	c	/	/
15	2017-21/MECH/III/05	DEEPAK AVINESH A	/	/	c	c	/	/	/
16	2017-21/MECH/III/05	DHANUSH S	/	/	/	/	/	/	/
17	2017-21/MECH/III/05	FERDINENT F	/	/	/	/	a	/	/
18	2017-21/MECH/III/05	FINNEY T	/	/	/	/	/	/	/
19	2017-21/MECH/III/05	GOPINATH M	/	/	a	/	/	a	/
20	2017-21/MECH/III/05	HARISH KANNA T	/	/	c	/	/	/	a
21	2017-21/MECH/III/05	HEMANATHAN R	/	/	/	/	/	/	/
22	2017-21/MECH/III/05	HEMNATH M	a	/	c	/	/	/	/
23	2017-21/MECH/III/05	JANAKI RAMAN	/	/	/	/	/	/	/
24	2017-21/MECH/III/05	JAYARAJAN Y	/	/	/	/	/	/	/
25	2017-21/MECH/III/05	JEROLD BRIJITAN J	/	/	/	/	/	a	/
26	2017-21/MECH/III/05	JESPEER V	/	a	/	/	/	/	/
27	2017-21/MECH/III/05	KAMESH M	/	/	/	/	/	/	/
28	2017-21/MECH/III/05	KATHIR M	/	/	/	a	/	/	/
29	2017-21/MECH/III/05	LOHESWAR M	/	/	c	/	/	/	/
30	2017-21/MECH/III/05	LOKESHWARAN R	/	/	a	/	/	/	/
31	2017-21/MECH/III/05	MANOJKUMAR P	/	/	/	/	a	/	/
32	2017-21/MECH/III/05	MARIA JESU GODWIN T	/	/	/	/	/	/	a
33	2017-21/MECH/III/05	MURALI KRISHNAN S	/	/	/	/	/	/	/
34	2017-21/MECH/III/05	PRADEEP R	/	/	/	/	/	/	/
35	2017-21/MECH/III/05	PRATHAP T	/	/	/	/	/	/	/
36	2017-21/MECH/III/05	PRAVEEN KUMAR P	/	/	/	/	/	/	/
37	2017-21/MECH/III/05	RAHUL N	/	/	a	/	/	a	/
38	2017-21/MECH/III/05	RAKESH S	/	/	/	/	/	/	/
39	2017-21/MECH/III/05	RAMKUMAR N	/	/	/	/	/	/	/
40	2017-21/MECH/III/05	SANJAY J	/	/	/	/	c	/	/
41	2017-21/MECH/III/05	SARAVANAN C	/	/	f	/	/	/	/
42	2017-21/MECH/III/05	SASIKUMAR S	/	/	/	/	/	/	/
43	2017-21/MECH/III/05	SILVAN L	a	/	a	/	/	/	/
44	2017-21/MECH/III/05	SRIRAM E	/	/	/	a	/	/	/

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## SMALL UNMANNED AERIAL VEHICLE (sUAV) - DRONE

### SUMMARY REPORT

Department of Mechanical Engineering has organized Anna University Approved value-added course on "SMALL UNMANNED AERIAL VEHICLE (sUAV) - DRONE" from 21.08.2019 to 29.09.2019 in Mechatronics Laboratory for third year students of ECE, EEE and MECH for a duration of 30 Hrs. Total of 71 students enrolled in the course. Evaluation process is carried out through internal assessment and the same was reported to the Anna University. The students were graded based on the internal assessment and all the enrolled students completed the course successfully. The course has provided sufficient training for individuals to develop their interpersonal skills and knowledge for creating innovative projects. The training covers effective teaching learning process to enhance their level of understanding in DRONE operations, assembly, disassembly and applications. The students have gained sufficient potential to create new projects thereby improving the knowledge on DRONE as well as enhancing their interpersonal skills.

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HOD

(S. KANNAN)



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## VALUE ADDED COURSE- FEEDBACK FORM

Academic Year : 2019-2020

Year/Sem: III /05

Name of the VAC Coordinator : Mr. KANNAN S

VAC Duration : 30 HOURS

Name (Optional) :

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?		✓		
2	How interested were the content present at VAC?		✓		
3	How useful was the VAC from the knowledge and information point of view	✓			
4	The VAC Presented were congruent with the VAC syllabus		✓		
5	How well was the event space set up?		✓		
6	Expert technical knowledge of the subject		✓		
7	The expert provided adequate time for asking questions and answered them effectively	✓			
8	The materials Provided were useful			✓	
9	The experts demonstrated student centered learning strategies and techniques	✓			
10	Overall effectiveness of the program		✓		

Any Additional comments and suggestions for improvement:

J.N.W

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### VALUE ADDED COURSE- FEEDBACK FORM

