SRI RAAJA RAAJAN
COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi &Affiliated to Anna University, Chennai)
146/14B1,AmaravathiVillage,AmaravathiputhurPost,
Karaikudi-630301,SivagangaiDt,TamilNadu
Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

ADD ON COURSE

Introduction

Add on courses are part of the curriculum designed to provide necessary skills to increase the employability quotient and equipping the students with essential skills to succeed in life. Sri Raaja Raajan College of Engineering and Technology offers a wide variety of add-on Courses which shall be conducted on after class hours. These courses shall be conducted by experts or in-house staff and help students stand apart from the rest in the job market by adding further value to their resume. These certificate courses will be mostly independent to each type of the fields.

Objectives

Objectives of the certificate Course are:

1. To provide students an understanding of the expectations of industry.
2. To improve employability skills of students.
3. To bridge the skill gaps and make students industry ready.
4. To provide an opportunity to students develop their inter-disciplinary skills.
5. To mould students as job providers rather than job seekers.

Designing the Courses

1. Before designing the syllabus, the feedback from the employers, alumni and industry people will be analysed and considered to select and design an appropriate course by identifying the gaps.
2. Apart from these discussions may also be held with the employers, alumni and industrial experts to understand the expectations for current and emerging trends.

SRI RAAJA RAAJAN COLLEGE OF ENGG & TECH. KARAIKUDI

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Any new add on Course developed by a department should be placed before the Board of Studies and approved by the Academic Council.

4. The course offered should not be the same as any course listed in the curriculum of the respective program/ or any other program offered in University Departments.

5. A unique course code is to be given for each course.

Course Completion

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

2. The students who have successfully completed the Add on Course shall be issued with a Certificate duly signed by the Authorized signatories.

S. NO	PAPER TITLE	THEORY/PRACTICAL	MARKS	TOTAL
1	BASICS OF LAPTOP MAINTAINENCE AND OS INSTALLATION	THEORY	20	100
		PRACTICAL	80	
2	ANDROID APP DEVELOPMENT	THEORY	20	100
		PRACTICAL	80	
3	TV REPAIR TECHNICIAN	THEORY	20	100
		PRACTICAL	80	
4	CERTIFICATE IN MOBILE SERVICING	THEORY	20	100
		PRACTICAL	80	

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ADD ON COURSE

S.NO	ACADEMIC YEAR	COURSE TITLE	PARTICIPATION STRENGTH
1.	2018-2019	BASICS OF LAPTOP MAINTANANCE AND OS INSTALLATION	69
2.	2019-2020	ANDROID APPS DEVELOPMENT	57
3.	2020-2021	TV REPAIR TECHNICIAN	62
4.	2021-2022	Certificate in Mobile Servicing (Android & I-phone) Training	69

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2018-2019)

ADD ON COURSE

BASICS OF LAPTOP MAINTANANCE AND OS INSTALLATION

SYLLABUS

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KARAIKUDI

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENINEERING

ADD ON COURSE ON

BASICS OF LAPTOP MAINTANANCE AND OS INSTALLATION

About the Course:

Important for aspiring computer techs to understand everything from computer components, installation of OS, configuration, fixing laptop hardware and troubleshooting etc..

Course Objective:

After completion of the course students will be able

1. To Describe the social and professional impact and importance of technology.
2. Identify career opportunities related to technology

Course content

Module 1: The essentials of a computer and its components Laptop Expansion Options.

Module 2: Various motherboard technologies and identify important motherboard parts. Configuration changes to a computer.

Module 3: Plan for a memory installation or upgrade-configuring windows Operating Systems.

Module 4: Wi-Fi and Windows Networks Hardware parts that connect to different parts of a computer and laptop.

Module 5: Basic troubleshooting-Install, configure, and troubleshoot Windows, android, and OS operating system.

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2018-2019)

ADD ON COURSE

BASICS OF LAPTOP MAINTANANCE AND OS INSTALLATION

REPORT

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

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REPORT

Department of Electronics and Communication Engineering has organized add on Course Titled "**BASICS OF LAPTOP MAINTANANCE AND OS INSTALLATION**"on 09.07.2018 to 14.07.2018. This program started with an inauguration function. Department of Electronics and Communication Engineering student Ms. VALLIKANNU Final year, B.E, Department of Electronics and Communication Engineering deliver welcome address. Resource person Mr.M.Saravanan has address a key note about the program. The Principal, Dr.X.Hyacinth Suganthi, Sri Raaja Raajan college of engineering and Technology, karaikudi and the Head of Department, Mr. T.N. Balaji of Sri Raaja Raajan college of engineering and Technology, Karaikudi has consented felicitation address. Students and faculties from various departments attended the function. The students learnt basics and some depth about Laptop computers are expensive machines built with significantly tighter tolerances than their desktop counterparts. Although most laptops are designed to function reliably in normal environments, it helps to use some common sense when transporting, operating, or otherwise handling a system. If you treat the system as if it were a very expensive piece of precision electronic machinery (which it truly is!), you will greatly minimize the chances of problems occurring. The program was successfully completed on 14.07.2018 with a valedictory function. Resource person Mr.M.Saravanan and students from various departments express feedback about the program and participation certificates are distributed to all the participants. The program valedictory with an vote of thanks by the student Ms. SELVAMUKILA.M Final year, Department of Electronics and Communication Engineering and national anthem.

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2018-2019)

ADD ON COURSE

BASICS OF LAPTOP MAINTANANCE AND OS INSTALLATION

REGISTRATION DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
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AMARAVATHIPUDUR, KARAIKUDI-630 301.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

BASICS OF LAPTOP MAINTANANCE AND OS INSTALLATION

REGISTRATION DETAILS

Sl No	Register Number	Student Name	Signature	Sl No	Register Number	Student Name	Signature
FSECOND YEAR ECE				8	912516106013	Soniya M	
1	912517106001	ABINAYA.C		9	912516106014	Sowmiya. M	
2	912517106002	ABINAYA.S		10	912516106015	Suganthi N	
3	912517106003	AJITHA .R		11	912516106301	Boomathi C	
4	912517106004	A.ARUNKUMAR		12	912516106303	Malu M	
5	912517106005	BARVIN BANU.I		13	912516106304	Suganthi S	
6	912517106006	CAROLINE.J		14	912516106306	Vasanth raj L	
7	912517106008	DEEPA.K		**FINAL YEAR ECE**			
8	912517106009	DHINESH.K		1	912515106001	AISHWARYA LEKSHMI.M	
9	912517106010	EZHILNILA.U		2	912515106002	AJITHA.T	
10	912517106012	JOTHIKA.D		3	912515106004	ANUSHYA.A	
11	912517106013	KARPAGAM.A		4	912515106005	ARUNA.K	
12	912517106016	NALINI.M		5	912515106007	BIRUNTHA KUMARI.R	
13	912517106017	NANTHINI.R		6	912515106008	JEEVITHA.G	
14	912517106018	NIVETHA.R		7	912515106009	JENIFAR NACHIYAR.J	
15	912517106019	PANDIMEENAL.G		8	912515106010	KANIMOZHI.P	
16	912517106020	PREETHI.M		9	912515106011	KANMANI.PR	
17	912517106021	PREMA.S		10	912515106012	MOHAMEDZIYATH KHAN.M	
18	912517106022	PRIYADHARSHINI.M		11	912515106013	NIVASHINI.S	
19	912517106024	RATHIGA.S		12	912515106014	PREETHI.G	
20	912517106025	RATHNA.P		13	912515106015	PRIYADHARSHINI.S	
21	912517106026	SANGEETHA.S(7.6.1999)		14	912515106016	RANGITHA.R	
22	912517106027	SANGEETHA.S(3.2.2000)		15	912515106017	SANGEETHA.S	
23	912517106028	SARANYA.G		16	912515106018	SARANYA.S	
24	912517106029	SARATHA.S		17	912515106019	SELVAMUKILA.M	
25	912517106030	SOLAIYAMMAL.R		18	912515106020	SUMITHA M	
26	912517106032	SUTHA.S		19	912515106021	SUTHA K	
27	912517106301	AYYAPPAN.M		20	912515106022	VIGNESH M	
28	912517106302	VENKATESWARAN.M		21	912515106023	VIJAY B	
THIRD YEAR ECE				22	912515106301	ABINESH	
1	912516106002	ARTHI		23	912515106302	ELLAKIYA	
2	912516106003	Elavalagan M		24	912515106304	NAGARAJ	
3	912516106004	Ezhilarasi J		25	912515106305	NITHYA	
4	912516106007	Kaveeta S		26	912515106306	SOUNDHARIYA V	
5	912516106008	Lourthiga rani X		27	912515106307	VAILIKANNU	
6	912516106009	Malini K					
7	912516106012	Sneha R					

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2018-2019)

ADD ON COURSE

BASICS OF LAPTOP MAINTANANCE AND OS INSTALLATION

ATTENDANCE DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

BASICS OF LAPTOP MAINTANANCE AND OS INSTALLATION

SL. No.	REG. NUMBER	NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
DATE			9	9	9	9	9	9	9	9	10	10	10	10	10	10	10	10	11	11	11	11	11	11	11	11	12	12	12	12	12	12	12	13	13	13	13	13	13	13	14	14	14	14	14	14	14
MONTH			7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
HOURS			1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1	912517106001	ABINAYA.C																																												
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46	912515106005	ARUNA.K
47	912515106007	BIRUNTHA KUMARI.R

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2018-2019)

ADD ON COURSE

BASICS OF LAPTOP MAINTANANCE AND OS INSTALLATION

ASSESSMENT DETAILS

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

PRACTICAL EXAMINATIONS QUESTION PAPER

ADD ON COURSE- BASICS OF LAPTOP MAINTENANCE

(Answer any one)

Max. Marks: 80 Time: 3 Hrs

Aim/Principle/Apparatus required/Procedure	Tabulation/Circuit/ Program/Drawing	Calculation & Results	Viva-Voce	Record	Total
20	20	20	10	10	80

1. Implement the Data Link Layer framing methods,

i) Bit stuffing, (ii) Character stuffing

2. Implementation of Error Detection / Correction Techniques

i) LRC, (ii) CRC, (iii) Hamming code

3. Implementation of Stop and Wait, and Sliding Window Protocols

4. Implementation of Go back-N and Selective Repeat Protocols.

5. Implementation of Distance Vector Routing algorithm (Routing Information Protocol)

6. Implementation of Link State Routing algorithm (Open Shortest Path First) with 5 nodes

7. Data encryption and decryption using Data Encryption Standard algorithm.

8. Data encryption and decryption using RSA (Rivest, Shamir and Adleman) algorithm.

9. Implement Client Server model using FTP protocol.

10. Implement and realize the Network Topology - Star, Bus and Ring using NS2.

11. Implement and perform the operation of CSMA/CD and CSMA/CA using NS2.

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DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

ADD ON COURSE BASICS OF LAPTOP MAINTANANCE
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT :
YEAR :
DEPARTMENT :

1) Which of the following is not an operating system?

a. Windows
b. Linux
c. Oracle
d. DOS

2) What is the maximum length of the filename in DOS?

a. 4
b. 5
c. 8
d. 12

3) When was the first operating system developed?

a. 1948
b. 1949
c. 1950
d. 1951

4) When were MS windows operating systems proposed?

a. 1994
b. 1990
c. 1992
d. 1985

5) Which of the following is the extension of Notepad?

a. .txt
b. .xls
c. .ppt
d. .bmp

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6) What else is a command interpreter called?

a. prompt
b. kernel
c. shell
d. command

7) What is the full name of FAT?

a. File attribute table
b. File allocation table
c. Font attribute table
d. Format allocation table

8) BIOS is used?

a. By operating system
b. By compiler
c. By interpreter
d. By application software

9) What is the mean of the Booting in the operating system?

a. Restarting computer
b. Install the program
c. To scan
d. To turn off

10) When does page fault occur?

a. The page is present in memory.
b. The deadlock occurs.
c. The page does not present in memory.
d. The buffering occurs.

11) Banker's algorithm is used?

a. To prevent deadlock
b. To deadlock recovery
c. To solve the deadlock
d. None of these

12) When you delete a file in your computer, where does it go?

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a. Recycle bin
b. Hard disk
c. Taskbar
d. None of these

13) Which is the Linux operating system?

a. Private operating system
b. Windows operating system
c. Open-source operating system
d. None of these

14) What is the full name of the DSM?

a. Direct system module
b. Direct system memory
c. Demoralized system memory
d. Distributed shared memory

15) What is the full name of the IDL?

a. Interface definition language
b. Interface direct language
c. Interface data library
d. None of these

16) What is bootstrapping called?

a. Cold boot
b. Cold hot boot
c. Cold hot strap
d. Hot boot

17) What is the fence register used for?

a. To disk protection
b. To CPU protection
c. To memory protection
d. None of these

18) If the page size increases, the internal fragmentation is also?..?

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a. Decreases
b. Increases
c. Remains constant
d. None of these

19) Which of the following is a single-user operating system?

a. Windows
b. MAC
c. Ms-Dos
d. None of these

20) If a page number is not found in the translation lookaside buffer, then it is known as a?

a. Translation Lookaside Buffer miss
b. Buffer miss
c. Translation Lookaside Buffer hit
d. All of the mentioned

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AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

ADD ON COURSE BASICS OF LAPTOP MAINTANANCE
EXAMINATION QUESTION PAPER

17/20

NAME OF THE STUDENT : V. Soundhariya
YEAR : Final Year
DEPARTMENT : ECE

1) Which of the following is not an operating system?

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d. .bmp

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6) What else is a command interpreter called?

a. prompt
b. kernel
c. shell
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7) What is the full name of FAT?

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11) Banker's algorithm is used?

a. To prevent deadlock
b. To deadlock recovery
c. To solve the deadlock
d. None of these

12) When you delete a file in your computer, where does it go?

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a. Recycle bin
b. Hard disk
c. Taskbar
d. None of these

13) Which is the Linux operating system?

a. Private operating system
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14) What is the full name of the DSM?

a. Direct system module
b. Direct system memory
c. Demoralized system memory
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15) What is the full name of the IDL?

a. Interface definition language
b. Interface direct language
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d. None of these

16) What is bootstrapping called?

a. Cold boot
b. Cold hot boot
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17) What is the fence register used for?

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b. To CPU protection
c. To memory protection
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18) If the page size increases, the internal fragmentation is also?..?

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a. Decreases
b. Increases
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d. None of these

19) Which of the following is a single-user operating system?

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ADD ON COURSE BASICS OF LAPTOP MAINTANANCE
EXAMINATION QUESTION PAPER

16/20

NAME OF THE STUDENT : Malini.K.
YEAR : Third Year.
DEPARTMENT : ECE

1) Which of the following is not an operating system?

a. Windows
b. Linux
c. Oracle
d. DOS

2) What is the maximum length of the filename in DOS?

a. 4
b. 5
c. 8
d. 12

3) When was the first operating system developed?

a. 1948
b. 1949
c. 1950
d. 1951

4) When were MS windows operating systems proposed?

a. 1994
b. 1990
c. 1992
d. 1985

5) Which of the following is the extension of Notepad?

a. .txt
b. .xls
c. .ppt
d. .bmp

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6) What else is a command interpreter called?

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ADD ON COURSE BASICS OF LAPTOP MAINTANANCE
EXAMINATION QUESTION PAPER

18/20

NAME OF THE STUDENT : G. Saranya
YEAR : IInd year
DEPARTMENT : ECE

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d. DOS

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BASICS OF LAPTOP MAINTANANCE AND OS INSTALLATION
Mark Details

S.NO	REGISTER NUMBER	NAME OF THE STUDENT	THEORY	PRACTICAL	TOTAL
SECOND YEAR ECE					
1	912517106001	ABINAYA.C	18	74	92
2	912517106002	ABINAYA.S	18	71	89
3	912517106003	AJITHA .R	16	76	92
4	912517106004	A.ARUNKUMAR	17	75	92
5	912517106005	BARVIN BANU.I	18	73	91
6	912517106006	CAROLINE.J	19	75	94
7	912517106008	DEEPA.K	19	76	95
8	912517106009	DHINESH.K	18	74	92
9	912517106010	EZHILNILA.U	17	75	92
10	912517106012	JOTHIKA.D	18	73	91
11	912517106013	KARPAGAM.A	19	75	94
12	912517106016	NALINI.M	19	76	95
13	912517106017	NANTHINI.R	18	74	92
14	912517106018	NIVETHA.R	17	73	90
15	912517106019	PANDIMEENAL.G	19	75	94
16	912517106020	PREETHI.M	18	71	89
17	912517106021	PREMA.S	16	76	92
18	912517106022	PRIYADHARSHINI.M	17	75	92
19	912517106024	RATHIGA.S	18	73	91
20	912517106025	RATHNA.P	19	75	94
21	912517106026	SANGEETHA.S(7.6.1999)	19	76	95
22	912517106027	SANGEETHA.S(3.2.2000)	18	74	92
23	912517106028	SARANYA.G	18	73	91
24	912517106029	SARATHA.S	18	71	89
25	912517106030	SOLAIYAMMAL.R	17	75	92
26	912517106032	SUTHA.S	15	79	94
27	912517106301	AYYAPPAN.M	16	78	94
28	912517106302	VENKATESWARAN.M	17	75	92
THIRD YEAR ECE					
1	912516106002	ARTHI	18	71	89
2	912516106003	Elavalagan M	17	75	92
3	912516106004	Ezhilarasi J	15	79	94
4	912516106007	Kaveeta S	16	78	94
5	912516106008	Lourthiga rani X	17	73	90
6	912516106009	Malini K	16	71	87
7	912516106012	Sneha R	17	75	92
8	912516106013	Soniya M	15	79	94
9	912516106014	Sowmiya. M	16	78	94
10	912516106015	Suganthi N	17	73	90

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11	912516106301	Boomathi C	18	71	89
12	912516106303	Malu M	17	75	92
13	912516106304	Suganthi S	15	79	94
14	912516106306	Vasanth raj L	16	78	94
		FINAL YEAR ECE			
1	912515106001	AISHWARYA LEKSHMI.M	17	73	90
2	912515106002	AJITHA.T	18	71	89
3	912515106004	ANUSHYA.A	19	75	94
4	912515106005	ARUNA.K	19	76	95
5	912515106007	BIRUNTHA KUMARI.R	18	74	92
6	912515106008	JEEVITHA.G	17	73	90
7	912515106009	JENIFAR NACHIYAR.J	18	71	89
8	912515106010	KANIMOZHI.P	17	75	92
9	912515106011	KANMANI.PR	15	79	94
10	912515106012	MOHAMEDZIYATH KHAN.M	17	73	90
11	912515106013	NIVASHINI.S	18	71	89
12	912515106014	PREETHI.G	17	75	92
13	912515106015	PRIYADHARSHINI.S	15	79	94
14	912515106016	RANGITHA.R	16	78	94
15	912515106017	SANGEETHA.S	17	73	90
16	912515106018	SARANYA.S	18	71	89
17	912515106019	SELVAMUKILA M	19	76	95
18	912515106020	SUMITHA M	18	74	92
19	912515106021	SUTHA K	17	73	90
20	912515106022	VIGNESH M	19	75	94
21	912515106023	VIJAY B	18	71	89
22	912515106301	ABINESH	16	76	92
23	912515106302	ELLAKIYA	17	75	92
24	912515106304	NAGARAJ	18	73	91
25	912515106305	NITHYA	19	75	94
26	912515106306	SOUNDHARIYA V	17	71	88
27	912515106307	VALLIKANNU	16	76	92