Academic Year : 2019-2020

Year/Sem: III / 05

Name of the VAC Coordinator : Mr KANNAN . S

VAC Duration : 30 HOURS

Name (Optional) :

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?		✓		
2	How interested were the content present at VAC?		✓		
3	How useful was the VAC from the knowledge and information point of view	✓			
4	The VAC Presented were congruent with the VAC syllabus		✓		
5	How well was the event space set up?		✓		
6	Expert technical knowledge of the subject		✓		
7	The expert provided adequate time for asking questions and answered them effectively	✓			
8	The materials Provided were useful			✓	
9	The experts demonstrated student centered learning strategies and techniques	✓			
10	Overall effectiveness of the program		✓		

Any Additional comments and suggestions for improvement:

Nil

D.M.N



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## VALUE ADDED COURSE- FEEDBACK FORM

Academic Year : 2019-2020

Year/Sem: III / 05

Name of the VAC Coordinator : Mr. KANNAN S

VAC Duration : 30 HOURS

Name (Optional) :

Kindly put a tick mark ( ✓ ) to fill the below table.

S.NO	PARTICULARS	EXCELLENT	GOOD	AVERAGE	POOR
1	Are you satisfied with the session time and Venue?	✓			
2	How interested were the content present at VAC?	✓			
3	How useful was the VAC from the knowledge and information point of view		✓		
4	The VAC Presented were congruent with the VAC syllabus		✓		
5	How well was the event space set up?	✓			
6	Expert technical knowledge of the subject		✓		
7	The expert provided adequate time for asking questions and answered them effectively	✓			
8	The materials Provided were useful		✓		
9	The experts demonstrated student centered learning strategies and techniques		✓		
10	Overall effectiveness of the program	✓			

Any Additional comments and suggestions for improvement:

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**CURRICULUM FOR SMALL UNMANNED AERIAL VEHICLE (sUAV) - DRONE**

**Course Objective:**

- This course prepares students to be able to conduct conceptual design of an Unmanned Aerial Vehicle (UAV) and assess its performance and airworthiness.
- Students will be introduced to the evolution of unmanned platforms, their role and basic functional characteristics. Students will develop a holistic awareness of a range of factors that impact on drone function.

**UNIT – I INTRODUCTION TO DRONE**

2T + 4 P

Director General of Civil Aviation (DGCA) regulations & guidelines for Drone Operations, UAV & UAS classifications, Working of Drone & its systems, Navigation & Flight Control systems, Data link and Communication systems, Selection & other systems for respective commercial Applications

**UNIT – II DRONE EQUIPMENTS**

4T+ 4 P

Introduction to Electrical systems – Motors, Batteries, Propellers & Other electrical systems Avionics Systems Introduction & working, Radio control systems – Transmission & Reception, Drones, First Person View (FPV), Camera Setup & Calibration, Gimbal setup, stabilization & Calibration, Integration of Antennas, Data link & Communication systems

**UNIT – III DRONE REPAIRS & MAINTENANCE**

2T+2 P

UAV maintenance, Complete Drone Calibration & Ground Testing, Dismantling & Assembling

**UNIT – IV DRONE COMMERCIAL APPLICATIONS IN DETAIL**

2 T+ 4 P

Surveying, GIS/Mapping, Inspection – Wind, Solar & Other Utilities, Oil & Gas, Mining, Construction & Infrastructure, Aerial Photography & Cinematography, Search & Rescue, Emergency Response, Disaster Management, Agriculture, Unmanned Cargo System.

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## **UNIT – V DRONE ADVANTAGES, DEMO & DISCUSSIONS**

2 T + 4 P

UAV Advantages & disadvantages for each Industry, Cost analysis, Demonstration of Unmanned Engineering's Intelligent Industrial Drone, Discussion on technical, business, commercial & legal aspects of UAV integration into your workflow

Total Hours (12 – Theory + 18 Practical) :30 hrs.

### **Course Outcomes**

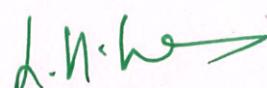
- Students will be able to demonstrate understanding of the issues and challenges of the operation, design and development of drones and its application to the design of a platform for a particular role.
- Students will be able to demonstrate ability to address the various mission payloads - on board & off board, propulsion systems, integration with manned systems and regulatory issues in the design process.

### **Text Book:**

1. Mark D Smith, "Quadcopters and Drones: A Beginner's Guide to Successfully Flying and Choosing the Right Drone", Create Space Independent Publishing Platform, 2015.

### **Reference Book:**

1. A R Jha, "Theory, Design, and Applications of Unmanned Aerial Vehicles", CRC Press, 2016.
2. Kimon P. Valavanis, George J. Vachtsevanos, "Handbook of Unmanned Aerial Vehicles", Springer, 2014.
3. , Terry Kilby & Belinda Kilby "Getting Started with Drones: Build and Customize Your Own Quadcopter", Maker Media, Inc, 2015.
4. Ales Zavrsnik, "Drones and unmanned aerial systems", Springer, 2015.
5. Douglas M. Marshall, Richard K. Barnhart, Eric Shappee & Michael Thomas Most, "Introduction to Unmanned Aircraft Systems", CRC Press, 2016.



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KARNATAKA 573 126, INDIA



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**TIME TABLE- SMALL UNMANNED AERIAL VEHICLE (sUAV) - DRONE**

Date	3.00 pm to 3.45 pm	3.45 pm to 4.30 pm
10.07.2020	Director General of Civil Aviation (DGCA) regulations & guidelines for Drone Operations, UAV & UAS classifications	Working of Drone & its systems, Navigation & Flight Control systems,
17.07.2020	Data link and Communication systems, Selection & other systems for respective commercial Applications	Introduction to Electrical systems – Motors, Batteries, Propellers
24.07.2020	Other electrical systems	Avionics Systems Introduction & working, Radio control systems
31.07.2020	Transmission & Reception, Drones, First Person View (FPV), Camera Setup & Calibration	Gimbal setup, stabilization & Calibration, Integration of Antennas, Data link & Communication systems
7.08.2020	UAV maintenance	Complete Drone Calibration & Ground Testing
14.08.2020	Dismantling & Assembling procedures	Surveying, GIS/Mapping
21.08.2020	Inspection – Wind, Solar & Other Utilities	Inspection – Oil & Gas, Mining
28.08.2020	Inspection – Construction & Infrastructure	Inspection – Aerial Photography & Cinematography
04.09.2020	Inspection – Search & Rescue, Emergency Response, Disaster Management,	Inspection – Agriculture, Unmanned Cargo System
11.09.2020	UAV Advantages & disadvantages for each Industry	Cost analysis, Demonstration of Unmanned Engineeria's Intelligent Industrial Drone
18.09.2020	Discussion on technical, business	commercial & legal aspects of UAV integration into your workflow
25.09.2020	Case studies of DRONE – disaster management	Case studies of DRONE – Surveying

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1.10.2020	Case studies of DRONE - Cargo System	Case studies of DRONE – Agriculture
9.10.2020	Radio control systems - Practical session	Demo on Electrical systems – Practical session
16.10.2020	Components of DRONE - Practical session	Dismantling & Assembling - Practical session

#### EXTERNAL TRAINER DETAILS

S.No	Name	Designation	Company
1.	Mr.A.Aswinkumar	Team Lead (Design & Analysis)	Optimuz Tech Services

#### INTERNAL TRAINER DETAILS

S.No	Name	Designation	Company
1	Mr.S.KANNAN	Assistant Professor	Jeppiaar Institute of Technology

  
VAC Co Ordinator

( S. Kannan )

 Dr. Srinivas B  
HOD  
( B. RAJESH KUMAR )

  
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**VALUE ADDED COURSE DETAILS  
ACADEMIC YEAR 2020-2021**

DEPARTMENT OF MECHANICAL ENGINEERING						
SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE CERTIFYING	CERTIFICATE(YES/NO)
1	2018-2022/CSE/III/05	EMMANUEL JOHNSON PAUL	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
2	2018-2022/CSE/III/05	HAARISH KANNAN K G	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
3	2018-2022/CSE/III/05	V S RAKSHITH	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
4	2018-2022/CSE/III/05	B.YOGI	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
5	2018-2022/CSE/III/05	D.VAJRAPANI	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
6	2018-2022/MECH/III/05	ABINESH M	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
7	2018-2022/MECH/III/05	AMAL KISHOK A	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
8	2018-2022/MECH/III/05	AMEER ARIYADHARAN G A	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
9	2018-2022/MECH/III/05	ASHIK A	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
10	2018-2022/MECH/III/05	BHARATH M	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
11	2018-2022/MECH/III/05	CROZIN V.THADEUS	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
12	2018-2022/MECH/III/05	DINAKARA PRABHU A	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
13	2018-2022/MECH/III/05	DINESH RAJ S	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
14	2018-2022/MECH/III/05	FRANKO THILIPHAN M	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
15	2018-2022/MECH/III/05	GIRIDHARAN R	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
16	2018-2022/MECH/III/05	GUNASEKAR A	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
17	2018-2022/MECH/III/05	HANNBAL P HENRY	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
18	2018-2022/MECH/III/05	HIRTHIK JEBASEKARAN J	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
19	2018-2022/MECH/III/05	JACKSON J A	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
20	2018-2022/MECH/III/05	JEBASINGH NISHAL J	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
21	2018-2022/MECH/III/05	JEFRIN J	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
22	2018-2022/MECH/III/05	JERSHLIN J	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
23	2018-2022/MECH/III/05	JOSE MELVIN J	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
24	2018-2022/MECH/III/05	KEERTHI RAJ S	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
25	2018-2022/MECH/III/05	KEVIN BERNARD A	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
26	2018-2022/MECH/III/05	KISHORE G	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
27	2018-2022/MECH/III/05	KUMARAVEL R	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
28	2018-2022/MECH/III/05	LINGESH R	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
29	2018-2022/MECH/III/05	MANIBHARATHI R	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
30	2018-2022/MECH/III/05	MARIA ANTONY RAJO R	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
31	2018-2022/MECH/III/05	MUKILAN R	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
32	2018-2022/MECH/III/05	NAVEEN NEHRU R	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
33	2018-2022/MECH/III/05	NAVIN A	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
34	2018-2022/MECH/III/05	OLIVER JOSE J	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
35	2018-2022/MECH/III/05	PRABHU J	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES