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Karaikudi-630301,SivagangaiDt,TamilNadu
Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2018-2019)

ADD ON COURSE

BASICS OF LAPTOP MAINTANANCE AND OS INSTALLATION

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This is to certify that Mr/Ms B. VIJAY

from Sri Raaja Raajan College Of Engineering And Technology has attended

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Certificate courses

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This is to certify that Mr/Ms K.SUTHA

from Sri Raaja Raajan College of Engineering and Technology has attended Certificate course on BASICS OF IMAGE PROCESSING USING MATLAB during 1.08.2018 - 4.08.2018

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Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

ADD ON COURSE

ANDROID APPS DEVELOPMENT

SYLLABUS

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Karaikudi 630 301
Ph : 04565 234230 / 326132

Fax : 04565 234430
Mobile : 73737 11322, 73737 11333
E-mail : srrcet2010@gmail.com
Website : www.raajaraajan.org

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENINEERING

ADD ON COURSE ON ANDROID APPS DEVELOPMENT

SYLLABUS:

1. Introduction to Android
2. Android Architecture Overview
3. Setup of Android development Environment
4. Android Application fundamentals
5. Front end Development
6. User Interface
7. Main Building Block
8. Data Storage
9. Working on Browser
10. Services
11. Working with Different Adapter Views and Widgets
12. Clipboard

Outcomes of the course:

1. Install and configure Android application development tools.
2. Design and develop user Interaces for the Android platform.
3. Design & develop A Basic calculator splash Screen app SMS sending App
4. Able to complete Login and Registration System Using MySQL
5. Able to make Short Note Making Application using SQLITE
6. Able to work with firebase

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Karaikudi-630301,SivagangaiDt,TamilNadu
Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

ADD ON COURSE

ANDROID APPS DEVELOPMENT

REPORT

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY ★ KARAIKUDI

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COLLEGE OF ENGINEERING AND TECHNOLOGY
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Karaikudi - 630 301
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Mobile : 73737 11322, 73737 11333
E-mail : srrcet2010@gmail.com
Website : www.raajaraajan.org

REPORT

Department of Electronics and Communication Engineering has organized add on Course Titled **"ANDROID APPS DEVELOPMENT"**on 15.08.2019 to 20.08.2019.This program started with an inauguration function. Department of Electronics and Communication Engineering student Ms.S.Kaveeta Final year, B.E, Department of Electronics and Communication Engineering deliver welcome address. Resource person Mr.Velmurugan Chithambaram has address a key note about the program. The Principal, Dr.A.L.Mayilvahanan, Sri Raaja Raajan college of engineering and Technology, karaikudi and the Head of Department, Mr. T.N. Balaji of Sri Raaja Raajan college of engineering and Technology,Karaikudi has consented felicitation address. Students and faculties from various departments attended the function. The students learnt basics and some depth about Android Apps development Learning Android app development may seem like a daunting task, but it can open up a world of possibilities. You could create the next "hit app" that changes the way we work or interact with each other. Maybe you'll develop a tool that you can use yourself to improve your workflow. Or perhaps you'll just gain a new skill that lands you a great job! The program was successfully completed on 20.08.2019 with a valedictory function. Resource person Mr.Velmurugan Chithambaram and students from various departments express feedback about the program and participation certificates are distributed to all the participants. The program valedictory with an vote of thanks by the student Ms. K. Malini Final year, Department of Electronics and Communication Engineering and national anthem.

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY KARAIKUDI

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Sivagangai Dist. Tamil Nadu

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

ADD ON COURSE

ANDROID APPS DEVELOPMENT

REGISTRATION DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

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AMARAVATHIPUDUR, KARAIKUDI-630 301.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

ANDROID APPS DEVELOPMENT

REGISTRATION DETAILS

Sl. No.	REGISTER NEMBER	NAME OF THE STUDENT	SIGNATURE
SECOND YEAR ECE			
1	912518106001	R. Ajay	
2	912518106002	S. Divya	
3	912518106003	K. Kakkan	
4	912518106004	N.Kaleeswaran	
5	912518106005	I.Karpaga thendral	
6	912518106007	A.Karuppaye	
7	912518106009	K.Lingarajan	
8	912518106010	C.Manimegalai	
9	912518106011	A.Manjavisree	
10	912518106013	R.Praveen kumar	
11	912518106014	G.Ramba	
12	912518106015	N.Sathya priya	
13	912518106016	S.Shelciya	
14	912518106017	P.Suganthi	
15	912518106018	C.Vidhya	
THIRD YEAR ECE			
1	912517106001	ABINAYA.C	
2	912517106002	ABINAYA.S	
3	912517106003	AJITHA.R	
4	912517106004	AARUNKUMAR	
5	912517106005	BARVIN BANU.I	
6	912517106006	CAROLINE.J	
7	912517106008	DEEPAK	
8	912517106009	DHINESH.K	
9	912517106010	EZHILNILA.U	
10	912517106012	JOTHIKA.D	
11	912517106013	KARPAGAM.A	
12	912517106016	NALINI.M	
13	912517106017	NANTHINI.R	
14	912517106018	NIVETHA.R	
15	912517106019	PANDIMEENAL.G	
16	912517106020	PREETHI.M	
17	912517106021	PREMA.S	
18	912517106022	PRIYADHARSHINI.M	
19	912517106024	RATHIGA.S	
20	912517106025	RATHNA.P	

Sl. No.	REGISTER NEMBER	NAME OF THE STUDENT	SIGNATURE
21	912517106026	SANGEETHA.S(3.2.1999)	
22	912517106027	SANGEETHA.S(3.2.2000)	
23	912517106028	SARANYA.G	
24	912517106029	SARATHA.S	
25	912517106030	SOLAIYAMMAL.R	
26	912517106032	SUTHA.S	
27	912517106301	AYYAPPAN.M	
28	912517106302	VENKATESWARAN.M	
FINAL YEAR ECE			
1	912516106002	ARTHI	
2	912516106003	Elavalagan M	
3	912516106004	Ezhilarasi J	
4	912516106007	Kaveeta S	
5	912516106008	Lourthiga rani X	
6	912516106009	Malini K	
7	912516106012	Sneha R	
8	912516106013	Soniya M	
9	912516106014	Sowmiya. M	
10	912516106015	Suganthi N	
11	912516106301	Boomathi C	
12	912516106303	Malu M	
13	912516106304	Suganthi S	
14	912516106306	Vasanth raj L	

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

ADD ON COURSE

ANDROID APPS DEVELOPMENT

ATTENDANCE DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY ★ KARAIKUDI

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SRI RAAJA RAAJAN COLLEGE OF ENGINEERING & TECHNOLOGY
AMARAVATHIPUDUR, KARAIKUDI-630 301.
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
ANDROID APPS DEVELOPMENT

SL. No.	REG. NUMBER	NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
		Date	15	15	15	15	15	15	15	15	16	16	16	16	16	16	16	16	17	17	17	17	17	17	17	17	18	18	18	18	18	18	18	19	19	19	19	19	19	19	20	20	20	20	20	20	20
		Month	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
		Class Hours	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

ADD ON COURSE

ANDROID APPS DEVELOPMENT

ASSESSMENT DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
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E-mail : srrcet2010@gmail.com
Website : www.raajaraajan.org

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
PRACTICAL EXAMINATIONS QUESTION PAPER
ADD ON COURSE – ANDROID APP DEVELOPMENT

(Answer any one)

Max. Marks: 80
Time: 3 Hrs

Aim/Principle/Apparatus required/Procedure	Tabulation/Circuit/ Program/Drawing	Calculation & Results	Viva-Voce	Record	Total
20	20	20	10	10	80

1. Installation of Android studio.
2. Development of Hello World Application.
3. Create an application that takes the name from a text box and shows hello message along with the name entered in text box, when the user clicks the OK button.
4. Create a screen that has input boxes for User Name, Password, Address, Gender (radio buttons for male and female), Age (numeric), Date of Birth (Date Picket), State (Spinner) and a Submit button. On clicking the submit button, print all the data below the Submit Button (use any layout).
5. Design an android application to create page using Intent and one Button and pass the Values from one Activity to second Activity.
6. Design an android application Send SMS using Intent.
7. Create an android application using Fragments.
8. Design an android application Using Radio buttons.
9. Design an android application for menu.
10. Create a user registration application that stores the user details in a database table.

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AMARAVATHIPUDUR

DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

ADD ON COURSE ANDROID APP DEVELOPMENT
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT :
YEAR :
DEPARTMENT :

1) Android is

a. an operating system
b. a web browser
c. a web server
d. None of the above

2) Under which of the following Android is licensed?

a. OSS
b. Sourceforge
c. Apache/MIT
d. None of the above

3) For which of the following Android is mainly developed?

a. Servers
b. Desktops
c. Laptops
d. Mobile devices

4) Which of the following is the first mobile phone released that ran the Android OS?

a. HTC Hero
b. Google gPhone
c. T - Mobile G1
d. None of the above

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5) Which of the following virtual machine is used by the Android operating system?

a. JVM
b. Dalvik virtual machine
c. Simple virtual machine
d. None of the above

6) Android is based on which of the following language?

a. Java
b. C++
c. C
d. None of the above

7) APK stands for -

a. Android Phone Kit
b. Android Page Kit
c. Android Package Kit
d. None of the above

8) What does API stand for?

a. Application Programming Interface
b. Android Programming Interface
c. Android Page Interface
d. Application Page Interface

9) Which of the following converts Java byte code into Dalvik byte code?

a. Dalvik converter
b. Dex compiler
c. Mobile interpretive compiler (MIC)
d. None of the above

10) How can we stop the services in android?

a. By using the stopSelf() and stopService() method
b. By using the finish() method
c. By using system.exit() method
d. None of the above

SREENARAYANA COLLEGE OF ENGINEERING AND TECHNOLOGY KARAIKUDY

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11) What is an activity in android?

a. android class
b. android package
c. A single screen in an application with supporting java code
d. None of the above

12) How can we kill an activity in android?

a. Using finish() method
b. Using finishActivity(int requestCode)
c. Both (a) and (b)
d. Neither (a) nor (b)

13) ADB stands for -

a. Android debug bridge
b. Android delete bridge
c. Android destroy bridge
d. None of the above

14) On which of the following, developers can test the application, during developing the android applications?

a. Third-party emulators
b. Emulator included in Android SDK
c. Physical android phone
d. All of the above

15) Which of the following kernel is used in Android?

a. MAC
b. Windows
c. Linux
d. Redhat

16) Which of the following is the first callback method that is invoked by the system during an activity life-cycle?

a. onClick() method
b. onCreate() method
c. onStart() method
d. onRestart() method

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17) Which of the following is not an activity lifecycle callback method?

a. onClick() method
b. onCreate() method
c. onStart() method
d. **onBackPressed() method**

18) We require an AVD to create an emulator. What does AVD stand for?

a. Android Virtual device
b. **Android Virtual display**
c. Active Virtual display
d. Active Virtual device

19) Does android support other languages than java?

a. Yes
b. No
c. **May be**
d. **Can't say**

20) What is the use of content provider in Android?

a. For storing the data in the database
b. **For sharing the data between applications**
c. For sending the data from an application to another application
d. None of the above

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AMARAVATHIPUDUR

DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

ADD ON COURSE ANDROID APP DEVELOPMENT
EXAMINATION QUESTION PAPER

17/20

NAME OF THE STUDENT : Suganthi S
YEAR : Final year
DEPARTMENT : ECE

1) Android is

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DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

ADD ON COURSE ANDROID APP DEVELOPMENT
EXAMINATION QUESTION PAPER

18/20

NAME OF THE STUDENT : M. Nalini
YEAR : IV year
DEPARTMENT : ECE

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c. onStart() method
d. onRestart() method

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17) Which of the following is not an activity lifecycle callback method?

a. onClick() method
b. onCreate() method
c. onStart() method
d. onBackPressed() method

18) We require an AVD to create an emulator. What does AVD stand for?

a. Android Virtual device
b. Android Virtual display
c. Active Virtual display
d. Active Virtual device

19) Does android support other langua ges than java?

a. Yes
b. No
c. May be
d. Can't say

20) What is the use of content provider in Andro id?

a. For storing the data in the database
b. For sharing the data between applications
c. For sending the data from an application to another application
d. None of the above

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AMARAVATHIPUDUR

DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

17/20

ADD ON COURSE ANDROID APP DEVELOPMENT
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT : S. Divya
YEAR : II year.
DEPARTMENT : ECE

1) Android is

a. an operating system
b. a web browser
c. a web server
d. None of the above

2) Under which of the following Android is licensed?

a. OSS
b. Sourceforge
c. Apache/MIT
d. None of the above

3) For which of the following Android is mainly developed?

a. Servers
b. Desktops
c. Laptops
d. Mobile devices

4) Which of the following is the first mobile phone released that ran the Android OS?

a. HTC Hero
b. Google gPhone
c. T - Mobile G1
d. None of the above

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5) Which of the following virtual machine is used by the Android operating system?

a. JVM
b. Dalvik virtual machine
c. Simple virtual machine
d. None of the above

6) Android is based on which of the following language?

a. Java
b. C++
c. C
d. None of the above

7) APK stands for -

a. Android Phone Kit
b. Android Page Kit
c. Android Package Kit
d. None of the above

8) What does API stand for?

a. Application Programming Interface
b. Android Programming Interface
c. Android Page Interface
d. Application Page Interface

9) Which of the following converts Java byte code into Dalvik byte code?

a. Dalvik converter
b. Dex compiler
c. Mobile interpretive compiler (MIC)
d. None of the above

10) How can we stop the services in android?

a. By using the stopSelf() and stopService() method
b. By using the finish() method
c. By using system.exit() method
d. None of the above

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11) What is an activity in android?

a. android class
b. android package
c. A single screen in an application with supporting java code
d. None of the above

12) How can we kill an activity in android?

a. Using finish() method
b. Using finishActivity(int requestCode)
c. Both (a) and (b)
d. Neither (a) nor (b)

13) ADB stands for -

a. Android debug bridge
b. Android delete bridge
c. Android destroy bridge
d. None of the above

14) On which of the following, developers can test the application, during developing the android applications?

a. Third-party emulators
b. Emulator included in Android SDK
c. Physical android phone
d. All of the above

15) Which of the following kernel is used in Android?

a. MAC
b. Windows
c. Linux
d. Redhat

16) Which of the following is the first callback method that is invoked by the system during an activity life-cycle?

a. onClick() method
b. onCreate() method
c. onStart() method
d. onRestart() method

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ANDROID APPS DEVELOPMENT

MARK DETAILS

S.NO	REGISTER NUMBER	NAME OF THE STUDENT	THEORY	PRACTICAL	TOTAL
SECOND YEAR ECE					
1	912518106001	R. Ajay	18	71	89
2	912518106002	S. Divya	17	76	93
3	912518106003	K. Kakkan	18	74	92
4	912518106004	N.Kaleeswaran	19	75	94
5	912518106005	I.Karpaga thendral	19	76	95
6	912518106007	A.Karuppaye	18	74	92
7	912518106009	K.Lingarajan	17	73	90
8	912518106010	C.Manimegalai	19	75	94
9	912518106011	A.Manjavisree	18	71	89
10	912518106013	R.Praveen kumar	16	76	92
11	912518106014	G.Ramba	18	74	92
12	912518106015	N.Sathya priya	17	73	90
13	912518106016	S.Shelciya	18	71	89
14	912518106017	P.Suganthi	17	75	92
15	912518106018	C.Vidhya	15	79	94
THIRD YEAR ECE					
1	912517106001	ABINAYA.C	18	71	89
2	912517106002	ABINAYA.S	17	75	92
3	912517106003	AJITHA .R	15	79	94
4	912517106004	A.ARUNKUMAR	17	74	91
5	912517106005	BARVIN BANU.I	19	79	98
6	912517106006	CAROLINE.J	18	76	94
7	912517106008	DEEPA.K	18	74	92
8	912517106009	DHINESH.K	17	75	92
9	912517106010	EZHILNILA.U	18	71	89
10	912517106012	JOTHIKA.D	17	75	92
11	912517106013	KARPAGAM.A	15	79	94
12	912517106016	NALINI.M	18	78	96
13	912517106017	NANTHINI.R	18	76	94
14	912517106018	NIVETHA.R	19	72	91
15	912517106019	PANDIMEENAL.G	16	75	91
16	912517106020	PREETHI.M	17	74	91
17	912517106021	PREMA.S	19	79	98
18	912517106022	PRIYADHARSHINI.M	18	76	94
19	912517106024	RATHIGA.S	18	74	92
20	912517106025	RATHNA.P	19	75	94
21	912517106026	SANGEETHA.S(7.6.1999)	18	76	94
22	912517106027	SANGEETHA.S(3.2.2000)	19	75	94
23	912517106028	SARANYA.G	18	71	89

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24	912517106029	SARATHA.S	18	76	94
25	912517106030	SOLAIYAMMAL.R	17	75	92
26	912517106032	SUTHA.S	18	73	91
27	912517106301	AYYAPPAN.M	19	75	94
28	912517106302	VENKATESWARAN.M	17	75	92
		FINAL YEAR ECE			
1	912516106002	ARTHI	17	75	92
2	912516106003	Elavalagan M	18	71	89
3	912516106004	Ezhilarasi J	19	79	98
4	912516106007	Kaveeta S	18	76	94
5	912516106008	Lourthiga rani X	18	74	92
6	912516106009	Malini K	17	75	92
7	912516106012	Sneha R	18	71	89
8	912516106013	Soniya M	17	75	92
9	912516106014	Sowmiya. M	15	79	94
10	912516106015	Suganthi N	16	78	94
11	912516106301	Boomathi C	18	76	94
12	912516106303	Malu M	19	72	91
13	912516106304	Suganthi S	17	78	95
14	912516106306	Vasanth raj L	18	76	94

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

ADD ON COURSE

ANDROID APPS DEVELOPMENT

CERTIFICATE DETAILS

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Organizes

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This is to certify that Mr/Ms R.SNEHA

from Sri Raaja Raajan College Of Engineering And Technology has attended

Add on Course on Android Apps Development

during 15.8.2019 to 20.8.2019

HOD/ECE

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from Sri Raaja Raajan College Of Engineering And Technology has attended

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from Sri Raaja Raajan College Of Engineering And Technology has attended

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during 15.8.2019 to 20.8.2019

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during 5.8.2019 to 20.8.2019

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from Sri Raaja Raajan College Of Engineering And Technology has attended

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from Sri Raaja Raajan College Of Engineering And Technology has attended

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Karaikudi-630301,SivagangaiDt,TamilNadu
Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

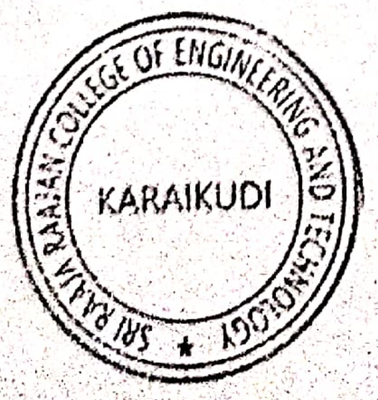
DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