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36	2018-2022/MECH/III/05	RAHUL KHANNA B	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
37	2018-2022/MECH/III/05	SENIN STAVIN D	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
38	2018-2022/MECH/III/05	SHERWIN JIJO J	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
39	2018-2022/MECH/III/05	VIGNESH R	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
40	2018-2022/MECH/III/05	VIGNESHWARAN D	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
41	2018-2022/MECH/III/05	ANTONY HERMAN JOSE S	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
42	2018-2022/MECH/III/05	ARUNACHALAM D	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
43	2018-2022/MECH/III/05	HARISH S	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
44	2018-2022/MECH/III/05	RAM AJITH S	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
45	2018-2022/MECH/III/05	SATHIYAN G	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES
46	2018-2022/MECH/III/05	ASHA BABEENA S	mall Unmanned Aerial Vehicle (sUAV) -DRON	30 Hrs	Anna University	YES

  
 (S. KARUNIAN)



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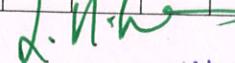


VALUUE ADDED COURSE - SMALL UNMANNED AERIAL VEHICLE (sUAV) - DRONE  
ACADEMIC YEAR 2020-2021

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	10/11	11/12	24/11	31/11	4/12	14/12	21/12	28/12
1	2018-22/MECH/III/05	ABINESH M	/	/	/	/	/	/	/	/
2	2018-22/MECH/III/05	AMAL KISHOK A	/	/	/	/	/	/	/	/
3	2018-22/MECH/III/05	AMEER ARIYADHARAN G A	/	/	/	/	/	/	/	/
4	2018-22/MECH/III/05	ASHIK A	/	/	/	/	/	/	a	/
5	2018-22/MECH/III/05	BHARATH M	/	/	/	/	/	/	/	/
6	2018-22/MECH/III/05	CROZIN V THADEUS	9	/	/	/	/	/	/	/
7	2018-22/MECH/III/05	DINAKARA PRABHU A	/	/	/	/	/	/	/	/
8	2018-22/MECH/III/05	DINESH RAJS	/	/	/	/	/	/	/	/
9	2018-22/MECH/III/05	FRANKO THILIPHAN M	/	/	/	/	/	/	/	/
10	2018-22/MECH/III/05	GIRIDHARAN R	/	/	/	a	/	/	/	/
11	2018-22/MECH/III/05	GUNASEKAR A	/	/	/	/	/	/	/	/
12	2018-22/MECH/III/05	HANNBAL P HENRY	/	/	/	/	/	/	/	/
13	2018-22/MECH/III/05	HIRTHIK JEBASEKARAN J	/	/	/	/	/	/	/	/
14	2018-22/MECH/III/05	JACKSON J A	9	/	/	/	/	/	/	/
15	2018-22/MECH/III/05	JEBASINGH NISHAL J	a	/	/	/	/	/	/	/
16	2018-22/MECH/III/05	JEFRIN J	/	a	/	/	/	/	/	/
17	2018-22/MECH/III/05	JERSHLIN J	/	/	/	/	/	/	/	/
18	2018-22/MECH/III/05	JOSE MELVIN J	/	/	/	/	/	/	/	/
19	2018-22/MECH/III/05	KEERTHI RAJ S	/	/	/	/	/	/	/	/
20	2018-22/MECH/III/05	KEVIN BERNARD A	/	/	/	/	/	/	/	/
21	2018-22/MECH/III/05	KISHORE G	/	/	/	/	/	/	a	/
22	2018-22/MECH/III/05	KUMARAVEL R	/	/	/	/	/	/	/	/
23	2018-22/MECH/III/05	LINGESH R	/	/	/	/	/	/	/	/
24	2018-22/MECH/III/05	MANIBHARATHI R	/	/	/	/	/	/	/	/
25	2018-22/MECH/III/05	MARIA ANTONY RAJO R	/	/	/	/	/	/	/	a
26	2018-22/MECH/III/05	MUKILAN R	/	/	/	/	/	/	/	/
27	2018-22/MECH/III/05	NAVEEN NEHRU R	/	/	/	/	/	/	/	/
28	2018-22/MECH/III/05	NAVIN A	/	/	/	/	/	/	/	/
29	2018-22/MECH/III/05	OLIVER JOSE J	/	/	/	/	/	/	/	/
30	2018-22/MECH/III/05	PRABHU J	/	/	/	/	/	/	/	/
31	2018-22/MECH/III/05	RAHUL KHANNA B	/	a	/	/	/	/	/	/
32	2018-22/MECH/III/05	SENIN STAVIN D	/	/	/	/	/	/	/	/
33	2018-22/MECH/III/05	SHERWIN JIJO J	/	/	/	/	/	/	/	/
34	2018-22/MECH/III/05	VIGNESH R	/	/	/	/	/	/	/	/
35	2018-22/MECH/III/05	VIGNESHWARAN D	/	/	/	/	/	/	/	/
36	2018-22/MECH/III/05	ANTONY HERMAN JOSE S	/	/	/	/	/	/	/	/
37	2018-22/MECH/III/05	ARUNACHALAM D	/	/	/	/	/	/	a	/
38	2018-22/MECH/III/05	HARISH S	/	/	/	/	/	/	/	/
39	2018-22/MECH/III/05	RAM AJITH S	/	/	/	/	/	/	/	/
40	2018-22/MECH/III/05	SATHIYAN G	9	/	/	/	/	/	/	/
41	2018-22/MECH/III/05	ASHA BABEENA S	/	/	/	/	/	/	/	/
42	2018-22/CSE/III/05	EMMANUEL JOHNSON PAUL	/	/	/	/	/	/	/	/
43	2018-22/CSE/III/05	HAARISH KANNAN K G	/	/	/	/	/	/	/	/
44	2018-22/CSE/III/05	V S RAKSHITH	/	/	/	/	/	/	/	/
45	2018-22/CSE/III/05	B YOGI	/	/	/	/	/	/	/	/
46	2018-22/CSE/III/05	D VAJRAPANI	/	/	/	/	/	/	/	/
Total Strength			46	46	46	46	46	46	46	46
Total Present			43	44	46	45	46	46	43	45
Total Absent			3	2	-	1	-	-	3	1
Signature			A. S. M.							

VALUE ADDED COURSE - SMALL UNMANNED AERIAL VEHICLE (sUAV) - DRONE  
 ACADEMIC YEAR 2020-2021

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	A19	M19	1819	2519	110	910	1610	
1	2018-22/MECH/III/05	ABINESH M	/	/	/	/	/	/	/	
2	2018-22/MECH/III/05	AMAL KISHOK A	/	/	/	a	/	/	/	
3	2018-22/MECH/III/05	AMEER ARIYADHARAN G A	/	/	/	/	/	/	/	
4	2018-22/MECH/III/05	ASHIK A	/	/	/	/	/	/	/	
5	2018-22/MECH/III/05	BHARATH M	/	a	/	/	/	/	/	
6	2018-22/MECH/III/05	CROZIN V THADEUS	/	/	/	/	/	/	/	
7	2018-22/MECH/III/05	DINAKARA PRABHU A	/	/	/	/	/	/	/	
8	2018-22/MECH/III/05	DINESH RAJ S	/	/	/	/	/	/	/	
9	2018-22/MECH/III/05	FRANKO THILIPHAN M	/	/	/	/	/	/	/	
10	2018-22/MECH/III/05	GIRIDHARAN R	/	/	/	/	/	/	/	
11	2018-22/MECH/III/05	GUNASEKAR A	/	/	/	/	/	/	/	
12	2018-22/MECH/III/05	HANNBAL P HENRY	a	/	/	/	/	/	/	
13	2018-22/MECH/III/05	HIRTHIK JEBASEKARAN J	/	/	/	/	/	/	/	
14	2018-22/MECH/III/05	JACKSON J A	/	/	/	/	/	/	/	
15	2018-22/MECH/III/05	JEBASINGH NISHAL J	/	/	/	/	/	/	/	
16	2018-22/MECH/III/05	JEFRIN J	/	/	a	/	/	/	/	
17	2018-22/MECH/III/05	JERSHLIN J	/	/	/	/	/	/	/	
18	2018-22/MECH/III/05	JOSE MELVIN J	/	/	/	/	/	/	/	
19	2018-22/MECH/III/05	KEERTHI RAJ S	/	/	/	/	/	a	/	
20	2018-22/MECH/III/05	KEVIN BERNARD A	/	/	/	/	/	/	/	
21	2018-22/MECH/III/05	KISHORE G	/	/	/	a	/	/	/	
22	2018-22/MECH/III/05	KUMARAVEL R	/	/	/	/	/	/	/	
23	2018-22/MECH/III/05	LINGESH R	/	/	/	/	/	/	/	
24	2018-22/MECH/III/05	MANIBHARATHI R	/	/	/	/	/	/	/	
25	2018-22/MECH/III/05	MARIA ANTONY RAJO R	/	/	/	/	/	/	/	
26	2018-22/MECH/III/05	MUKILAN R	/	/	a	/	/	/	/	
27	2018-22/MECH/III/05	NAVEEN NEHRU R	/	/	/	/	/	/	/	
28	2018-22/MECH/III/05	NAVIN A	/	/	/	/	/	/	/	
29	2018-22/MECH/III/05	OLIVER JOSE J	/	/	/	a	/	/	/	
30	2018-22/MECH/III/05	PRABHU J	/	/	/	/	/	/	/	
31	2018-22/MECH/III/05	RAHUL KHANNA B	/	/	/	/	/	/	/	
32	2018-22/MECH/III/05	SENIN STAVIN D	/	/	/	/	/	/	/	
33	2018-22/MECH/III/05	SHERWIN JUO J	/	/	/	/	/	/	/	
34	2018-22/MECH/III/05	VIGNESH R	a	/	/	/	/	/	/	
35	2018-22/MECH/III/05	VIGNESHWARAN D	/	/	/	/	/	/	/	
36	2018-22/MECH/III/05	ANTONY HERMAN JOSE S	/	/	/	/	/	/	/	
37	2018-22/MECH/III/05	ARUNACHALAM D	/	/	/	/	/	/	/	
38	2018-22/MECH/III/05	HARISH S	/	/	a	/	/	/	/	
39	2018-22/MECH/III/05	RAM AJITH S	/	/	/	/	/	/	/	
40	2018-22/MECH/III/05	SATHIYAN G	/	/	/	/	/	/	/	
41	2018-22/MECH/III/05	ASHA BABEENA S	/	/	/	a	/	/	/	
42	2018-22/CSE/III/05	EMMANUEL JOHNSON PAUL	/	/	/	/	/	/	/	
43	2018-22/CSE/III/05	HAARISH KANNAN K G	/	/	/	/	/	/	/	
44	2018-22/CSE/III/05	V S RAKSHITH	/	/	/	/	/	/	/	
45	2018-22/CSE/III/05	B YOGI	/	/	/	/	/	a	/	
46	2018-22/CSE/III/05	D VAJRAPANI	/	/	/	/	/	/	/	
Total Strength			76	46	76	46	46	46	46	
Total Present			74	45	78	43	45	44	46	
Total Absent			2	1	3	3	1	0	2	