ADD ON COURSE

TV SERVICE & MAINTENANCE TRAINING

SYLLABUS



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Amaravathipudur (Po),
Karaikudi - 630 301.
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Fax : 04565 - 234430
Mobile : 73737 11322, 73737 11333
E-mail : srrcet2010@gmail.com
Website : www.raajaraajan.org

Course in TV Service & Maintenance Training
TV REPAIR TECHNICIAN
Course Contents – SYLLABUS

Course Code	Course Title	Theory / Practical
JSD/EC/001/01	ADVANCED TV SERVICE & MAINTENANCE (LED VIDEO WALL)	Theory
Unit No	Modules (Theory)	T (Hrs.)
I	**UNIT :Basic Electronics:** • Use of Multimeter, Frequency Tester, Oscilloscope • AC and DC supply testing with precautions • Using SMD Rework Station , Solder Iron and other tools,Replacement of Components	8
II	**Power Board-EMI Protection & Power Factor Correction:** • Investigation of Circuit, Active PFC testing • EMI Filter and Hazard Protection Circuit testing **Power Board-Primary Rectification & PWM Oscillator:** • Testing of Primary Rectifier circuit layout • Start-up & Run PWM circuit testing,Testing of PWM controller IC	8
III	**Power Board-Secondary Rectification & FB:** • Investigation of Circuit • Testing of Secondary Rectifier circuit , Sampling circuit • Testing of Error Detection Circuit, Regulator **Service Manual & LCD Test Tool:** • Disassembly of LED TV unit • Use of LCD Screen panel testing tool	9
IV	**Backlight Circuit:** • Testing Backlight Drive IC • Testing Backlight Boost circuit **Logic Board – Power Regulators:** • Identification and testing of step-down Regulators on main logic boar	10
V	**Logic Board – Dead unit, No Display & Connectivity Solution:** • Power Logic Sequence- For Dead LED TV • Display Sequence –For Display Problem in LED TV • Testing of RTS Crystals **LCD Screen panel Repairs:** • LCD panel solution for Solarisation, panel line, negative picture **T-Con board repairs & software:** • Testing of T-Con board for Double image, half picture • Mini-LVDS signal waveform testing using oscilloscope • CVP, CKV,CKVB, STV, STVP waveform testing usig oscilloscope	10
	Total	45

Trust Office : No. 1, S.K.M. Building, T.T. Nagar I° Street, Karaikudi - 630 001.
Ph : 04565 - 234230, Mobile : 73737 11331, 73737 11338

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Karaikudi-630301,SivagangaiDt,TamilNadu
Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

ADD ON COURSE

TV SERVICE & MAINTENANCE TRAINING

REPORT

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY ★ KARAIKUDI

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Mobile : 73737 11322, 73737 11333
E-mail : srrcet2010@gmail.com
Website : www.raajaraajan.org

REPORT

Department of Electronics and Communication Engineering has organized Add on Course Titled "**Course in TV Service & Maintenance Training**" on 17.08.2020 to 22.08.2020.This program started with an inauguration function. Department of Electronics and Communication Engineering student Ms.R.Ajitha Final year, B.E, Department of Electronics and Communication Engineering deliver welcome address. Resource person MR.Muthuraj has address a key note about the program. The Principal, Dr. A.L. Mayilvahanan, Sri Raaja Raajan college of engineering and Technology, karaikudi and the Head of Department, Mr. T.N. Balaji of Sri Raaja Raajan college of engineering and Technology, Karaikudi has consented felicitation address. Students and faculties from various departments attended the function. The students learnt basics and some depth about TV Servicing After completing this programme, participants will be able to: Interact with the customer in order to identify and understand the problem in the television set Ensure customer satisfaction Identify dysfunctional components through visual inspection and by use of multi-meter Read and Comprehend signs, labels and warning Communicate effectively Follow behavior etiquettes while interacting with others Establishing good working relationships with colleagues within and outside the department by coordinating. The program was successfully completed on 22.08.2020 with a valedictory function. Resource person Mr.Muthuraj and students from various departments express feedback about the program and participation certificates are distributed to all the participants. The program valedictory with an vote of thanks by the student Ms. D. Jothika Final year, Department of Electronics and Communication Engineering and national anthem.

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

ADD ON COURSE

TV SERVICE & MAINTENANCE TRAINING

REGISTRATION DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Course in TV Service & Maintenance Training

REGISTRATION DETAILS

S.NO	REGISTER NEMBER	NAMEOFTHE STUDENT	SIGNATURE	S.NO	REGISTER NEMBER	NAMEOFTHE STUDENT	SIGNATURE
SECOND YEAR ECE				FINAL YEAR ECE			
1	912519106002	ANITHA	Anitha	1	912517106001	ABINAYA.C	ABinaya
2	912519106003	ARUNA DEVI	Aruna devi	2	912517106002	ABINAYA.S	Abinaya
3	912519106004	CHARULATHA	charulatha	3	912517106003	AJITHA .R	Ajitha
4	912519106005	DHARANI.C	Dharani	4	912517106004	A.ARUNKUMAR	Arun
5	912519106006	DISOSA.M	Disosa	5	912517106005	BARVIN BANU.I	Barvin Banu
6	912519106007	GAYATHRI.S	Gayathri	6	912517106006	CAROLINE.J	Caroline
7	912519106008	GOVINDHU. S	Govindhu	7	912517106008	DEEPA.K	Deepa
8	912519106009	JANANI R.	Janani	8	912517106009	DHINESH.K	Dhinesh
9	912519106011	KARTHIKA.T	Karthika.	9	912517106010	EZHILNILA.U	Ezhilnila
10	912519106012	MAHALAKSHMI S.	Mahalakshmi	10	912517106012	JOTHIKA.D	Jothika
11	912519106013	NITHYA. VR.	Nithya	11	912517106013	KARPAGAM.A	Karpagam
12	912519106014	PANDIARASI.T	Pandiarasi	12	912517106016	NALINI.M	Nalini
13	912519106015	RAGURAM B	Raguram	13	912517106017	NANTHINI.R	Nanthini
14	912519106016	SUBASOWKIYA.P	Subasowkiya	14	912517106018	NIVETHA.R	Nivetha
15	912519106017	SUSMA.B	Susma	15	912517106019	PANDIMEENAL.G	Pandimeenal
16	912519106019	VASANTHAKUMAR .	Vasanthakumar	16	912517106020	PREETHI.M	Preethi
17	912519106020	VEERADHURGA. M	Veeradhurga	17	912517106021	PREMA.S	Prema
18	912519106021	VIBIESHNAN.P	Vibieshnan	18	912517106022	PRIYADHARSHINI. M	Priyadharshini
19	912519106023	VINOSIKA.M	Vinosika	19	912517106024	RATHIGA.S	Rathiga
				20	912517106025	RATHNA.P	Rathna
THIRD YEAR ECE				21	912517106026	SANGEETHA.S (7.6.1999)	Sangeetha
1	912518106001	R. Ajay	Ajay	22	912517106027	SANGEETHA.S (7.6.2000	Sangeetha
2	912518106002	S. Divya	Divya	23	912517106028	SARANYA.G	Saranya
3	912518106003	K. Kakkan	Kakkan.	24	912517106029	SARATHA.S	Saratha
4	912518106004	N.Kaleeswaran	Kaleeswaran	25	912517106030	SOLAIYAMMAL.R	Solaiyammal
5	912518106005	I.Karpaga thendral	Karpaga thendral	26	912517106031	SUTHA.S	Sutha
6	912518106007	A.Karuppaye	Karuppaye	27	912517106301	AYYAPPAN.M	Ayyappan
7	912518106009	K.Lingarajan	Lingarajan	28	912517106302	VENKATESWARAN. M	Venkat

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Sivagangai Dist. Tamil Nadu

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8	912518106010	C.Manimegalai	Manimegalai				
9	912518106011	A.Manjavisree	Manjavisree				
10	912518106013	R.Praveen kumar	Praveen kumar				
11	912518106014	G.Ramba	Ramba				
12	912518106015	N.Sathya priya	Sathya				
13	912518106016	S.Shelciya	Shelciya				
14	912518106017	P.Suganthi	Suganthi				
15	912518106018	C.Vidhya	Vidhya				

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Karaikudi-630301,SivagangaiDt,TamilNadu
Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

ADD ON COURSE

TV SERVICE & MAINTENANCE TRAINING

ATTENDANCE DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY ★ KARAIKUDI

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AMARAVATHIPUDUR, KARAIKUDI-630 301.
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
TV REPAIR TECHNICIAN

SL. No.	REG. NUMBER	NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
DATE			17	17	17	17	17	17	17	17	18	18	18	18	18	18	18	18	19	19	19	19	19	19	19	20	20	20	20	20	20	20	21	21	21	21	21	21	21	22	22	22	22	22	22	22	22
MONTH			8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
HOURS			1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8
1	912519106002	ANITHA	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2	912519106003	ARUNA DEVI	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	912519106004	CHARULATHA	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4	912519106005	DHARANI.C	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	912519106006	DISOSA.M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	912519106007	GAYATHRI.S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	912519106008	GOVINDHU. S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
8	912519106009	JANANI R.	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
9	912519106011	KARTHIKA.T	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
10	912519106012	MAHALAKSHMI S.	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11	912519106013	NITHYA. VR.	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
12	912519106014	PANDIARASI.T	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13	912519106015	RAGURAM B	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
14	912519106016	SUBASOWKIYA.P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15	912519106017	SUSMA.B	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
16	912519106019	VASANTHAKUMAR	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
17	912519106020	VEERADHURGA.M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
18	912519106021	VIBIESHNAN.P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
19	912519106023	VINOSIKA.M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
20	912518106001	R. Ajay	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
21	912518106002	S. Divya	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

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	912518106003	K. Kakkan
	912518106004	N.Kaleeswaran
24	912518106005	I.Karpaga thendral
25	912518106007	A.Karuppaye
26	912518106009	K.Lingarajan
27	912518106010	C.Manimegalai
28	912518106011	A.Manjavisree
29	912518106013	R.Praveen kumar
30	912518106014	G.Ramba
31	912518106015	N.Sathya priya
32	912518106016	S.Shelciya
33	912518106017	P.Suganthi
34	912518106018	C.Vidhya
35	912517106001	ABINAYA.C
36	912517106002	ABINAYA.S
37	912517106003	AJITHA .R
38	912517106004	A.ARUNKUMAR
39	912517106005	BARVIN BANU.I
40	912517106006	CAROLINE.J
41	912517106008	DEEPA.K
42	912517106009	DHINESH.K
43	912517106010	EZHILNILA.U
44	912517106012	JOTHIKA.D
45	912517106013	KARPAGAM.A
46	912517106016	NALINI.M
47	912517106017	NANTHINI.R
48	912517106018	NIVETHA.R
49	912517106019	PANDIMEENAL.G
50	912517106020	PREETHI.M
51	912517106021	PREMA.S
52	912517106022	PRIYADHARSHINI.

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Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

ADD ON COURSE

TV SERVICE & MAINTENANCE TRAINING

ASSESSMENT DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

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146 /4B1, Amaravathi Village,
Amaravathipudur (Po.),
Karaikudi – 630 301.
Ph : 04565 – 234230 / 326132

Fax : 04565 – 234430
Mobile : 73737 11322, 73737 11333
E-mail : srrcet2010@gmail.com
Website : www.raajaraajan.org

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
PRACTICAL EXAMINATIONS QUESTION PAPER
ADD ON COURSE -TV SERVICING & MAINTENANCE TRAINING

(Answer any one) Max.Marks: 80

Time: 3 Hrs

Aim/Principle/Apparatus required/Procedure	Tabulation/Circuit/ Program/Drawing	Calculation & Results	Viva-Voce	Record	Total
20	20	20	10	10	80

1. Design and test the performance of AM- Modulator and Demodulator

2. Design and test the performance of FM - Modulator and Demodulator

3. Design and test the performance of Pre-Emphasis and De-Emphasis.

4. Design and test the performance of Signal sampling and TDM.

5. Design and test the performance of Pulse Code Modulation and Demodulation.

6. Design and test the performance of Pulse Amplitude Modulation and Demodulation.

7. Design and test the performance of Pulse Position Modulation and Demodulation and Pulse Width Modulation and Demodulation.

8. Design and test the performance of Digital Modulation – ASK, PSK, FSK.

9. Design and test the performance of Delta Modulation and Demodulation.

10. Simulation of ASK, FSK, and BPSK Generation and Detection Schemes.

11. Simulation of DPSK, QPSK and QAM Generation and Detection Schemes.

12. Simulation of Linear Block and Cyclic Error Control coding Schemes.

13. Assembly and Dismandle of LED TV.

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SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

ADD ON COURSE BASICS OF TV SERVICE & MAINTENANCE TRAINING

EXAMINATION QUESTION PAPER

NAME OF THE STUDENT :
YEAR :
DEPARTMENT :

1. Digital television is not superior to analog television.
a) True
b) False

2. Which of the following is the main block of digital TV receiver?
a) MCU (Microcontroller unit)
b) MPRT(Motion picture response time)
c) CCU (central control unit)
d) MTR (Mean time to repair)

3. What separates the signal into two signals called chrominance and luminance in digital TV receiver?
a) Video processor
b) Video codec
c) Audio codec
d) Audio processor

4. Which of the following receives the standard TV signal and synchronizes the vertical and horizontal sweep generators using the color subcarrier in digital TV receiver?
a) Audio processor
b) Video processor
c) Deflection processing unit
d) Audio codec

5. The audio codec is also an ADC (Analog to Digital convertor) that converts the input signal into a 32 bit resolution stream at 35 KHz in digital TV receiver.
a) True
b) False

6. Which of the following receives the signal from parallel to serial convertor and splits it in to two channels of audio the left and the right in digital TV receiver?
a) Audio codec
b) Audio processor
c) Video processor
d) Video codec

7. What is the full form of DTH?
a) Direct to Home Television
b) Direct to House Transmission
c) Digital to Home Television
d) Direct to House Telephone

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8. Which broadcast centre broadcast televised programs through satellite to different subscribers in the country in direct to home television?
a) Audio encoder
b) Digital TV
c) DBS
d) DTT

9. Which of the following is the main part of DTH network?
a) Resolution indicator
b) Transport IC
c) Remote sensor
d) Broadcast Centre

10. DTH is an encrypted transmission that travels to the consumers directly through a satellite.
a) True
b) False

11. DTH (Direct to Home) television is a national service.
a) True
b) False

12. Which is the first private television news channel in Malayalam?
a. Indiavision
b. Asianet News
c. Amrita TV
d. Manorama News

13. What is the primary purpose of Internet Protocol Television (IPTV)?

a) To provide high-definition streaming video

b) To transmit television signals over the internet

c) To enhance the quality of cable television

d) To allow for remote control of television sets

14. Which of the following is NOT a component of an IPTV system?

a) Set-top box

b) Multicast server

c) DVD player

d) Headend

15. IPTV uses which protocol to deliver television signals over the internet?

a) TCP/IP b) HTTP

c) UDP d) FTP

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16. Which type of IPTV service typically requires a monthly subscription?

a) Live TV

b) Video on demand

c) Time-shifted TV

d) All of the above

17. How does IPTV differ from traditional cable television?

a) IPTV uses the internet instead of cable to transmit signals

b) IPTV offers more interactive features

c) IPTV does not require a physical connection to a television

d) All of the above

18. What is the primary advantage of IPTV over streaming services like Netflix or Hulu?

a) IPTV offers a wider variety of channels

b) IPTV has a lower latency

c) IPTV allows for live TV viewing

d) IPTV is cheaper than streaming services

19. Which of the following is an example of an IPTV service?

a) Sling TV

b) Hulu

c) Amazon Prime Video

d) Spotify

20. What is the difference between unicast and multicast IPTV?

a) Unicast sends a separate stream to each viewer, while multicast sends the same stream to multiple viewers

b) Unicast is for live TV, while multicast is for video on demand

c) Unicast is for streaming on mobile devices, while multicast is for streaming on smart TVs

d) Unicast is for high-definition video, while multicast is for standard-definition video

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AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

ADD ON COURSE BASICS OF TV SERVICE & MAINTENANCE TRAINING

EXAMINATION QUESTION PAPER

18/20

NAME OF THE STUDENT : M. Ayyappan.
YEAR : Third year
DEPARTMENT : ECE

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a) Direct to Home Television
b) Direct to House Transmission
c) Digital to Home Television
d) Direct to House Telephone

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b) Digital TV
c) DBS
d) DTT

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b) Transport IC
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c. Amrita TV
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c) Unicast is for streaming on mobile devices, while multicast is for streaming on smart TVs

d) Unicast is for high-definition video, while multicast is for standard-definition video

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ADD ON COURSE BASICS OF TV SERVICE & MAINTENANCE TRAINING

EXAMINATION QUESTION PAPER

19
80

NAME OF THE STUDENT : S. Rathiga
YEAR : Third Year
DEPARTMENT : ECE

1. Digital television is not superior to analog television.
a) True
b) False

2. Which of the following is the main block of digital TV receiver?
a) MCU (Microcontroller unit)
b) MPRT(Motion picture response time)
c) CCU (central control unit)
d) MTR (Mean time to repair)

3. What separates the signal into two signals called chrominance and luminance in digital TV receiver?
a) Video processor
b) Video codec
c) Audio codec
d) Audio processor

4. Which of the following receives the standard TV signal and synchronizes the vertical and horizontal sweep generators using the color subcarrier in digital TV receiver?
a) Audio processor
b) Video processor
c) Deflection processing unit
d) Audio codec

5. The audio codec is also an ADC (Analog to Digital convertor) that converts the input signal into a 32 bit resolution stream at 35 KHz in digital TV receiver.
a) True
b) False

6. Which of the following receives the signal from parallel to serial convertor and splits it in to two channels of audio the left and the right in digital TV receiver?
a) Audio codec
b) Audio processor
c) Video processor
d) Video codec

7. What is the full form of DTH?
a) Direct to Home Television
b) Direct to House Transmission
c) Digital to Home Television
d) Direct to House Telephone

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8. Which broadcast centre broadcast televised programs through satellite to different subscribers in the country in direct to home television?
a) Audio encoder
b) Digital TV
c) DBS
d) DTT

9. Which of the following is the main part of DTH network?
a) Resolution indicator
b) Transport IC
c) Remote sensor
d) Broadcast Centre

10. DTH is an encrypted transmission that travels to the consumers directly through a satellite.
a) True
b) False

11. DTH (Direct to Home) television is a national service.
a) True
b) False

12. Which is the first private television news channel in Malayalam?
a. Indiavision
b. Asianet News
c. Amrita TV
d. Manorama News

13. What is the primary purpose of Internet Protocol Television (IPTV)?

a) To provide high-definition streaming video

b) To transmit television signals over the internet

c) To enhance the quality of cable television

d) To allow for remote control of television sets

14. Which of the following is NOT a component of an IPTV system?

a) Set-top box

b) Multicast server

c) DVD player

d) Headend

15. IPTV uses which protocol to deliver television signals over the internet?

a) TCP/IP

b) HTTP

c) UDP

d) FTP

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16. Which type of IPTV service typically requires a monthly subscription?