Signature			1/20/2021	1/20/2021	1/20/2021	1/20/2021	1/20/2021	1/20/2021	1/20/2021	



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## SMALL UNMANNED AERIAL VEHICLE (sUAV) - DRONE

### SUMMARY REPORT

Department of Mechanical Engineering has organized Anna University Approved value-added course on “SMALL UNMANNED AERIAL VEHICLE (sUAV) - DRONE” from 10.07.2020 to 16.10.2020 through online mode for third year students of Mechanical Engineering for a duration of 30 Hrs. Total of 46 students enrolled in the course. Evaluation process is carried out through internal assessment and the same was reported to the Anna University. The students were graded based on the internal assessment and all the enrolled students completed the course successfully. The course has provided sufficient training for individuals to develop their interpersonal skills and knowledge for creating innovative projects. The training covers effective teaching learning process to enhance their level of understanding in DRONE operations, assembly, disassembly and applications. The students have gained sufficient potential to create new projects thereby improving the knowledge on DRONE as well as enhancing their interpersonal skills.

VAC Co Ordinator  
(S. Kannan)

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HOD  
[B. RAJESWARI KUMAR]



### CURRICULUM FOR 3D PRINTING

#### **Course Objective:**

- To broaden and deepen the principle methods, capabilities in analytical and experimental research methods in rapid prototyping and its applications.
- To be familiar with characteristics of different materials used in additive manufacturing.

#### **UNIT I INTRODUCTION**

5

Need for the compression in product development, history of RP systems, survey of applications, growth of RP industry, classification of RP systems, Materials for Additive Manufacturing Technology, Data Processing for Additive Manufacturing Technology: CAD model preparation – Part Orientation and support generation – Model Slicing – Tool path Generation – Softwares for Additive Manufacturing Technology: MIMICS, MAGICS – Benefits.

#### **UNIT II LIQUID BASED AND SOLID BASED RAPID PROTOTYPING SYSTEMS 7**

Stereolithography Apparatus, Fused deposition Modeling, Laminated object manufacturing: Working Principles, details of processes, products, materials, advantages, limitations and applications - Case studies.

#### **UNIT III POWDER BASED RAPID PROTOTYPING SYSTEMS**

8

Selective Laser Sintering, Laser Engineered Net Shaping, Selective Laser Melting, Electron Beam Melting: Processes, materials, products, advantages, applications and limitations – Case Studies.

#### **UNIT IV RAPID MANUFACTURING PROCESS OPTIMIZATION**

5

Factors influencing accuracy, data preparation errors, part building errors, errors in finishing, influence of part build orientation.



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## **UNIT V MEDICAL AND BIO-ADDITIVE MANUFACTURING**

**5**

Customized implants and prostheses: Design and production. Bio-Additive Manufacturing- Computer Aided Tissue Engineering (CATE) – Case studies.

**Total: 30 Hours**

### **Course Outcomes**

- At the end of this course the students would have developed a thorough understanding of the principle methods, areas of usage, possibilities and limitations as well as environmental effects of the Rapid Prototyping Technologies.

### **REFERENCES:**

1. Pham D T and Dimov S S, "Rapid Manufacturing", Verlag, 2001.
2. Rapid Prototyping and Engineering applications: A tool box for prototype development, Liou W.Liou, Frank W.Liou, CRC Press, 2007.
3. Rapid Prototyping: Theory and practice, Ali K. Kamrani, Emad Abouel Nasr, Springer, 2006.
4. Chua C.K., Leong K.F., and Lim C.S., "Rapid prototyping: Principles and applications", Third Edition, World Scientific Publishers, 2010.



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**TIME TABLE- 3D PRINTING**

Date	3.00 pm to 3.45 pm	3.45 pm to 4.30 pm
10.07.2020	Need for the compression in product development, history of RP systems, survey of applications, growth of RP industry, classification of RP systems, Materials for Additive Manufacturing Technology	Data Processing for Additive Manufacturing Technology: CAD model preparation – Part Orientation and support generation – Model Slicing – Tool path Generation
17.07.2020	Softwares for Additive Manufacturing Technology: MIMICS - Benefits.	Softwares for Additive Manufacturing Technology: MAGICS - Benefits.
24.07.2020	Stereolithography Apparatus: Working Principles, details of processes	SLA - products, materials, advantages, limitations and applications - Case studies.
31.07.2020	Laminated object manufacturing: Working Principles, details of processes	LOM - products, materials, advantages, limitations and applications - Case studies.
7.08.2020	Fused deposition Modeling: Working Principles, details of processes	FDM - products, materials, advantages, limitations and applications - Case studies.
14.08.2020	Selective Laser Sintering: Processes, materials, products	SLS - advantages, applications and limitations – Case Studies.
21.08.2020	Laser Engineered Net Shaping: Processes, materials	LENS - products, advantages, applications and limitations – Case Studies.
28.08.2020	Selective Laser Melting: Processes, materials, products	SLM - advantages, applications and limitations – Case Studies.
04.09.2020	Electron Beam Melting: Processes, materials, products	EBM - advantages, applications and limitations – Case Studies.
11.09.2020	Factors influencing accuracy	Data preparation errors
18.09.2020	Part building errors, errors in finishing, influence of part build orientation.	Demo of development of products using FDM
25.09.2020	Customized implants and prosthesis: Design and production.	Bio-Additive Manufacturing.

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1.10.2020	Computer Aided Tissue Engineering (CATE)	Case studies
9.10.2020	Case studies – health care, textile	Case studies – jewellery
16.10.2020	Case studies – Aerospace, automobile	Case studies – construction

#### EXTERNAL TRAINER DETAILS

S.No	Name	Designation	Company
1.	Mr.B.Vasanth	Design Engineer	L&T (Plastics Division), Chennai.

#### INTERNAL TRAINER DETAILS

S.No	Name	Designation	Company
1	Mr.S.ARUN	Assistant Professor	Jeppiaar Institute of Technology

S. Arun  
VAC Co Ordinator  
(S. Arun)

A. N. R.

Rajesh Kumar B  
HOD  
(B. RAJESHWAR KUMAR)

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VALUE ADDED COURSE DETAILS  
ACADEMIC YEAR 2020-2021

DEPARTMENT OF MECHANICAL ENGINEERING

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	NAME OF THE COURSE ENROLLED	DURATION	NAME OF THE CERTIFYING ORGANIZATION	CERTIFICATE(YES/NO)
1	2018-2022/CSE/III/05	Chandru K	3D PRINTING	30 Hrs	Anna University	YES
2	2018-2022/CSE/III/05	Surya.k	3D PRINTING	30 Hrs	Anna University	YES
3	2018-2022/MECH/III/05	HARSHA R G	3D PRINTING	30 Hrs	Anna University	YES
4	2018-2022/MECH/III/05	JOHN BEBITTO B	3D PRINTING	30 Hrs	Anna University	YES
5	2018-2022/MECH/III/05	JOTHIS NIRMAL J	3D PRINTING	30 Hrs	Anna University	YES
6	2018-2022/MECH/III/05	LIBIN V	3D PRINTING	30 Hrs	Anna University	YES
7	2018-2022/MECH/III/05	PRANESH P	3D PRINTING	30 Hrs	Anna University	YES
8	2018-2022/MECH/III/05	SIVAJITH B	3D PRINTING	30 Hrs	Anna University	YES
9	2018-2022/MECH/III/05	STUVERT JEEVAN A	3D PRINTING	30 Hrs	Anna University	YES
10	2018-2022/CSE/III/05	TEENA D	3D PRINTING	30 Hrs	Anna University	YES
11	2018-2022/MECH/III/05	ALAN JEFRI	3D PRINTING	30 Hrs	Anna University	YES