a) Live TV

b) Video on demand

c) Time-shifted TV

d) All of the above

17. How does IPTV differ from traditional cable television?

a) IPTV uses the internet instead of cable to transmit signals

b) IPTV offers more interactive features

c) IPTV does not require a physical connection to a television

d) All of the above

18. What is the primary advantage of IPTV over streaming services like Netflix or Hulu?

a) IPTV offers a wider variety of channels

b) IPTV has a lower latency

c) IPTV allows for live TV viewing

d) IPTV is cheaper than streaming services

19. Which of the following is an example of an IPTV service?

a) Sling TV

b) Hulu

c) Amazon Prime Video

d) Spotify

20. What is the difference between unicast and multicast IPTV?

a) Unicast sends a separate stream to each viewer, while multicast sends the same stream to multiple viewers

b) Unicast is for live TV, while multicast is for video on demand

c) Unicast is for streaming on mobile devices, while multicast is for streaming on smart TVs

d) Unicast is for high-definition video, while multicast is for standard-definition video

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ADD ON COURSE BASICS OF TV SERVICE & MAINTENANCE TRAINING

EXAMINATION QUESTION PAPER

18/20

NAME OF THE STUDENT : B. Susma.
YEAR : II Year
DEPARTMENT : ECE

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a) True
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Course in TV Service & Maintenance Training

MARK DETAILS

S.NO	REGISTER NUMBER	NAME OF THE STUDENT	THEORY	PRACTICAL	TOTAL
		SECOND YEAR ECE			
1	912519106002	ANITHA	18	78	96
2	912519106003	ARUNA DEVI	17	76	93
3	912519106004	CHARULATHA	15	78	93
4	912519106005	DHARANI.C	15	74	89
5	912519106006	DISOSA.M	18	78	96
6	912519106007	GAYATHRI.S	17	76	93
7	912519106008	GOVINDHU. S	15	78	93
8	912519106009	JANANI R.	16	74	90
9	912519106011	KARTHIKA.T	18	71	89
10	912519106012	MAHALAKSHMI S.	17	75	92
11	912519106013	NITHYA. VR.	15	79	94
12	912519106014	PANDIARASI.T	16	78	94
13	912519106015	RAGURAM B	18	76	94
14	912519106016	SUBASOWKIYA.P	19	72	91
15	912519106017	SUSMA.B	18	75	93
16	912519106019	VASANTHAKUMAR	17	74	91
17	912519106020	VEERADHURGA.M	18	73	91
18	912519106021	VIBIESHNAN.P	16	70	86
19	912519106023	VINOSIKA.M	18	71	89
		THIRD YEAR ECE			
1	912518106001	R. Ajay	18	74	92
2	912518106002	S. Divya	18	71	89
3	912518106003	K. Kakkan	18	74	92
4	912518106004	N.Kaleeswaran	19	75	94
5	912518106005	I.Karpaga thendral	18	76	94
6	912518106007	A.Karuppaye	18	74	92
7	912518106009	K.Lingarajan	18	71	89
8	912518106010	C.Manimegalai	16	76	92
9	912518106011	A.Manjavisree	17	75	92
10	912518106013	R.Praveen kumar	18	73	91
11	912518106014	G.Ramba	19	75	94
12	912518106015	N.Sathya priya	19	76	95
13	912518106016	S.Shelciya	18	74	92
14	912518106017	P.Suganthi	17	73	90
15	912518106018	C.Vidhya	19	75	94
		Final Year ECE			
1	912517106001	ABINAYA.C	18	73	91
2	912517106002	ABINAYA.S	19	75	94
3	912517106003	AJITHA .R	17	75	92

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4	912517106004	A.ARUNKUMAR	18	73	91
5	912517106005	BARVIN BANU.I	19	75	94
6	912517106006	CAROLINE.J	19	76	95
7	912517106008	DEEPA.K	18	74	92
8	912517106009	DHINESH.K	17	73	90
9	912517106010	EZHILNILA.U	18	71	89
10	912517106012	JOTHIKA.D	17	75	92
11	912517106013	KARPAGAM.A	15	79	94
12	912517106016	NALINI.M	16	78	94
13	912517106017	NANTHINI.R	18	76	94
14	912517106018	NIVETHA.R	19	72	91
15	912517106019	PANDIMEENAL.G	16	75	91
16	912517106020	PREETHI.M	17	74	91
17	912517106021	PREMA.S	19	79	98
18	912517106022	PRIYADHARSHINI.M	18	76	94
19	912517106024	RATHIGA.S	19	74	93
20	912517106025	RATHNA.P	19	75	94
21	912517106026	SANGEETHA.S(7.6.1999)	18	76	94
22	912517106027	SANGEETHA.S(7.6.2000)	18	71	89
23	912517106028	SARANYA.G	17	75	92
24	912517106029	SARATHA.S	18	73	91
25	912517106030	SOLAIYAMMAL.R	19	75	94
26	912517106032	SUTHA.S	17	75	92
27	912517106301	AYYAPPAN.M	18	73	91
28	912517106302	VENKATESWARAN.M	19	75	94

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

ADD ON COURSE

TV SERVICE & MAINTENANCE TRAINING

CERTIFICATE DETAILS

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This is to certify that Mr/Ms S. GOVINDHU

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This is to certify that Mr/Ms M.VINOSIKA

from Sri Raaja Raajan College Of Engineering And Technology has attended

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during 17.8.2020 to 22.8.2020

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This is to certify that Mr/Ms U.EZHILNILA

from Sri Raaja Raajan College Of Engineering And Technology has attended

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during 17.8.2020 to 22.8.2020

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Add on Course

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This is to certify that Mr/Ms P. SUBASOWKIYA

from Sri Raaja Raajan College Of Engineering And Technology has attended

Add on Course on IV Service and Mainteranace Training

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This is to certify that Mr/Ms S.SARATHA

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This is to certify that Mr/Ms P. SUGANTHI

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

ADD ON COURSE

CERTIFICATE IN MOBILE SERVICING & TRAINING

SYLLABUS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
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Mobile : 73737 11322, 73737 11333
E-mail : srrcet2010@gmail.com
Website : www.raajaraajan.org

Certificate in Mobile Servicing (Android & I-phone) Training

Service Technician

Course Contents – Syllabus

Course Code	Course Title	Theory / Practical
ECE/003 /01	MOBILE SERVICING (ANDROID & I-PHONE) TRAINING	Theory
Unit No	Modules (Theory)	T (Hrs.)
I	**Unit Title: Basics Tools and Equipment:** • Study of various Tools and Equipment used in mobile phone • Repair using a multimeter • Identify component and their function.	10
II	**Unit Title: Hardware Repair:** • Study of PCB (printed circuit board) design • Soldiering and and desoldiering of component • Replacing the Display , Speaker, MIC , SIM Slate	5
III	**Unit Title: Software Repair:** • Detailed study of various faults arising due to corrupt software • Introduction of various flasher boxes and software • Flashing of various brands of handsets • Removing virus from infected phones, • Unlocking of handsets through codes and/or software • Use of various secret codes.	10
IV	**Unit Title: Advanced Troubleshooting:** • Fault finding, troubleshooting and repairing of various faults • Water damaged repair techniques, Circuit tracing, jumper techniques and solutions • Use of internet for troubleshooting faults, Advanced troubleshooting techniques.	10
V	**Unit Title: Additional Learning:** • Reading & writing skills, Communication skills, Time management skills, Team skills, Safety & Security. • Guidance to start and manage your own mobile repair center, • Dealing with customers and distributors, Marketing your mobile phone repair business.	10
	Total	45

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Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

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REPORT

Department of Electronics and Communication Engineering has organized Add on Course Titled "**Certificate in Mobile Servicing (Android & I-phone) Training**"on 26.07.2021 to 31.07.2021.This program started with an inauguration function. Department of Electronics and Communication Engineering student Mr.R.Ajay Final year, B.E, Department of Electronics and Communication Engineering deliver welcome address. Resource person Mr.Muthuraj has address a key note about the program. The Principal, Dr.A.L. Mayilvahanan, Sri Raaja Raajan college of engineering and Technology, karaikudi and the Head of Department, Mr. T.N. Balaji of Sri Raaja Raajan college of engineering and Technology,Karaikudi has consented felicitation address. Students and faculties from various departments attended the function. The students learnt basics and some depth about Mobile Servicing Receiving procedure of the faulty Mobile Phone Repair the Hardware and software of the Faulty Mobile Phone Testing the Repaired Mobile phone Co-ordinating with Colleagues :Understanding the procedures to Co- ordinate with colleagues based on the Company Policy. Safety Procedures : Understanding to maintain the safety Procedures to Maintain the safe working environment as per the standard. The program was successfully completed on 31.07.2021 with a valedictory function. Resource person Mr.Muthuraj and students from various departments express feedback about the program and participation certificates are distributed to all the participants. The program valedictory with an vote of thanks by the student Mr. K. Kakkan Final year, Department of Electronics and Communication Engineering and national anthem.

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

ADD ON COURSE

CERTIFICATE IN MOBILE SERVICING & TRAINING

REGISTRATION DETAILS

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KARAIKUDI

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AMARAVATHIPUDUR, KARAIKUDI-630 301.
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
Certificate in Mobile Servicing (Android & I-phone) Training
REGISTRATION DETAILS

S.NO	REGISTER NUMBER	NAME OF THE STUDENT	SIGNATURE
SECOND YEAR ECE			
1	912520106001	ANANTHABALAN J	
2	912520106002	ANNAPOORANI M	
3	912520106003	BALAMURUGAN P	
4	912520106004	CHANDRIKA R	
5	912520106005	HARIHARASUDHAN S	
6	912520106006	HARI PRASATH V	
7	912520106007	HARISH A	
8	912520106008	HARISH N	
9	912520106009	INDHURAJAN A	
10	912520106010	JEEVA N	
11	912520106011	KARTHIKA R	
12	912520106012	KARUPPU S	
13	912520106013	KAVIARASAN K	
14	912520106014	KAVIYA S	
15	912520106015	KAYALVIZHI A	
16	912520106016	MANIVASAN T	
17	912520106018	PRASANNA P	
18	912520106019	PREM KUMAR P	
19	912520106020	PRIYA R	
20	912520106021	SASIKUMAR A	
21	912520106022	SERIN SUREKA J	
22	912520106023	SHANMUGAPRIYA K	
23	912520106024	SIBIRAJ T	
24	912520106025	SINDHU S	
25	912520106026	SIVASANGARI P	
26	912520106027	SURYA T	
27	912520106028	VIGNESH P	
28	9125201063001	ABUKALAM AZATH	
29	9125201063001	AJITHPANDI	
30	9125201063001	ANANTHAJOTHI	
31	9125201063001	BALAKUMARAN	
32	9125201063001	KUBERAN	
33	9125201063001	PRIYA R	
34	9125201063001	LALLUPRASATH	
35	9125201063001	YABESH	
THIRD YEAR ECE			
1	912519106002	ANITHA	
2	912519106003	ARUNA DEVI	
3	912519106004	CHARULATHA	
4	912519106005	DHARANI.C	
5	912519106006	DISOSA.M	
6	912519106007	GAYATHRI.S	
7	912519106008	GOVINDHU. S	
8	912519106009	JANANI R.	
9	912519106011	KARTHIKA.T	
10	912519106012	MAHALAKSHMI S.	
11	912519106013	NITHYA. VR.	
12	912519106014	PANDIARASI.T	
13	912519106015	RAGURAM B	
14	912519106016	SUBASOWKIYA.P	
15	912519106017	SUSMA.B	
16	912519106019	VASANTHAKUMAR	
17	912519106020	VEERADHURGA.M	
18	912519106021	VIBIESHNAN.P	
19	912519106023	VINOSIKA.M	
FINAL YEAR ECE			
1	912518106001	R. AJAY	
2	912518106002	S. DIVYA	
3	912518106003	K. KAKKAN	
4	912518106004	N.KALEESWARAN	
5	912518106005	I.KARPAGA THENDRAL	
6	912518106007	A.KARUPPAYE	
7	912518106009	K.LINGARAJAN	
8	912518106010	C.MANIMEGALAI	
9	912518106011	A.MANJAVISREE	
10	912518106013	R.PRAVEEN KUMAR	
11	912518106014	G.RAMBA	
12	912518106015	N.SATHYA PRIYA	
13	912518106016	S.SHELCIYA	
14	912518106017	P.SUGANTHI	
15	912518106018	C.VIDHYA	

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

ADD ON COURSE

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ATTENDANCE DETAILS

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Certificate in Mobile Servicing (Android & I-phone) Training

SL. No.	REG. NUMBER	NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
DATE			26	26	26	26	26	26	26	26	27	27	27	27	27	27	27	27	28	28	28	28	28	28	28	29	29	29	29	29	29	29	29	30	30	30	30	30	30	30	31	31	31	31	31	31	31
MONTH			7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
HOURS			1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1	912520106001	ANANTHABALAN J	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2	912520106002	ANNAPOORANI M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	912520106003	BALAMURUGAN P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4	912520106004	CHANDRIKA R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	912520106005	HARIHARASUDHAN S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	912520106006	HARI PRASATH V	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	912520106007	HARISH A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
8	912520106008	HARISH N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
9	912520106009	INDHURAJAN A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
10	912520106010	JEEVA N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11	912520106011	KARTHIKA R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
12	912520106012	KARUPPU S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13	912520106013	KAVIARASAN K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
14	912520106014	KAVIYA S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15	912520106015	KAYALVIZHI A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
16	912520106016	MANIVASAN T	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
17	912520106018	PRASANNA P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
18	912520106019	PREM KUMAR P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
19	912520106020	PRIYA R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

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20	912520106021	SASIKUMAR A
21	912520106022	SERIN SUREKA J
22	912520106023	SHANMUGAPRIYA K
23	912520106024	SIBIRAJ T
24	912520106025	SINDHU S
25	912520106026	SIVASANGARI P
26	912520106027	SURYA T
27	912520106028	VIGNESH P
28	9125201063001	ABUKALAM AZATH
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44	912519106011	KARTHIKA.T
45	912519106012	MAHALAKSHMI S.
46	912519106013	NITHYA. VR.
47	912519106014	PANDIARASI.T
48	912519106015	RAGURAM.B
49	912519106016	SUBASOWKIYA.P
50	912519106017	SUSMA.B
51	912519106019	VASANTHAKUMAR

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52	912519106020	VEERADHURGA.M
53	912519106021	VIBIESHNAN.P
54	912519106023	VINOSIKA.M
55	912518106001	R. AJAY
56	912518106002	S. DIVYA
57	912518106003	K. KAKKAN
58	912518106004	N.KALEESWARAN
59	912518106005	I.KARPAGA
60	912518106007	A.KARUPPAYE
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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

ADD ON COURSE

CERTIFICATE IN MOBILE SERVICING & TRAINING

ASSESSMENT DETAILS

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

PRACTICAL EXAMINATIONS QUESTION PAPER

ADD ON COURSE – MOBILE SERVICING

(Answer any one)

Max. Marks: 80
Time: 3 Hrs

Aim/Principle/Apparatus required/Procedure	Tabulation/Circuit/ Program/Drawing	Calculation & Results	Viva-Voce	Record	Total
20	20	20	10	10	80

1. To write the various components of GSM Kit and understanding RF module.
2. To write the GSM Architecture.
3. To observe various parameters concerning modern & SIM card hardware by giving AT commands.
4. To write call flow control commands
5. To write message handling commands.
6. To write message setting commands.
7. To write various PN codes in CDMA.
8. To generate DSSS modulated signal Modulation using internal generation of 2047 bit of PN sequence as modulator and demodulator carrier.
9. To write various code modulation tech. QPSK, BPSK.
10. To write various code modulation tech. OQPSK.

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AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING
ADD ON COURSE MOBILE SERVICING
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT :
YEAR :
DEPARTMENT :

1) Which of the following usually stores all user-related data that is also relevant to GSM mobile systems?

a. VLR
b. HMR
c. CMR
d. SIM

2) In which one of the following codes with specific characteristics can be applied to the transmission?

a. CDMA
b. GPRS
c. GSM
d. All of the above

3) Which of the following offers packet mode data transfer service over the cellular network?

a. TCP
b. GPRS
c. GSM
d. None of the above

4) Which one of the following enables us to use the entire bandwidth simultaneously?

a. TDMA
b. CDMA
c. FDMA
d. All of the above

5) In the Cellular Network, on which of the following, the cell's shape depends?

a. Political conditions
b. Social Conditions

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c. Environment Condition
d. None of the above

6) In a Cellular network, which of the following is used to use the same frequency for others?

a. Frequency hopping
b. Frequency reuse
c. Frequency planning
d. None of the above

7) Which of the following uses wireless as the mode of communication for transferring or exchanging data between various mobiles over a short-range?

a. Ad hoc computing
b. Mobile computing
c. Bluetooth technology
d. None of the above

8) The main aim of the file system is to support_____

a. Transparent access to data
b. Efficient access to data
c. Consistent access to data
d. All of the above

9) In a distributed system, a client sends the request, and the server provides____

a. Data
b. Service
c. Information
d. **All of the above**

10) One of the essential challenges of distributed systems apply to DFS is/are

a. Migration of data
b. **Concurrent access to data**
c. Replication of data
d. All of the above

11) Which one of the following can be considered as the features of CODA?

a. A disconnected operation for mobile computing
b. It is freely available under a liberal license
c. It provides high performance through client-side persistent caching

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d. **All of the above**

12) Which one of the file systems applies gossip protocols?

a. CODA
b. **Ficus**
c. Rover
d. None of the above

13) Which of the following modes are supported by the Mio-NFS?

a. Connected
b. Loosely connected
c. Disconnected
d. **All of the above**

14) Which of the following can be considered as the advantage of using frequency reuse?

a. The same spectrum can be allocated to the other networks
b. **Only a limited spectrum is required**
c. Increase capacity
d. All of the above

15) Which of the following can be considered as the primary function of snooping TCP?

a. To buffer data close to the mobile host to perform fast local retransmission in case of packet loss.
b. Congestion control
c. **Flow control**
d. None of the above

16) In which one of the following, the slow and fast hopping is used?

a. GSM
b. GPRS
c. FHSS
d. None of the above

17) Mobile Computing allows transmission of data from one wireless-enabled device to another_

a. Any device
b. Wired device
c. Wireless-enabled device
d. one of the above

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18) Which of the following can be considered as the drawbacks of the Mobile and Wireless Devices?

a. Smaller keypads
b. Consumes power rapidly
c. Requires a big power source
d. All of the above

19) In general, a mobile computing environment can also be considered as the type of _____ environment.

a. Grid computing
b. Mobile computing
c. Distributed computing
d. None of the above

20) Which of the following is a fundamental principle of wireless communication?

a. Electromagnetic waves
b. Microwaves
c. Both A and B
d. None of the above

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AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING
ADD ON COURSE MOBILE SERVICING
EXAMINATION QUESTION PAPER

16/20

NAME OF THE STUDENT : D Harani. C
YEAR : Third Year
DEPARTMENT : ECE

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c. Frequency planning
d. None of the above

7) Which of the following uses wireless as the mode of communication for transferring or exchanging data between various mobiles over a short-range?

a. Ad hoc computing
b. Mobile computing
c. Bluetooth technology
d. None of the above

8) The main aim of the file system is to support_____

a. Transparent access to data
b. Efficient access to data
c. Consistent access to data
d. All of the above

9) In a distributed system, a client sends the request, and the server provides____

a. Data
b. Service
c. Information
d. All of the above

10) One of the essential challenges of distributed systems apply to DFS is/are

a. Migration of data
b. Concurrent access to data
c. Replication of data
d. All of the above