S. Arun  
(S. Arun)

J. N. h

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VALLUE ADDED COURSE - 3D PRINTING  
ACADEMIC YEAR 2020-2021

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	10/7	17/7	24/7	31/7	3/8	10/8	17/8	24/8	31/8
1	2018-22/CSE/III/05	CHANDRU K	/	/	/	/	/	/	/	/	/
2	2018-22/CSE/III/05	SURIYA K	/	/	/	/	/	/	/	/	/
3	2018-22/CSE/III/05	TEENA D	/	/	/	/	/	/	/	/	/
4	2018-22/MECH/III/05	HARSHA R G	/	/	/	/	/	/	/	/	/
5	2018-22/MECH/III/05	JOHN BEBITTO B	/	/	/	/	/	/	/	/	/
6	2018-22/MECH/III/05	JOTHIS NIRMAL J	/	/	/	/	/	/	/	/	/
7	2018-22/MECH/III/05	LIBIN V	/	/	/	/	/	/	/	/	/
8	2018-22/MECH/III/05	PRANESH P	/	/	/	/	/	/	/	/	/
9	2018-22/MECH/III/05	SIVAJITH B	/	/	/	/	/	/	/	/	/
10	2018-22/MECH/III/05	STUVERT JEEVAN A	/	/	/	/	/	/	/	/	/
11	2018-22/MECH/III/05	ALAN JEFRI	/	/	/	/	/	/	/	/	/
Total Strength			11	11	11	11	11	11	11	11	11
Total Present			11	11	11	11	11	11	11	11	11
Total Absent			-	-	-	-	-	-	-	-	-
Signature			✓	✓	✓	✓	✓	✓	✓	✓	✓

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VALLUE ADDED COURSE - 3D PRINTING  
ACADEMIC YEAR 2020-2021

SL.NO	BATCH/DEPT/YEAR/SEM	NAME OF THE STUDENT	1/9	11/9	18/9	25/9	1/10	9/10	16/10
1	2018-22/CSE/III/05	CHANDRU K	/	/	/	/	/	/	/
2	2018-22/CSE/III/05	SURIYA K	/	/	/	/	/	/	/
3	2018-22/CSE/III/05	TEENA D	/	/	/	/	/	/	/
4	2018-22/MECH/III/05	HARSHA R G	/	/	/	/	/	/	/
5	2018-22/MECH/III/05	JOHN BEBITTO B	/	/	/	/	/	/	/
6	2018-22/MECH/III/05	JOTHIS NIRMAL J	/	/	/	/	/	/	/
7	2018-22/MECH/III/05	LIBIN V	/	/	/	/	/	/	/
8	2018-22/MECH/III/05	PRANESH P	/	/	/	/	/	/	/
9	2018-22/MECH/III/05	SIVAJITH B	/	/	/	/	/	/	/
10	2018-22/MECH/III/05	STUVERT JEEVAN A	/	/	/	/	/	/	/
11	2018-22/MECH/III/05	ALAN JEFRI	/	/	/	/	/	/	/
		Total Strength	11	11	11	11	11	11	11
		Total Present	11	11	11	11	11	11	11
		Total Absent	-	-	-	-	-	-	-
		Signature	25	9/25	25	8/25	8/25	25	9/25

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## 3D PRINTING

### SUMMARY REPORT

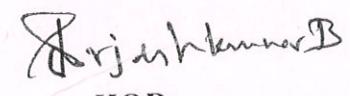
Department of Mechanical Engineering has organized Anna University Approved value-added course on "3D PRINTING" from 10.07.2020 to 16.10.2020 through online mode for third year students of MECH & CSE for a duration of 30 Hrs. Total of 11 students enrolled in the course. Evaluation process is carried out through internal assessment and the same was reported to the Anna University. The students were graded based on the internal assessment and all the enrolled students completed the course successfully. The course has provided sufficient training for individuals to develop their interpersonal skills and knowledge for creating innovative projects. The training covers effective teaching learning process to enhance their level of understanding in Additive Manufacturing Technologies, 3D printer functions and applications. The students have gained sufficient potential to create new projects thereby improving the knowledge on 3D Printers as well as enhancing their interpersonal skills.

  
VAC Co Ordinator

(S. Aravu)



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[B. RAJESH KUMAR]