11) Which one of the following can be considered as the features of CODA?

a. A disconnected operation for mobile computing
b. It is freely available under a liberal license
c. It provides high performance through client-side persistent caching

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d. All of the above

12) Which one of the file systems applies gossip protocols?

a. CODA
b. Ficus
c. Rover
d. None of the above

13) Which of the following modes are supported by the Mio-NFS?

a. Connected
b. Loosely connected
c. Disconnected
d. All of the above

14) Which of the following can be considered as the advantage of using frequency reuse?

a. The same spectrum can be allocated to the other networks
b. Only a limited spectrum is required
c. Increase capacity
d. All of the above

15) Which of the following can be considered as the primary function of snooping TCP?

a. To buffer data close to the mobile host to perform fast local retransmission in case of packet loss.
b. Congestion control
c. Flow control
d. None of the above

16) In which one of the following, the slow and fast hopping is used?

a. GSM
b. GPRS
c. FHSS
d. None of the above

17) Mobile Computing allows transmission of data from one wireless-enabled device to another_

a. Any device
b. Wired device
c. Wireless-enabled device
d. one of the above

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18) Which of the following can be considered as the drawbacks of the Mobile and Wireless Devices?

a. Smaller keypads
b. Consumes power rapidly
c. Requires a big power source
d. All of the above

19) In general, a mobile computing environment can also be considered as the type of _____ environment.

a. Grid computing
b. Mobile computing
c. Distributed computing
d. None of the above

20) Which of the following is a fundamental principle of wireless communication?

a. Electromagnetic waves
b. Microwaves
c. Both A and B
d. None of the above

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AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING
ADD ON COURSE MOBILE SERVICING
EXAMINATION QUESTION PAPER

17/20

NAME OF THE STUDENT : Vignesh. P
YEAR : II year
DEPARTMENT : ECE

1) Which of the following usually stores all user-related data that is also relevant to GSM mobile systems?

a. VLR
b. HMR
c. CMR
d. SIM

2) In which one of the following codes with specific characteristics can be applied to the transmission?

a. CDMA
b. GPRS
c. GSM
d. All of the above

3) Which of the following offers packet mode data transfer service over the cellular network?

a. TCP
b. GPRS
c. GSM
d. None of the above

4) Which one of the following enables us to use the entire bandwidth simultaneously?

a. TDMA
b. CDMA
c. FDMA
d. All of the above

5) In the Cellular Network, on which of the following, the cell's shape depends?

a. Political conditions
b. Social Conditions

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c. Environment Condition
d. None of the above

6) In a Cellular network, which of the following is used to use the same frequency for others?

a. Frequency hopping
b. Frequency reuse
c. Frequency planning
d. None of the above

7) Which of the following uses wireless as the mode of communication for transferring or exchanging data between various mobiles over a short-range?

a. Ad hoc computing
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d. **All of the above**

12) Which one of the file systems applies gossip protocols?

a. CODA
b. Ficus
c. Rover
d. None of the above

13) Which of the following modes are supported by the Mio-NP5?

a. Connected
b. Loosely connected
c. Disconnected
d. **All of the above**

14) Which of the following can be considered as the advantage of using frequency reuse?

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ADD ON COURSE MOBILE SERVICING
EXAMINATION QUESTION PAPER

17/20

NAME OF THE STUDENT : C.vidhya
YEAR : Final Year
DEPARTMENT : ECE

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Certificate in Mobile Servicing (Android & I-phone) Training
MARK DETAILS

S.NO	REGISTER NUMBER	NAME OF THE STUDENT	THEORY	PRACTICAL	TOTAL
SECOND YRAR ECE					
1	912520106001	ANANTHABALAN J	19	75	94
2	912520106002	ANNAPOORANI M	19	76	95
3	912520106003	BALAMURUGAN P	18	74	92
4	912520106004	CHANDRIKA R	17	73	90
5	912520106005	HARIHARASUDHAN S	18	71	89
6	912520106006	HARI PRASATH V	17	75	92
7	912520106007	HARISH A	18	74	92
8	912520106008	HARISH N	17	73	90
9	912520106009	INDHURAJAN A	18	71	89
10	912520106010	JEEVA N	17	75	92
11	912520106011	KARTHIKA R	15	79	94
12	912520106012	KARUPPU S	16	78	94
13	912520106013	KAVIARASAN K	18	76	94
14	912520106014	KAVIYA S	19	72	91
15	912520106015	KAYALVIZHI A	16	75	91
16	912520106016	MANIVASAN T	17	74	91
17	912520106018	PRASANNA P	19	79	98
18	912520106019	PREM KUMAR P	18	76	94
19	912520106020	PRIYA R	18	74	92
20	912520106021	SASIKUMAR A	19	75	94
21	912520106022	SERIN SUREKA J	18	76	94
22	912520106023	SHANMUGAPRIYA K	18	74	92
23	912520106024	SIBIRAJ T	18	71	89
24	912520106025	SINDHU S	18	74	92
25	912520106026	SIVASANGARI P	17	75	92
26	912520106027	SURYA T	18	73	91
27	912520106028	VIGNESH P	17	75	92
28	912520106301	ABUKALAM AZATH	19	75	94
29	912520106302	AJITHPANDI	18	76	94
30	912520106303	ANANTHAJOTHI	19	72	91
31	912520106304	BALAKUMARAN	16	75	91
32	912520106305	KUBERAN	17	74	91
33	912520106306	PRIYA R	19	72	91
34	912520106307	LALLUPRASATH	16	75	91
35	912520106308	YABESH	19	76	95
THIRD YEAR ECE					
1	912519106002	ANITHA	18	76	94
2	912519106003	ARUNA DEVI	18	74	92
3	912519106004	CHARULATHA	19	75	94
4	912519106005	DHARANI.C	16	76	92

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5	912519106006	DISOSA.M	17	74	91
6	912519106007	GAYATHRI.S	19	79	98
7	912519106008	GOVINDHU. S	18	76	94
8	912519106009	JANANI R.	18	74	92
9	912519106011	KARTHIKA.T	19	75	94
10	912519106012	MAHALAKSHMI S.	18	76	94
11	912519106013	NITHYA. VR.	18	74	92
12	912519106014	PANDIARASI.T	18	71	89
13	912519106015	RAGURAM B	19	79	98
14	912519106016	SUBASOWKIYA.P	17	75	92
15	912519106017	SUSMA.B	18	73	91
16	912519106019	VASANTHAKUMAR	19	75	94
17	912519106020	VEERADHURGA.M	17	75	92
18	912519106021	VIBIESHNAN.P	18	73	91
19	912519106023	VINOSIKA.M	17	75	92
FINAL YEAR ECE					
1	912518106001	R. Ajay	19	79	98
2	912518106002	S. Divya	17	75	92
3	912518106003	K. Kakkan	18	73	91
4	912518106004	N.Kaleeswaran	17	75	92
5	912518106005	I.Karpaga thendral	18	73	91
6	912518106007	A.Karuppaye	19	75	94
7	912518106009	K.Lingarajan	19	72	91
8	912518106010	C.Manimegalai	16	75	91
9	912518106011	A.Manjavisree	17	74	91
10	912518106013	R.Praveen kumar	19	79	98

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Karaikudi-630301,SivagangaiDt,TamilNadu
Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

ADD ON COURSE

CERTIFICATE IN MOBILE SERVICING & TRAINING

CERTIFICATE DETAILS

SRI RAAJA RAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

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during 26.7.21 to 31.7.21

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during 26.7.2021 to 31.7.2021

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from Sri Raaja Raajan College Of Engineering And Technology has attended

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This is to certify that Mr/Ms S. GOVINDHU

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during 26.7.2021 to 31.7.2021

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Karaikudi-630301,SivagangaiDt,TamilNadu
Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Value-Added courses

Introduction

Value-Added courses are part of the curriculum designed to provide necessary skills to increase the employability quotient and equipping the students with essential skills to succeed in life. Sri Raaja Raajan College of Engineering and Technology offers a wide variety of Value-Added Courses which shall be conducted on after class hours. These courses shall be conducted by experts or in-house staff and help students stand apart from the rest in the job market by adding further value to their resume. These value-added courses will be mostly independent to each type of the fields.

Objectives

Objectives of the Value-Added Course are:

1. To provide students an understanding of the expectations of industry.
2. To improve employability skills of students.
3. To bridge the skill gaps and make students industry ready.
4. To provide an opportunity to students develop their inter-disciplinary skills.
5. To mould students as job providers rather than job seekers.

Designing the Courses

1. Before designing the syllabus, the feedback from the employers, alumni and industry people will be analysed and considered to select and design an appropriate course by identifying the gaps.
2. Apart from these discussions may also be held with the employers, alumni and industrial experts to understand the expectations for current and emerging trends.

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3. Any new Value-Added Course developed by a department should be placed before the Board of Studies and approved by the Academic Council.

4. The course offered should not be the same as any course listed in the curriculum of the respective program/ or any other program offered in University Departments.

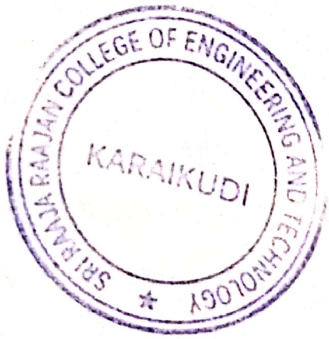
5. A unique course code is to be given for each course.

Course Completion

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

2. The students who have successfully completed the Value-Added Course shall be issued with a Certificate duly signed by the Authorized signatories.

S. NO	PAPER TITLE	THEORY/PRACTICAL	MARKS	TOTAL
1	EMBEDDED SYSTEMS	THEORY	20	100
		PRACTICAL	80	
2	RFCD USING ADS	THEORY	20	100
		PRACTICAL	80	
3	BASICS OF MATLAB	THEORY	20	100
		PRACTICAL	80	
4	HANDS ON PROGRAM USING VHDL PROGRAMMING	THEORY	20	100
		PRACTICAL	80	
5	BASICS OF ROBOTICS	THEORY	20	100
		PRACTICAL	80	



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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

VALUE ADDED COURSE

S.NO	ACADEMIC YEAR	COURSE TITLE	PARTICIPATION STRENGTH
1.	2017-2018	EMBEDDED SYSTEMS	71
2.	2018-2019	RFCD USING ADS	69
3.	2019-2020	BASICS OF MATLAB	57
4.	2020-2021	HANDS ON PROGRAM USING VHDL PROGRAMMING	62
5.	2021-2022	BASICS OF ROBOTICS	69

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2017-2018)

VALUE ADDED COURSE

A PRACTICAL COURSE ON EMBEDDED SYSTEMS

SYLLABUS

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

A PRACTICAL COURSE ON EMBEDDED SYSTEMS
COURSE SYLLABUS

COURSEOBJECTIVES:

- To exposestudentstothefield ofEmbeddedSystems
- Toenablestudentstoimplementtheircreativeconceptstowork

COURSEOUTCOMES:

After the completion ofthiscourse,studentswill be able to

- Applyengineeringfundamentalsandanengineeringspecializationtotheconceptualizationofembeddedengineeringdesi gnmodels.
- Identify,formulate,research literatureand solve complexembeddedsystemengineeringproblems.
- Design solutionsforbydevelopinganddebuggingembeddedsystemhardwareandfirmware

UNIT I INTRODUCTION TOEMBEDDEDSYSTEMS

Overview of Microprocessors & Microcontrollers –Embedded Systems Design Issues – Challenges and Trends in EmbeddedSystems,Memory(RAM,ROM,EPROM,EEPROM,FLASH)–I/OInterfacing,ProgrammingEnvironment-Review of C Programming, Host & Target Development environment, Embedded C Programming,SimulationandDebugging,Downloadingintotargetsystem.

UNIT II BASICMICROCONTROLLERBASEDEMBEDDEDSYSTEMDESIGN

8051 Microcontroller –Architecture, Peripheral interfacing and Programming. AVR Microcontroller –Architecture,PeripheralinterfacingandProgramming.PICMicrocontroller-Architecture,PeripheralinterfacingandProgramming.

UNIT III ADVANCEDMICROCONTROLLER BASED EMBEDDEDSYSTEMDESIGN

Stream1:TIVAARM Processor- Architecture, ARM Peripheral interfacing and Programming- Introduction to TIVA C SeriesArchitecture. TIVA Programming, I/O Port Programming, LED, PWM and Switch Interfacing. Analog to DigitalConverter Programming, UART, DMA Controller Programming, Timer Interfacing, EEPROM Interfacing, JTAGandInterruptHandling

Stream2:C2000 Introduction to Real Time Controllers - C2000 Series Architecture - C2000 Libraries. C2000 Programming.
I/OPortProgramming,LED,InterruptsandkeyboardInterfacing,SensorsInterfacing,MotorContol,SwitchInterfacing.ePWMP gramming,Flash MemoryInterfacing

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2017-2018)

VALUE ADDED COURSE

A PRACTICAL COURSE ON EMBEDDED SYSTEMS

REPORT

RAAJAN COLLEGE OF ENGG & TECH. KARAIKUDI

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REPORT

Department of Electronics and Communication Engineering has organized Value added programme Titled "A Practical course on embedded systems" from 07.08.2017 to 12.08.2017 This program started with an inauguration function. Ms. P.Kanimozhi third year, B.E, delivered welcome address. The Principal, Dr.A.Kumaravadivel Sri Raaja Raajan college of engineering and Technology, karaikudi and the Head of Department, Mr. T.N. Balaji of Sri Raaja Raajan college of engineering and Technology, Karaikudi has consented felicitation address. Resource person Mrs.P.Keerthana has given a key note address about the program. Students and faculties from various departments attended the function. The students learn basics of embedded systems. The world is moving towards the ease of IoT. What used to take a ton of human power can now be accomplished by the power of machine learning and AI. Embedded system software ranges from little to no user interface to complex user experiences that more deeply connect us to the devices in our world. Consumer electronics, cars, agricultural equipment, manufacturing, and medical equipment are all possible locations for embedded software. The development process for this new era can be complex, and it's worth it to learn the types of hardware and software tools available to you. The program was successfully completed on 12.08.2017 with a valedictory function. Students of department of electronics and communication Engineering express feedback about the program and participation certificates are distributed to all the participants Ms.A.Gayathri Final year B.E, department of electronics and communication engineering delivered vote of thanks and national anthem.

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2017-2018)

VALUE ADDED COURSE

A PRACTICAL COURSE ON EMBEDDED SYSTEMS

REGISTRATION DETAILS

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
A PRACTICAL COURSE ON EMBEDDED SYSTEMS
REGISTRATION FORM

SL. No.	REG. NUMBER	NAME	SIGNATURE
	SECOND YEAR ECE		
1	912516106002	ARTHI N	
2	912516106003	ELEVZHALAGAN M	
3	912516106004	EZHILARASI J	
4	912516106005	JEYA DHARSHINI C	
5	912516106006	KARTHICK R	
6	912516106007	KAVEETA S	
7	912516106008	LOURTHIGA RANI X	
8	912516106009	MALINI K	
9	912516106012	SNEHA R	
10	912516106013	SONIYA M	
11	912516106014	SOWMIYA. M	
12	912516106015	SUGANTHI N	
13	912516106301	BOOMATHI C	
14	912516106302	MALU M	
15	912516106303	SURIYA GANDHI M	
16	912516106304	VASANTH RAJ L	
17	912516106305	SUGANTHI	
18	912516106306	KALA K	
	THIRD YEAR ECE		
1	912515106001	AISHWARYA LAKSHMI M	
2	912515106002	AJITHA T	
3	912515106004	ANUSHYA A	
4	912515106005	ARUNA K	
5	912515106007	BIRUNTHA KUMARI R	
6	912515106008	JEEVITHA G	
7	912515106009	JENIFARNACHIYAR J	
8	912515106010	KANIMOZHI P	
9	912515106011	KANMANI PR	
10	912515106012	MOHAMEDZIYATHKHAN M	
11	912515106013	NIVASHINI S	
12	912515106014	PREETHI G	
13	912515106015	PRIYADHARSHINI S	
14	912515106016	RANJITHA R	
15	912515106017	SANGEETHA S	
16	912515106018	SARANYA S	
17	912515106019	SELVAMUKILA M	
18	912515106020	SUMITHA M	
19	912515106021	SUTHA K	
20	912515106022	VIGNESH M	
21	912515106023	VIJAY B	
22	912515106301	ABINESH	
23	912515106302	ELLAKIYA	
24	912515106304	NAGARAJ	
25	912515106305	NITHYA	
26	912515106306	SOUNDHARIYA V	
27	912515106307	VALLIKANNU N	
	FINAL YEAR ECE		
1	912514106001	ANATHA NAYAKI	
2	912514106002	ASHVIN KARTHICK.N	
3	912514106003	BHUVANESHWARI.R	
4	912514106004	DIVYA.P	
5	912514106005	GAYATHRI.A	
6	912514106006	GOKILA DEVI.S	
7	912514106007	JAYANA.SR	
8	912514106008	JEYAPRIYA.P	
9	912514106009	JEYARANI.R	
10	912514106011	KARPAGACHITRA.T	
11	912514106012	MAHALAKSHMI.K	
12	912514106013	MAHALAKSHMI.S	
13	912514106014	MOHAMED ASIF.R	
14	912514106015	PAVITHRA.R	
15	912514106016	PECHI GOWRI.T	
16	912514106017	POORANI DEVI.S	
17	912514106019	PRIYADHARSHINI.S	
18	912514106020	PRIYANGA.K	
19	912514106021	RAJKUMAR.M	
20	912514106023	SANGEETHA.R	
21	912514106024	SELVAKUMAR.C	
22	912514106026	SHRILEKA.M	
23	912514106027	SRIMATHI.S	
24	912514106028	STELLA.R	
25	912514106029	TAMILTHENDRAL.MT	
26	912514106030	VEERAN.N	

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2017-2018)

VALUE ADDED COURSE

A PRACTICAL COURSE ON EMBEDDED SYSTEMS

ATTENDANCE DETAILS

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

A PRACTICAL COURSE ON EMBEDDED SYSTEMS (2017-2018)

SL. No.	REG. NUMBER	NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
	DATE		8	8	8	8	8	8	8	8	9	9	9	9	9	9	9	9	10	10	10	10	10	10	10	10	11	11	11	11	11	11	11	12	13	12	12	12	12	12	13	13	13	13	13	13	13
	MONTH		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	HOURS		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2017-2018)

VALUE ADDED COURSE

A PRACTICAL COURSE ON EMBEDDED SYSTEMS

ASSESSMENT DETAILS

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
PRACTICAL EXAMINATIONS QUESTION PAPER
VALUE ADDED COURSE – EMBEDDED SYSTEMS

(Answer any one)

Max. Marks: 80
Time: 3 Hrs

Aim/Principle/Apparatus required/Procedure	Tabulation/Circuit/ Program/Drawing	Calculation & Results	Viva-Voce	Record	Total
20	20	20	10	10	80

1. Programming Arithmetic and Logical Operations in 8051.
2. Programming using Generation of Square waveform using 8051.
3. Programming using On – Chip ports in 8051.
4. Programming using Serial Ports in 8051.
5. Design of a Digital Clock using Timers/Counters in 8051.
6. Programming using Experiments using ARM
7. Programming using Interfacing ADC and DAC
8. Programming using Blinking of LEDs and LCD
9. Programming using Interfacing keyboard and Stepper Motor.

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AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

VALUE ADDED COURSE ON EMBEDDED SYSTEMS
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT :
YEAR :
DEPARTMENT :

1. Which memory storage is widely used in PCs and Embedded Systems?
a) EEPROM
b) Flash memory
c) SRAM
d) DRAM

2. How is the protection and security for an embedded system made?
a) Security chips
b) Memory disk security
c) IPR
d) OTP

3. Which of the following task swapping method is a better choice in the embedded systems design?
a) time slice
b) RMS
c) cooperative multitasking
d) pre-emptive

4. Which type of memory is suitable for low volume production of embedded systems?
a) Non-volatile
b) RAM
c) Volatile
d) ROM

5. Which activity is concerned with identifying the task at the final embedded systems?
a) scheduling
b) task-level concurrency management
c) high-level transformation
d) compilation

6. Which level simulates the algorithms that are used within the embedded systems?
a) algorithmic level
b) switch level
c) gate level
d) circuit level

7. How an embedded system communicate with the outside world?
a) Memory
b) Output

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c) Peripherals
d) Input

8. Which of the following helps in reducing the energy consumption of the embedded system?
a) emulator
b) debugger
c) simulator
d) compilers

9. What is the purpose of memory refresh register of Z80?
a) To control on-chip SRAM
b) To control on-chip DRAM
c) To clear cache
d) To control ROM

10. What does MESI stand for?
a) modified exclusive system input
b) modifies embedded shared invalid
c) modified exclusive shared invalid
d) modified exclusive stale invalid

11. Which of the following is the pin efficient method of communicating between other devices?
a) memory port
b) peripheral port
c) parallel port
d) serial port

12. Which of the following is a traditional method for emulating the processor?
a) CPU simulator
b) SDS
c) ICE
d) Low-level language simulator

13. Which of the following unit protects the memory?
a) memory management unit
b) peripheral unit
c) execution unit
d) bus interface unit

14. 14. Identify the standard software components that can be reused in an embedded system design?
a) memory
b) application software
c) application manager
d) operating system

15. What does ICE stand for?
a) in-circuit EPOM
b) in-code emulation
c) in-circuit emulation
d) in-code EPROM

16. Who proposed the first power model?

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a) Tiwari
b) Russell and Jacome
c) Russell
d) Jacome

17. Which of the following offers external chips for memory and peripheral interface circuits?
a) Embedded system
b) Peripheral system
c) Microcontroller
d) Microprocessor

18. What kind of socket does an external EPROM to plugged in for prototyping?
a) Piggyback reset socket
b) Multi-socket
c) Piggyback
d) Single socket

19. Which is the single device capable of providing prototyping support for a range of microcontroller?
a) Umbrella device
b) OTP
c) RAM
d) ROM

20. By which instruction does the switching of registers take place?
a) Register instruction
b) EXX instruction
c) Instruction opcodes
d) AXX instruction

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SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

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SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

VALUE ADDED COURSE ON EMBEDDED SYSTEMS
EXAMINATION QUESTION PAPER

19/20

NAME OF THE STUDENT : Aswin. K.
YEAR : III Year.
DEPARTMENT : ECE

1. Which memory storage is widely used in PCs and Embedded Systems?
a) EEPROM
b) Flash memory
c) SRAM
d) DRAM

2. How is the protection and security for an embedded system made?
a) Security chips
b) Memory disk security
c) IPR
d) OTP

3. Which of the following task swapping method is a better choice in the embedded systems design?
a) time slice
b) RMS
c) cooperative multitasking
d) pre-emptive

4. Which type of memory is suitable for low volume production of embedded systems?
a) Non-volatile
b) RAM
c) Volatile
d) ROM

5. Which activity is concerned with identifying the task at the final embedded systems?
a) scheduling
b) task-level concurrency management
c) high-level transformation
d) compilation

6. Which level simulates the algorithms that are used within the embedded systems?
a) algorithmic level
b) switch level
c) gate level
d) circuit level

7. How an embedded system communicate with the outside world?
a) Memory
b) Output

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c) Peripherals
d) Input

8. Which of the following helps in reducing the energy consumption of the embedded system?
a) emulator
b) debugger
c) simulator
d) compilers

9. What is the purpose of memory refresh register of Z80?
a) To control on-chip SRAM
b) To control on-chip DRAM
c) To clear cache
d) To control ROM

10. What does MESI stand for?
a) modified exclusive system input
b) modifies embedded shared invalid
c) modified exclusive shared invalid
d) modified exclusive stale invalid

11. Which of the following is the pin efficient method of communicating between other devices?
a) memory port
b) peripheral port
c) parallel port
d) serial port

12. Which of the following is a traditional method for emulating the processor?
a) CPU simulator
b) SDS
c) ICE
d) Low-level language simulator

13. Which of the following unit protects the memory?
a) memory management unit
b) peripheral unit
c) execution unit
d) bus interface unit

14. 14. Identify the standard software components that can be reused in an embedded system design?
a) memory
b) application software
c) application manager
d) operating system

15. What does ICE stand for?
a) in-circuit EPOM
b) in-code emulation
c) in-circuit emulation
d) in-code EPROM

16. Who proposed the first power model?

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a) Tiwari
b) Russell and Jacome
c) Russell
d) Jacome

17. Which of the following offers external chips for memory and peripheral interface circuits?
a) Embedded system
b) Peripheral system
c) Microcontroller
d) Microprocessor

18. What kind of socket does an external EPROM to plugged in for prototyping?
a) Piggyback reset socket
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19. Which is the single device capable of providing prototyping support for a range of microcontroller?
a) Umbrella device
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c) RAM
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20. By which instruction does the switching of registers take place?
a) Register instruction
b) EXX instruction
c) Instruction opcodes
d) AXX instruction

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VALUE ADDED COURSE ON EMBEDDED SYSTEMS
EXAMINATION QUESTION PAPER

19/20

NAME OF THE STUDENT : MAHALAKSHMI. K.
YEAR : IV YEAR.
DEPARTMENT : ECE

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VALUE ADDED COURSE ON EMBEDDED SYSTEMS
EXAMINATION QUESTION PAPER

18/20

NAME OF THE STUDENT : Soniya.M
YEAR : II year
DEPARTMENT : ECE

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A PRACTICAL COURSE ON EMBEDDED SYSTEMS

MARK DETAILS

S.NO	REGISTER NUMBER	NAME OF THE STUDENT	THEORY	PRACTICAL	TOTAL
		SECOND YEAR ECE			
1	912516106002	Arthi N	17	75	92
2	912516106003	Elevzhalagan M	18	72	90
3	912516106004	Ezhilarasi J	15	78	93
4	912516106005	Jeya dharshini C	15	74	89
5	912516106006	Karthick R	18	78	96
6	912516106007	Kaveeta S	17	76	93
7	912516106008	Lourthiga rani X	15	78	93
8	912516106009	Malini K	16	74	90
9	912516106012	Sneha R	18	71	89
10	912516106013	Soniya M	18	75	93
11	912516106014	Sowmiya. M	15	79	94
12	912516106015	Suganthi N	16	78	94
13	912516106301	Boomathi C	18	76	94
14	912516106302	Malu M	19	72	91
15	912516106303	Suriya Gandhi M	16	75	91
16	912516106304	Vasanth raj L	17	74	91
17	912516106305	Suganthi	18	73	91
18	912516106306	Kala K	16	70	86
		THIRD YEAR ECE			
1	912515106001	AISHWARYA LAKSHMI M	18	71	89
2	912515106002	AJITHA T	16	75	91
3	912515106004	ANUSHYA A	17	74	91
4	912515106005	ARUNA K	19	79	98
5	912515106007	BIRUNTHA KUMARI R	18	76	94
6	912515106008	JEEVITHA G	18	74	92
7	912515106009	JENIFARNACHIYAR J	19	75	94
8	912515106010	KANIMOZHI P	18	76	94
9	912515106011	KANMANI PR	18	74	92
10	912515106012	MOHAMEDZIYATHKHAN M	18	71	89
11	912515106013	NIVASHINI S	18	74	92
12	912515106014	PREETHI G	17	75	92
13	912515106015	PRIYADHARSHINI S	18	73	91
14	912515106016	RANJITHA R	18	74	92
15	912515106017	SANGEETHA S	17	75	92

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30	912514106306	PRADEEP N	17	75	92
31	912514106307	PRAGADEESH M	15	79	94
32	912514106701	MATHAN RAJ M	16	78	94
33	912514000000	PANDIYA RAJAN B	16	78	94

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Karaikudi-630301,SivagangaiDt,TamilNadu
Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2017-2018)

VALUE ADDED COURSE

A PRACTICAL COURSE ON EMBEDDED SYSTEMS

CERTIFICATE DETAILS

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This is to certify that Mr/Ms N.VALLIKANNU

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on A Practical Course on embedded Systems during 7.8.2017 to 12.8.2017

HOD/ECE

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This is to certify that ~~Mr~~/Ms T. AJITHA

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on A practical course on embedded Systems during 7.8.2017 to 12.8.2017

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2018-2019)

VALUE ADDED COURSE

RFCD USING ADS

SYLLABUS

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E-mail : srrcet2010@gmail.com
Website : www.raajaraajan.org

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

RFCD USING ADS

Course Content

Objective of the Course:

An expert in the field of RF module and system design, provides powerful techniques for analyzing real RF systems, with emphasis on some that are currently not well understood. Combining theoretical results

Radio frequency components and circuits form the backbone of today's mobile and satellite communications networks. Consequently, practicing need to be able to solve ever more complex problems of RF design.

Learning outcomes:

After the completion of the course, the students will be able design some RF based System using ADS.

Duration of the course:

- 6 Days (45 Hours)

Minimum Eligibility Criteria:

- Pursuing BE Students

Course outline

Sl.No.	Module stobe Covered
1	Introduction to RF
2	Wireless Systems
3	Amplifiers
4	Mixers
5	Oscillators
6	Synthesizers

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Fax : 04565 - 234430
Mobile : 73737 11322, 73737 11333
E-mail : srrcet2010@gmail.com
Website : www.raajaraajan.org

DETAILED COURSE SYLLABUS

1. Introduction to RF Systems

- Introduction to Wireless SystemsIntroduction to Design Labs
- Introduction to Simulation with ADS
- Introduction to Octave as a processing tool for ADS
- Introduction to Time Domain Measurements
- Introduction to RF Network Measurements

2.Wireless Systems

- Path LossDesign Challenges
- SensitivitySelectivity and Distortion
- Solution - Wireless System Analysis
- Solution - RF Transceiver Design (calculation and validation)

3. Amplifiers

- Amplifiers DesignAmplifiers Topologies
- Amplifiers Matching (LNA)Power Amplifiers
- PA MatchingPA Design
- PA Class A ExampleClassification of Power Amplifiers
- Solution - Single-ended Common Source Amplifier

4. Mixers

- Introduction to MixersDouble Balanced Mixers
- Image & HarmonicsActive and Passive Mixers
- Solution - Double Balanced Mixer

5. Oscillators

- Introduction to OscillatorsTunable Oscillators
- Oscillator Phase NoiseBreakdown Voltage and Buffering for Oscillators
- Solution - Oscillators

6. Synthesizers

- Introduction to SynthesizersPLL Frequency Synthesizer Types I and II
- Solution - Synthesizers

7. Project

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COLLEGE OF ENGINEERING ANDTECHNOLOGY

(Approved by AICTE, New Delhi &Affiliated to Anna University, Chennai)
146/14B1,AmaravathiVillage,AmaravathiputhurPost,
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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2018-2019)

VALUE ADDED COURSE

RFCD USING ADS

REPORT

SRI RAAJA RAAJAN COLLEGE OF ENGG & TECH. KARAIKUDI

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COLLEGE OF ENGINEERING AND TECHNOLOGY
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Report

Department of Electronics and Communication Engineering has organized Value added Course Titled **"Radio Frequency circuit design using ADS"** from 20-08-2018 to 25-08-2018. This program started with an inauguration function. Department of Electronics and Communication Engineering student Ms.Final year, B.E, Department of Electronics and Communication Engineering deliver welcome address. Resource person Mr.C.Dhavaperumal has address a key note about the program. The Principal, Dr.X.Hyacinth Suganthi Sri Raaja Raajan college of engineering and Technology, karaikudi and the Head of Department, Mr. T.N. Balaji of Sri Raaja Raajan college of engineering and Technology, Karaikudi has consented felicitation address. Students and faculties from various departments attended the function. The students learnt basics of Radio Frequency circuit design using ADS. Radio frequency components and circuits form the backbone of today's mobile and satellite communications networks. Consequently, practicing need to be able to solve ever more complex problems of RF design. Blending theoretical rigor with a wealth of practical expertise, Practical RF System Design addresses a variety of complex, real-world problems that system engineers are likely to encounter in today's burgeoning communications industry with solutions that are not easily available in the existing literature. The program was successfully completed on 25-08-2018 with a valedictory function. Resource person Mr.C.Dhavaperumal and students of department of electronics and communication Engineering express feedback about the program and participation certificates are distributed to all the participants. The program valedictory with an vote of thanks by the student Ms. G.Jeevitha Final year, department of electronics andcommunication engineering and national anthem.

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ACADEMIC YEAR (2018-2019)

VALUE ADDED COURSE

RFCD USING ADS

REGISTRATION DETAILS

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AMARAVATHIPUDUR, KARAIKUDI-630 301.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

RFCD USING ADS

REGISTRATION DETAILS:

Sl No	Register Number	Student Name	Signature
FSECOND YEAR ECE			
1	912517106001	ABINAYA.C	
2	912517106002	ABINAYA.S	
3	912517106003	AJITHA .R	
4	912517106004	A.ARUNKUMAR	
5	912517106005	BARVIN BANU.I	
6	912517106006	CAROLINE.J	
7	912517106008	DEEPA.K	
8	912517106009	DHINESH.K	
9	912517106010	EZHILNILA.U	
10	912517106012	JOTHIKA.D	
11	912517106013	KARPAGAM.A	
12	912517106016	NALINI.M	
13	912517106017	NANTHINI.R	
14	912517106018	NIVETHA.R	
15	912517106019	PANDIMEENAL.G	
16	912517106020	PREETHI.M	
17	912517106021	PREMA.S	
18	912517106022	PRIYADHARSHINI.M	
19	912517106024	RATHIGA.S	
20	912517106025	RATHNA.P	
21	912517106026	SANGEETHA.S(7.6.1999)	
22	912517106027	SANGEETHA.S(3.2.2000)	
23	912517106028	SARANYA.G	
24	912517106029	SARATHA.S	
25	912517106030	SOLAIYAMMAL.R	
26	912517106032	SUTHA.S	
27	912517106301	AYYAPPAN.M	
28	912517106302	VENKATESWARAN.M	
THIRD YEAR ECE			
1	912516106002	ARTHI	
2	912516106003	Elavalagan M	
3	912516106004	Ezhilarasi J	
4	912516106007	Kaveeta S	
5	912516106008	Lourthiga rani X	
6	912516106009	Malini K S	
7	912516106012	Sneha P	
8	912516106013	Soniya M	
9	912516106014	Sowmiya. M	
10	912516106015	Suganthi N	
11	912516106301	Boomathi C	
12	912516106303	Malu M	
13	912516106304	Suganthi S	
14	912516106306	Vasanth raj L	
FINAL YEAR ECE			
1	912515106001	AISHWARYA LEKSHMI.M	
2	912515106002	AJITHA.T	
3	912515106004	ANUSHYA.A	
4	912515106005	ARUNA.K	
5	912515106007	BIRUNTHA KUMARI.R	
6	912515106008	JEEVITHA.G	
7	912515106009	JENIFAR NACHIYAR.J	
8	912515106010	KANIMOZHI.P	
9	912515106011	KANMANI.PR	
10	912515106012	MOHAMEDZIYATH KHAN.M	
11	912515106013	NIVASHINI.S	
12	912515106014	PREETHI.G	
13	912515106015	PRIYADHARSHINI.S	
14	912515106016	RANGITHA.R	
15	912515106017	SANGEETHA.S	
16	912515106018	SARANYA.S	
17	912515106019	SELVAMUKILA.M	
18	912515106020	SUMITHA M	
19	912515106021	SUTHA K	
20	912515106022	VIGNESH M	
21	912515106023	VIJAY B	
22	912515106301	ABINESH	
23	912515106302	ELLAKIYA	
24	912515106304	NAGARAJ	
25	912515106305	NITHYA	
26	912515106306	SOUNDHARIYA V	
27	912515106307	VALLIKANNU	

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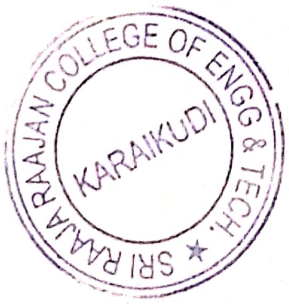
DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2018-2019)

VALUE ADDED COURSE

RFCD USING ADS

ATTENDANCE DETAILS



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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

RFCD USING ADS (2018 - 2019)

SL. No.	REG. NUMBER	NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
DATE			20	20	20	20	20	20	20	21	21	21	21	21	21	21	21	21	22	22	22	22	22	22	23	23	23	23	23	24	23	23	24	24	24	24	24	24	24	25	25	25	25	25	25	25	25
MONTH			8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
HOURS			1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8
1	912517106001	ABINAYA.C	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2	912517106002	ABINAYA.S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	912517106003	AJITHA .R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4	912517106004	A.ARUNKUMAR	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	912517106005	BARVIN BANU.I	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	912517106006	CAROLINE.J	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	912517106008	DEEPA.K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
8	912517106009	DHINESH.K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
9	912517106010	EZHILNILA.U	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
10	912517106012	JOTHIKA.D	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11	912517106013	KARPAGAM.A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
12	912517106016	NALINI.M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13	912517106017	NANTHINI.R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
14	912517106018	NIVETHA.R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
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16	912517106020	PREETHI.M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
17	912517106021	PREMA.S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
18	912517106022	PRIYADHARSHINI.M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

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47	912515106007	BIRUNTHA KUMARI.R
48	912515106008	JEEVITHA.G

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69	912515106307	VALLIKANNU

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2018-2019)

VALUE ADDED COURSE

RFCD USING ADS

ASSESSMENT DETAILS

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
PRACTICAL EXAMINATIONS QUESTION PAPER
VALUE ADDED COURSE – RFCD USING ADS

(Answer any one)

Max. Marks: 80
Time: 3 Hrs

Aim/Principle/Apparatus required/Procedure	Tabulation/Circuit/ Program/Drawing	Calculation & Results	Viva-Voce	Record	Total
20	20	20	10	10	80

1. Designing of matching networks.
2. Designing of tapped inductor and capacitor.
3. Designing Stack ADT using Arrays.
4. Designing queue ADT using Arrays.
5. Designing Stack ADT using linked list.
6. Designing queue ADT using linked list.
7. Designing Binary search Tree operations.
8. Designing B-Tree insertion & Deletion.
9. Designing Prim's Algorithm.
10. Designing kruskal's Algorithm.

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AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

VALUE ADDED COURSE ON RFCD USING ADS
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT :
YEAR :
DEPARTMENT :

Q1. What is the approximate bandwidth of radio frequency (RF) electromagnetic waves?

A. 300 Hz to 300 GHz

B. 20 Hz to 20 kHz

C. 300 Hz to 3000 GHz

D. 300 MHz to 300 GHz

Q2. In spectral analysis the following factors are considered except?

A. Power in band

B. Modulation factor

C. Harmonic distortion

D, Noise specification

Q3. What is power in band?

A. It is the measurement of frequency band or bandwidth that contains a specified percentage of the total power of the signal.

B. It is the measurement of total power within any specified frequency range or band.

C. It is a measure of how a particular channel and its adjacent channels distribute power.

D. None of the above.

Q4. What is the approximate bandwidth of microwaves?

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A. 10 kHz to 20 kHz

B. 3 Hz to 300 MHz

C. 0.3 GHz to 300 GHz

D. 20 Hz to 20 kHz

Q5. The following are true about harmonic distortion, except?

A. It is a measure of the amount of power contained in the harmonics of a fundamental signal.

B. It is determined by the smallest frequency that can be resolved.

C. Harmonics distortion can be expressed as either power or as percentage ratio.

D. Harmonic distortion is inherent to devices and systems that possess nonlinear characteristics.

Q6. Phase noises are due to?

A. Noise from other signals.

B. Modulation of the signal with the carrier signal.

C. Noise due to change of phase during transmission in different medium.

D. Noise due to change of phase during reflection.

Q7. The following sensors are used in measurement of power in RF & Microwave systems, except?

A. Thermistor

B. Strain gauge

C. Thermocouple

D. Barretter

Q8. Which of the following is a technique used in digital modulation?

A. Pulse shift keying

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KARAIKUDI

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B. Frequency modulation

C. Frequency shift keying

D. None of the above

Q9. Which of the following is correct statement with regard to AM and FM signals?

A. FM signals are more immune to noise than AM signals.

B. FM signals can travel longer distance than AM signals.

C. Antennas for FM signals are larger in size than AM antennas.

D. Carrier frequencies of FM signals are relatively lower than AM signals.

Q10. Demodulation is done in the?

A. Transmitter

B. Receiver

C. Between the transmitter and radio receiver

D. None of the above

Q11. In AM wave, useful power is carried by?

A. Sidebands

B. Carrier

C. Both sidebands and carrier

D. None of the above

Q12. In an AM wave, the majority of the power is in the?

A. Upper band

B. Lower band

C. Carrier

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D. None of the above

Q13. If the sweep generator output is directly connected to the input of the spectrum analyser, what will be displayed on the spectrum analyser?

A. Many random lines will be observed

B. A saw tooth wave can be observed

C. A single horizontal line can be observed

D. A single vertical line can be observed

Q14. The major advantage of FM over AM is?

A. Higher carrier frequency

B. Reception is less noisy

C. Smaller bandwidth

D. Small frequency deviation

Q15. The IF is 455 kHz. If the radio receiver is tuned to 855 kHz, what is the frequency of the local oscillator?

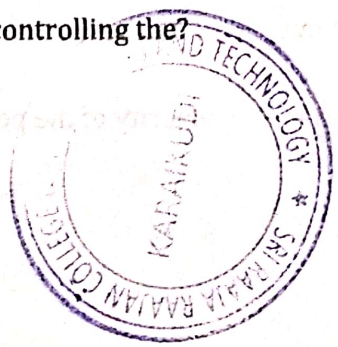
A. 1310 kHz

B. 1500 kHz

C. 2000 kHz

D. 455 kHz

Q16. Modulation refers to a low-frequency signal controlling the?



A. Frequency of the carrier

B. Amplitude of the carrier

C. Phase of the carrier

D. Can be any of the above

Q17. A high Q tuned circuit will allow an amplifier to have high

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A. Sensitivity

B. Selectivity

C. Fidelity

D. Frequency

Q18. In Superheterodyne receiver, the input at the mixer stage is?

A. RF and AF

B. IF and RF

C. IF and AF

D. RF and local oscillator signal

Q19. What is the function of a scalar network analyser?

A. Measures the amplitude of an RF signal.

B. Measures the phase of an RF signal.

C. Is used to measure the frequency response of any device or system.

D. None of the above.

Q20. Most of the amplification in Superheterodyne receiver occurs at which stage?

A. RF amplifier

B. IF

C. Audio amplifier

D. Detector

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

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Sri Raaja Raajan College of Engg. & Tech.,
Amaravathipudur, Karaikudi - 630 301
Sivagangai Dist. Tamil Nadu

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AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

VALUE ADDED COURSE ON RFCD USING ADS
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT : SUMITHA.M
YEAR : IV YEAR
DEPARTMENT : ECE

19/20

Q1. What is the approximate bandwidth of radio frequency (RF) electromagnetic waves?

A. 300 Hz to 300 GHz

B. 20 Hz to 20 kHz

C. 300 Hz to 3000 GHz

D. 300 MHz to 300 GHz

Q2. In spectral analysis the following factors are considered except?

A. Power in band

B. Modulation factor

C. Harmonic distortion

D. Noise specification

Q3. What is power in band?

A. It is the measurement of frequency band or bandwidth that contains a specified percentage of the total power of the signal.

B. It is the measurement of total power within any specified frequency range or band.

C. It is a measure of how a particular channel and its adjacent channels distribute power.

D. None of the above.

Q4. What is the approximate bandwidth of microwave?

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A. 10 kHz to 20 kHz

B. 3 Hz to 300 MHz

C. 0.3 GHz to 300 GHz

D. 20 Hz to 20 kHz

Q5. The following are true about harmonic distortion, except?

A. It is a measure of the amount of power contained in the harmonics of a fundamental signal.

B. It is determined by the smallest frequency that can be resolved.

C. Harmonics distortion can be expressed as either power or as percentage ratio.

D. Harmonic distortion is inherent to devices and systems that possess nonlinear characteristics.

Q6. Phase noises are due to?

A. Noise from other signals.

B. Modulation of the signal with the carrier signal.

C. Noise due to change of phase during transmission in different medium.

D. Noise due to change of phase during reflection.

Q7. The following sensors are used in measurement of power in RF & Microwave systems, except?

A. Thermistor

B. Strain gauge

C. Thermocouple

D. Barretter

Q8. Which of the following is a technique used in digital modulation?

A. Pulse shift keying

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B. Frequency modulation

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D. None of the above

Q9. Which of the following is correct statement with regard to AM and FM signals?

A. FM signals are more immune to noise than AM signals.

B. FM signals can travel longer distance than AM signals.

C. Antennas for FM signals are larger in size than AM antennas.

D. Carrier frequencies of FM signals are relatively lower than AM signals.

Q10. Demodulation is done in the?

A. Transmitter

B. Receiver

C. Between the transmitter and radio receiver

D. None of the above

Q11. In AM wave, useful power is carried by?

A. Sidebands

B. Carrier

C. Both sidebands and carrier

D. None of the above

Q12. In an AM wave, the majority of the power is in the?

A. Upper band

B. Lower band

C. Carrier

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Q13. If the sweep generator output is directly connected to the input of the spectrum analyser, what will be displayed on the spectrum analyser?

A. Many random lines will be observed

B. A saw tooth wave can be observed

C. A single horizontal line can be observed

D. A single vertical line can be observed

Q14. The major advantage of FM over AM is?

A. Higher carrier frequency

B. Reception is less noisy

C. Smaller bandwidth

D. Small frequency deviation

Q15. The IF is 455 kHz. If the radio receiver is tuned to 855 kHz, what is the frequency of the local oscillator?

A. 1310 kHz

B. 1500 kHz

C. 2000 kHz

D. 455 kHz

Q16. Modulation refers to a low-frequency signal controlling the?

A. Frequency of the carrier

B. Amplitude of the carrier

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Q17. A high Q tuned circuit will allow an amplifier to have high

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A. Sensitivity

B. Selectivity

C. Fidelity

D. Frequency

Q18. In Superheterodyne receiver, the input at the mixer stage is?

A. RF and AF

B. IF and RF

C. IF and AF

D. RF and local oscillator signal

Q19. What is the function of a scalar network analyser?

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EXAMINATION QUESTION PAPER

18/20

NAME OF THE STUDENT : Malini.k
YEAR : III Year
DEPARTMENT : ECE

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EXAMINATION QUESTION PAPER

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YEAR : II Year
DEPARTMENT : ECE

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MARK DETAILS

S.NO	REGISTER NEMBER	NAME OF THE STUDENT	THEORY	PRACTICAL	TOTAL
SECOND YEAR ECE					
1	912517106001	ABINAYA.C	19	79	98
2	912517106002	ABINAYA.S	18	76	94
3	912517106003	AJITHA .R	18	74	92
4	912517106004	A.ARUNKUMAR	19	75	94
5	912517106005	BARVIN BANU.I	18	76	94
6	912517106006	CAROLINE.J	18	74	92
7	912517106008	DEEPA.K	19	71	90
8	912517106009	DHINESH.K	16	76	92
9	912517106010	EZHILNILA.U	17	75	92
10	912517106012	JOTHIKA.D	18	73	91
11	912517106013	KARPAGAM.A	19	75	94
12	912517106016	NALINI.M	19	76	95
13	912517106017	NANTHINI.R	18	74	92
14	912517106018	NIVETHA.R	17	73	90
15	912517106019	PANDIMEENAL.G	19	75	94
16	912517106020	PREETHI.M	18	71	89
17	912517106021	PREMA.S	16	76	92
18	912517106022	PRIYADHARSHINI.M	17	75	92
19	912517106024	RATHIGA.S	18	73	91
20	912517106025	RATHNA.P	19	75	94
21	912517106026	SANGEETHA.S(7.6.1999)	19	76	95
22	912517106027	SANGEETHA.S(3.2.2000)	18	74	92
23	912517106028	SARANYA.G	17	73	90
24	912517106029	SARATHA.S	18	71	89
25	912517106030	SOLAIYAMMAL.R	17	75	92
26	912517106032	SUTHA.S	15	79	94
27	912517106301	AYYAPPAN.M	16	78	94
28	912517106302	VENKATESWARAN.M	17	75	92
THIRD YEAR ECE					
1	912516106002	ARTHI	18	73	91
2	912516106003	Elavalagan M	19	75	94
3	912516106004	Ezhilarasi J	19	76	95
4	912516106007	Kaveeta S	18	74	92
5	912516106008	Lourthiga rani X	17	73	90
6	912516106009	Malini K	18	71	89
7	912516106012	Sneha R	17	75	92
8	912516106013	Soniya M	15	79	94

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9	912516106014	Sowmiya. M	16	78	94
10	912516106015	Suganthi N	17	73	90
11	912516106301	Boomathi C	18	71	89
12	912516106303	Malu M	17	75	92
13	912516106304	Suganthi S	15	79	94
14	912516106306	Vasanth raj L	16	78	94

FINAL YEAR ECE

1	912515106001	AISHWARYA LEKSHMI.M	17	75	92
2	912515106002	AJITHA.T	18	73	91
3	912515106004	ANUSHYA.A	19	75	94
4	912515106005	ARUNA.K	19	76	95
5	912515106007	BIRUNTHA KUMARI.R	18	74	92
6	912515106008	JEEVITHA.G	17	73	90
7	912515106009	JENIFAR NACHIYAR.J	18	71	89
8	912515106010	KANIMOZHI.P	17	75	92
9	912515106011	KANMANI.PR	15	79	94
10	912515106012	MOHAMEDZIYATH KHAN.M	17	73	90
11	912515106013	NIVASHINI.S	18	71	89
12	912515106014	PREETHI.G	17	75	92
13	912515106015	PRIYADHARSHINI.S	15	79	94
14	912515106016	RANGITHA.R	16	78	94
15	912515106017	SANGEETHA.S	17	73	90
16	912515106018	SARANYA.S	18	71	89
17	912515106019	SELVAMUKILA.M	19	76	95
18	912515106020	SUMITHA M	19	74	93
19	912515106021	SUTHA K	17	73	90
20	912515106022	VIGNESH M	19	75	94
21	912515106023	VIJAY B	18	71	89
22	912515106301	ABINESH	16	76	92
23	912515106302	ELLAKIYA	17	75	92
24	912515106304	NAGARAJ	18	73	91
25	912515106305	NITHYA	19	75	94
26	912515106306	SOUNDHARIYA V	18	71	89
27	912515106307	VALLIKANNU	16	76	92

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY KARAIKUDI

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COLLEGE OF ENGINEERING ANDTECHNOLOGY

(Approved by AICTE, New Delhi &Affiliated to Anna University, Chennai)
146/14B1,AmaravathiVillage,AmaravathiputhurPost,
Karaikudi-630301,SivagangaiDt,TamilNadu
Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2018-2019)

VALUE ADDED COURSE

RFCD USING ADS

CERTIFICATE DETAILS

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Organizes

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This is to certify that Mr/Ms S. SUTHA

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SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY ★ KARAIKUDI

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This is to certify that Mr/Ms K. ARUNA

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HOD/ECE

SRI RAAJA RAJAN KARAIKUDI ENGG & TECH.

PRINCIPAL

Sri Raaja Raajan College of Engg & Tech
Amaravathipudur, Karaikudi
Sivagangai Dist. Tamil Nadu

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APPROVED BY AICTE, NEW DELHI & AFFLIATED BY ANNA UNIVERSITY, CHENNAI

AMARAVATHIPUDUR, KARAIKUDI – 630 301, SIVAGANGAI DIST.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Organizes

Value added courses

certificate

This is to certify that Mr/Ms R. NIVETHA

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Radio frequency Circuit design using ADS **during** 20.8.2018 to 25.8.2018

HOD/ECE

SRI RAAJA RAAJAN COLLEGE OF ENGG. & TECH. KARAIKUDI

PRINCIPAL

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Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

VALUE ADDED COURSE

BASICS OF MATLAB

SYLLABUS

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(Approved by AICTE, New Delhi & Affiliated to Anna University)
146 - 431, Amaravathi Village,
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Fax : 04565 - 234430
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E-mail : srrcet2010@gmail.com
Website : www.raajaraajan.org

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

BASICS OF MATLAB

Course Content

OBJECTIVE OF THE COURSE:

MATLAB is a high-performance language for technical computing. It integrates computation, visualization, and programming in an easy-to-use environment where problems and solutions are expressed in familiar mathematical notation.

LEARNING OUTCOME:

After the completion of the course, the students will be able to design some Matlab programming.

DURATION OF THE COURSE:

- 6 Days (45 Hours)

MINIMUM ELIGIBILITY CRITERIA:

- Pursuing BE Students /Passed out students

COURSE OUTLINE

Sl.No.	ModulestobeCovered
1	Introduction to Matlab
2	Matrix generation
3	Array operations
4	MATLAB programming
5	Control flow and operators
6	Project

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DETAILED COURSE SYLLABUS:

1. Introduction to Matlab

- Basic featuresStarting MATLAB
- Using MATLAB as a calculatorQuitting MATLAB
- Creating MATLAB variablesOverwriting variable
- Controlling the hierarchy of operations
- Controlling the appearance of floating point numberEntering multiple statements per line

2. Matrix generation

- Entering a vectorEntering a matrix
- Matrix indexingCreating a sub-matrix
- Transposing a matrixConcatenating matrices
- Matrix generatorsSpecial matrices

3. Array operations

- Matrix arithmetic operationsArray arithmetic operations
- Matrix inverseMatrix functions
- Linear spacingDeleting row or column
- Colon operator in a matrix

4. MATLAB programming

- M-File Scripts and ExamplesScript side-effects
- M-File functionsInput and output arguments
- Input to a script fileOutput commands
- Solving linear equations

5. Control flow and operators

- Introduction of control flowControl flow operators
- The "if end" structure Relational and logical operators
- The "for end" loop The "while end" loop
- Other flow structures Operator precedence
- Saving output to a fileDebugging process

6. Project

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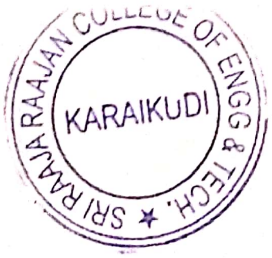
DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

VALUE ADDED COURSE

BASICS OF MATLAB

REPORT



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REPORT

Department of Electronics and Communication Engineering has organized Value added Course Titled "**Basics of Matlab**" from 05.08.19 to 10.08.19. This program started with an inauguration function. Department of Electronics and Communication Engineering student Ms.I.Barvin Banu Third year, B.E, Department of Electronics and Communication Engineering deliver welcome address. Resource person Mr.S.Gnanasambanthan has address a key note about the program. The Principal, Dr.A.L.Mayilvahanan, Sri Raaja Raajan college of engineering and Technology, karaikudi has consented felicitation address. Students and faculties from various departments attended the function. The students learnt basics of Matlab Programming. MATLAB is a high-performance language for technical computing. It integrates computation, visualization, and programming in an easy-to-use environment where problems and solutions are expressed in familiar mathematical notation. The name MATLAB stands for Matrix laboratory. MATLAB was written originally to provide easy access to matrix software developed by the Linpack (linear system package) and EISPACK (Eigen system package) projects. MATLAB is a high-performance language for technical computing. It integrates computation, visualization, and programming environment. Furthermore, Matlab is a modern programming language environment: it has sophisticated data structures, contains built-in editing and debugging tools, and supports object-oriented programming. The program was successfully completed on 10.08.2019 with a valedictory function. Resource person Mr.S.Gnanasambanthan from OK Solutions and students of Department of Electronics and Communication Engineering express feedback about the program and participation certificates are distributed to all the participants. The program valedictory with an vote of thanks by the student Ms. S.Suganthi Final year, Department of Electronics and Communication Engineering and national anthem.

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

VALUE ADDED COURSE

BASICS OF MATLAB

REGISTRATION DETAILS

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AMARAVATHIPUDUR, KARAIKUDI-630 301.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

BASICS OF MATLAB

REGISTRATION DETAILS

SL. No.	REGISTER NEMBER	NAME OF THE STUDENT	SIGNATURE
	SECOND YEAR ECE		
1	912518106001	R. Ajay	
2	912518106002	S. Divya	
3	912518106003	K. Kakkan	
4	912518106004	N.Kaleeswaran	
5	912518106005	I.Karpaga thendral	
6	912518106007	A.Karuppaye	
7	912518106009	K.Lingarajan	
8	912518106010	C.Manimegalai	
9	912518106011	A.Manjavisree	
10	912518106013	R.Praveen kumar	
11	912518106014	G.Ramba	
12	912518106015	N.Sathya priya	
13	912518106016	S.Shelciya	
14	912518106017	P.Suganthi	
15	912518106018	C.Vidhya	
	THIRD YEAR ECE		
1	912517106001	ABINAYA.C	
2	912517106002	ABINAYA.S	
3	912517106003	AJITHA .R	
4	912517106004	A.ARUNKUMAR	
5	912517106005	BARVIN BANU.I	
6	912517106006	CAROLINE.J	
7	912517106008	DEEPA.K	
8	912517106009	DHINESH.K	
9	912517106010	EZHILNILA.U	
10	912517106012	JOTHIKA.D	
11	912517106013	KARPAGAM.A	
12	912517106016	NALINI.M	
13	912517106017	NANTHINI.R	
14	912517106018	NIVETHA.R	
15	912517106019	PANDIMEENAL.	
16	912517106020	PREETHI.M	
17	912517106021	PREMA.S	
18	912517106022	PRIYADHARSHINI.M	
19	912517106024	RATHIGA.S	
20	912517106025	RATHNA.P	
21	912517106026	SANGEETHA.S(3.2.1999)	
22	912517106027	SANGEETHA.S(3.2.2000)	
23	912517106028	SARANYA.G	
24	912517106029	SARATHA.S	
25	912517106030	SOLAIYAMMAL.R	
26	912517106032	SUTHA.S	
27	912517106301	AYYAPPAN.M	
28	912517106302	VENKATESWARAN.M	
	FINAL YEAR ECE		
1	912516106002	ARTHI	
2	912516106003	Elavalagan M	
3	912516106004	Ezhilarasi J	
4	912516106007	Kaveeta S	
5	912516106008	Lourthiga rani X	
6	912516106009	Malini K	
7	912516106012	Sneha R	
8	912516106013	Soniya M	
9	912516106014	Sowmiya. M	
10	912516106015	Suganthi N	
11	912516106301	Boomathi C	
12	912516106303	Malu M	
13	912516106304	Suganthi S	
14	912516106306	Vasanth raj L	

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

VALUE ADDED COURSE

BASICS OF MATLAB

ATTENDANCE DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGG & TECH. KARAIKUDI

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AMARAVATHIPUDUR, KARAIKUDI-630 301.
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
BASICS OF MATLAB (2019 – 2020)

SL. No.	REG. NUMBER	NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
		Date	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	8	8	8	8	8	8	8	9	9	9	9	9	9	9	10	10	10	10	10	10	10
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1	912518106001	R. Ajay	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2	912518106002	S. Divya	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	912518106003	K. Kakkan	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4	912518106004	N.Kaleeswaran	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	912518106005	I.Karpaga thendral	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	912518106007	A.Karuppaye	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	912518106009	K.Lingarajan	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
8	912518106010	C.Manimegalai	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
9	912518106011	A.Manjavisree	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
10	912518106013	R.Praveen kumar	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11	912518106014	G.Ramba	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
12	912518106015	N.Sathya priya	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13	912518106016	S.Shelciya	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
14	912518106017	P.Suganthi	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
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18	912517106003	AJITHA .R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
19	912517106004	A.ARUNKUMAR	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
20	912517106005	BARVIN BANU.P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
21	912517106006	CAROLINE.J	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

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22	912517106008	DEEPA.K
23	912517106009	DHINESH.K
24	912517106010	EZHILNILA.U
25	912517106012	JOTHIKA.D
26	912517106013	KARPAGAM.A
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37	912517106027	SANGEETHA.S(3.2.2000)
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47	912516106007	Kaveeta S
48	912516106008	Lourthiga rani X
49	912516106009	Malini K
50	912516106012	Sneha R
51	912516106013	Soniya M
52	912516106014	Sowmiya. M

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53	912516106015	Suganthi N	
54	912516106301	Boomathi C	
55	912516106303	Malu M	
56	912516106304	Suganthi S	
57	912516106306	Vasanth raj L	

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KARAIKUDI

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

VALUE ADDED COURSE

BASICS OF MATLAB

ASSESSMENT DETAILS

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
PRACTICAL EXAMINATIONS QUESTION PAPER
VALUE ADDED COURSE - BASICS OF MATLAB

(Answer any one) Max.Marks: 80

Time: 3 Hrs

Aim/Principle/Apparatus required/Procedure	Tabulation/Circuit/ Program/Drawing	Calculation & Results	Viva-Voce	Record	Total
20	20	20	10	10	80

IMPLEMENTATION

1. Design and demonstration of Generation of elementary Discrete-Time sequences
2. Design and demonstration of Linear and Circular convolutions
3. Design and demonstration of Auto correlation and Cross Correlation
4. Design and demonstration of Frequency Analysis using DFT
5. Design of FIR filters (LPF/HPF/BPF/BSF) and demonstrates the filtering operation
6. Design of Butterworth and Chebyshev IIR filters (LPF/HPF/BPF/BSF) and demonstrate the filtering operations
7. Design and demonstration of architecture of Digital Signal Processor
8. Design and demonstration of Perform MAC operation using various addressing modes
9. Design and demonstration of Generation of various signals and random noise
10. Design and demonstration of FIR Filter for Low pass, High pass, Band pass and Band stop filtering
11. Design and demonstration of Butter worth and Chebyshev IIR Filters for Low pass, High pass, Band pass and Band stop filtering
12. Implement an Up-sampling and Down-sampling operation in DSP Processor

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY KARAIKUDI

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Sri Raaja Raajan College of Engg. & Tech.
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Sivagangai Dist. Tamil Nadu

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AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

VALUE ADDED COURSE ON BASICS OF MATLAB
QUESTION PAPER

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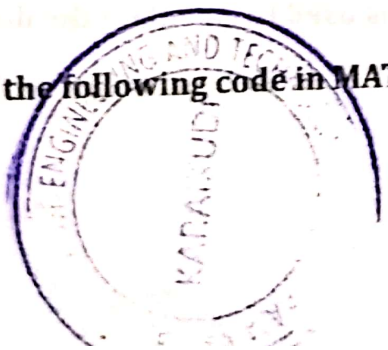

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A) x is a vector with 11 elements, y is a vector with 11 elements

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SUGANTHI.S
IV YEAR
ECE

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DEPARTMENT OF
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17/20

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Dhinesh.K.
III Year.
ECE.

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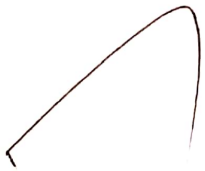

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R. Praveen Kumar
II Year/ECE

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

BASICS OF MATLAB

MARK DETAILS

S.NO	REGISTER NUMBER	NAME OF THE STUDENT	THEORY	PRACTICAL	TOTAL
SECOND YEAR ECE					
1	912518106001	R. Ajay	16	76	92
2	912518106002	S. Divya	17	75	92
3	912518106003	K. Kakkan	18	73	91
4	912518106004	N.Kaleeswaran	19	75	94
5	912518106005	I.Karpaga thendral	19	76	95
6	912518106007	A.Karuppaye	18	74	92
7	912518106009	K.Lingarajan	17	73	90
8	912518106010	C.Manimegalai	19	75	94
9	912518106011	A.Manjavisree	18	71	89
10	912518106013	R.Praveen kumar	18	76	94
11	912518106014	G.Ramba	18	74	92
12	912518106015	N.Sathya priya	17	73	90
13	912518106016	S.Shelciya	18	71	89
14	912518106017	P.Suganthi	17	75	92
15	912518106018	C.Vidhya	15	79	94
THIRD YEAR ECE					
1	912517106001	ABINAYA.C	16	78	94
2	912517106002	ABINAYA.S	19	72	91
3	912517106003	AJITHA .R	16	75	91
4	912517106004	A.ARUNKUMAR	17	74	91
5	912517106005	BARVIN BANU.I	19	79	98
6	912517106006	CAROLINE.J	18	76	94
7	912517106008	DEEPA.K	18	74	92
8	912517106009	DHINESH.K	19	75	94
9	912517106010	EZHILNILA.U	18	71	89
10	912517106012	JOTHIKA.D	17	75	92
11	912517106013	KARPAGAM.A	15	79	94
12	912517106016	NALINI.M	16	78	94
13	912517106017	NANTHINI.R	18	76	94
14	912517106018	NIVETHA.R	19	72	91
15	912517106019	PANDIMEENAL.G	16	75	91
16	912517106020	PREETHI.M	17	74	91
17	912517106021	PREMA.S	19	79	98

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18	912517106022	PRIYADHARSHINI.M	18	76	94
19	912517106024	RATHIGA.S	18	74	92
20	912517106025	RATHNA.P	19	75	94
21	912517106026	SANGEETHA.S(7.6.1999)	18	76	94
22	912517106027	SANGEETHA.S(3.2.2000)	19	75	94
23	912517106028	SARANYA.G	18	71	89
24	912517106029	SARATHA.S	18	76	94
25	912517106030	SOLAIYAMMAL.R	17	75	92
26	912517106032	SUTHA.S	18	73	91
27	912517106301	AYYAPPAN.M	19	75	94
28	912517106302	VENKATESWARAN.M	17	75	92
FINAL YEAR ECE					
1	912516106002	ARTHI	19	75	94
2	912516106003	Elavalagan M	18	73	91
3	912516106004	Ezhilarasi J	19	79	98
4	912516106007	Kaveeta S	18	76	94
5	912516106008	Lourthiga rani X	18	74	92
6	912516106009	Malini K	17	75	92
7	912516106012	Sneha R	18	71	89
8	912516106013	Soniya M	17	75	92
9	912516106014	Sowmiya. M	15	79	94
10	912516106015	Suganthi N	16	78	94
11	912516106301	Boomathi C	18	76	94
12	912516106303	Malu M	19	72	91
13	912516106304	Suganthi S	17	78	95
14	912516106306	Vasanth raj L	18	76	94

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146/14B1,AmaravathiVillage,AmaravathiputhurPost,
Karaikudi-630301,SivagangaiDt,TamilNadu
Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

VALUE ADDED COURSE

BASICS OF MATLAB

CERTIFICATE DETAILS

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AMARAVATHIPUDUR, KARAIKUDI - 630 301, SIVAGANGAI DIST.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Organizes

Value added courses

certificate

This is to certify that Mr/Ms S. SHELICIYA

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Basics of Matlab

during 5.8.2019 to 10.8.2019

SRI RAAJA RAAJAN COLLEGE ★ TECHNOLOGY KARAIKUDI

HOD/ECE

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AMARAVATHIPUDUR, KARAIKUDI – 630 301, SIVAGANGAI DIST.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Organizes

Value added courses

certificate

This is to certify that Mr/Ms K. LINGARAJAN

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Basics of MaHab

during 5.8.2019 to 10.8.2019

HOD/ECE

SRI RAAJA RAAJAN COLLEGE OF ENGG. KARAIKUDI

PRINCIPAL

Sri Raaja Raajan College of Engg. & Tech
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certificate

This is to certify that Mr/Ms I. BARVIN RANU

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Basics of MatLab

during 5.8.2019 to 10.8.2019

HOD/ECE

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certificate

This is to certify that Mr/Ms R. AJITHA

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Basics of Matlab

during 5-8-2019 to 10-8-2019

HOD/ECE

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certificate

This is to certify that Mr/Ms L.Vasanth Raj

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Basics Of Matlab

during 5.8.2019 to 10.8.2019

HOD/ECE

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This is to certify that Mr/Ms K. DHINESH

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Basics of Matlab

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certificate

This is to certify that Mr/Ms M.ELAVALAGAN

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Basics of MaHab

during 5.8.2019 TO 10.8.2019

HOD/ECE

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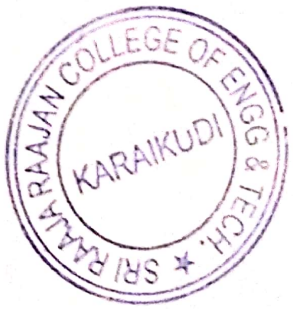
DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

VALUE ADDED COURSE

HANDS ON TRAINING IN VHDL PROGRAMMING

SYLLABUS



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Website : www.raajaraajan.org

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
HANDS ON PROGRAM USING VHDL PROGRAMMING

COURSE CONTENT

OBJECTIVE OF THE COURSE:

Hardware Description Languages for Logic Design enables students to design circuits using VHDL and Verilog, the most widespread design methods for FPGA Design. It uses natural learning processes to make learning the languages easy.

Simple first examples are presented, then language rules and syntax, followed by more complex examples, and then finally use of test bench simulations to verify correctness of the designs.

LEARNING OUTCOME:

After the completion of the course, the students will be able to design some vhdl programming.

DURATION OF THE COURSE:

- 6 Days (45 Hours)

MINIMUM ELIGIBILITY CRITERIA:

- Pursuing BE Students

COURSE OUTLINE

Sl. No.	Modules to be Covered
1	Basics of VHDL
2	VHDL Logic Design Techniques
3	Basics of Verilog
4	Verilog and System Verilog Design Techniques

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DETAILED COURSE SYLLABUS:

1. Basics of VHDL

- Introduction to Hardware Description Languages for FPGA Design
- Why Learn VHDL?
- FPGA Design Flow
- Intro to VHDL: Finite State Machine
- How to speak VHDL, first phrases
- VHDL Assignments, Operators, Types
- VHDL Rules and Syntax, Interface Ports
- VHDL in ModelSim: Download and Install
- VHDL in ModelSim: Adding to your Toolkit

2. VHDL Logic Design Techniques

- Introduction to VHDL
- Combinatorial Circuits
- Synchronous Logic: Latches and Flip Flops
- Synchronous Logic: Counters and Registers
- Buses and Tristate Buffers
- Modular Designs: Components, Generate and Loops in VHDL
- Test Benches in VHDL: Combinatorial
- Test Benches in VHDL: Synchronous
- Memory in VHDL
- Finite State Machines in VHDL

3. *Basics of Verilog*

- Verilog for fun and profit (intro)
- Your First Verilog phrase
- Verilog Rules and Syntax; Keywords and Identifiers; Sigasi/Quartus editing
- Verilog Statements and Operators
- Verilog Modules, Port Modes and Data Types
- Verilog Structure
- Testing with ModelSim
- Verilog Evaluation

4. Verilog and System Verilog Design Techniques

- Combinatorial Circuits
- Synchronous Logic: Counters and Registers
- Modular Design in Verilog
- Testbenches in Verilog
- Testbenches in Verilog II
- Memory with Verilog
- Verilog Finite State Machines

Synchronous Logic: Latches and Flip Flops
Buses and Tristate Buffers

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5. Project

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

VALUE ADDED COURSE

HANDS ON TRAINING IN VHDL PROGRAMMING

REPORT

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REPORT

Department of Electronics and Communication Engineering has organized Value added Course Titled "**Hands on Training in VHDL Programming**" from 06.07.2020 to 11.07.2020. This program started with an inauguration function. Department of Electronics and Communication Engineering student Ms.S.Abinaya Final year, B.E, Department of Electronics and Communication Engineering deliver welcome address. Resource person Mrs.M.Saravanan has address a key note about the program. The Principal, Dr.A.L.Mayilvahanan, Sri Raaja Raajan college of engineering and Technology, karaikudi and the Head of Department, Mr. T.N. Balaji of Sri Raaja Raajan college of engineering and Technology, Karaikudi has consented felicitation address. Students and faculties from various departments attended the function. The students learnt basics of VHDL Programming. Hardware Description Languages for Logic Design enables students to design circuits using VHDL and Verilog, the most widespread design methods for FPGA Design. It uses natural learning processes to make learning the languages easy. Simple first examples are presented, then language rules and syntax, followed by more complex examples, and then finally use of test bench simulations to verify correctness of the designs. Lecture presentations are reinforced by many programming example problems so that skill in the languages is obtained. After completing this course, each student will have fundamental proficiency in both languages, and more importantly enough knowledge to continue learning and gaining expertise in Verilog and VHDL on their own. The program was successfully completed on 11.07.2020 with a valedictory function.. Students of Department of Electronics and Communication Engineering express feedback about the program and participation certificates are distributed to all the participants. The program valedictory with an vote of thanks by the student Mr.A. Karbagam Final year, Department of Electronics and Communication Engineering and national anthem.

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

VALUE ADDED COURSE

HANDS ON TRAINING IN VHDL PROGRAMMING

REGISTRATION DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGG & TECH. KARAIKUDI

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SRI RAAJA RAAJAN COLLEGE OF ENGINEERING & TECHNOLOGY
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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
HANDS ON PROGRAM USING VHDL PROGRAMMING
REGISTRATION DETAILS

S.NO	REGISTER NEMBER	NAMEOFTHE STUDENT	SIGNATURE
	SECOND YEAR ECE		
1	912519106002	ANITHA	
2	912519106003	ARUNA DEVI	
3	912519106004	CHARULATHA	
4	912519106005	DHARANI.C	
5	912519106006	DISOSA.M	
6	912519106007	GAYATHRI.S	
7	912519106008	GOVINDHU. S	
8	912519106009	JANANI R.	
9	912519106011	KARTHIKA.T	
10	912519106012	MAHALAKSHMI S.	
11	912519106013	NITHYA. VR.	
12	912519106014	PANDIARASI.T	
13	912519106015	RAGURAM B	
14	912519106016	SUBASOWKIYA.P	
15	912519106017	SUSMA.B	
16	912519106019	VASANTHAKUMAR	
17	912519106020	VEERADHURGA. M	
18	912519106021	VIBIESHNAN.P	
19	912519106023	VINOSIKA.M	
	THIRD YEAR ECE		
1	912518106001	R. Ajay	
2	912518106002	S. Divya	
3	912518106003	K. Kakkan	
4	912518106004	N.Kaleeswaran	
5	912518106005	I.Karpaga thendral	
6	912518106007	A.Karuppaye	
7	912518106009	K.Lingarajan	
8	912518106010	C.Manimegalai	
9	912518106011	A.Manjavisree	
10	912518106013	R.Praveen kumar	
11	912518106014	G.Ramba	
12	912518106015	N.Sathya priya	
13	912518106016	S.Shelciya	
14	912518106017	P.Suganthi	
15	912518106018	C.Vidhya	

S.NO	REGISTER NEMBER	NAMEOFTHE STUDENT	SIGNATURE
	FINAL YEAR ECE		
1	912517106001	ABINAYA.C	
2	912517106002	ABINAYA.S	
3	912517106003	AJITHA .R	
4	912517106004	A.ARUNKUMAR	
5	912517106005	BARVIN BANU.I	
6	912517106006	CAROLINE.J	
7	912517106008	DEEPA.K	
8	912517106009	DHINESH.K	
9	912517106010	EZHILNILA.U	
10	912517106012	JOTHIKA.D	
11	912517106013	KARPAGAM.A	
12	912517106016	NALINI.M	
13	912517106017	NANTHINI.R	
14	912517106018	NIVETHA.R	
15	912517106019	PANDIMEENAL.G	
16	912517106020	PREETHI.M	
17	912517106021	PREMA.S	
18	912517106022	PRIYADHARSHINI. M	
19	912517106024	RATHIGA.S	
20	912517106025	RATHNA.P	
21	912517106026	SANGEETHA.S (7.6.1999)	
22	912517106027	SANGEETHA.S (7.6.2000	
23	912517106028	SARANYA.G	
24	912517106029	SARATHA.S	
25	912517106030	SOLAIYAMMAL.R	
26	912517106032	SUTHA.S	
27	912517106301	AYYAPPAN.M	
28	912517106302	VENKATESWARAN.M	

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

VALUE ADDED COURSE

HANDS ON TRAINING IN VHDL PROGRAMMING

ATTENDANCE DETAILS

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AMARAVATHIPUDUR, KARAIKUDI-630 301.
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
HANDS ON PROGRAM USING VHDL PROGRAMMING (2020 – 2021)

SL. No.	REG. NUMBER	NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
DATE			6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	8	8	8	8	8	8	8	9	9	9	9	9	9	9	10	10	10	10	10	10	10	10	10	11	11	11	11	11	11
MONTH			7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
HOURS			1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	2	3	4	5	6	7	8	1	2	3	4	5	6
1	912519106002	ANITHA																																													
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51	912517106021	PREMA.S
52	912517106022	PRIYADHARSHINI.

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60	912517106032	SUTHA.S	
61	912517106301	AYYAPPAN.M	
62	912517106302	VENKATESWARA N.M	

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

VALUE ADDED COURSE

HANDS ON TRAINING IN VHDL PROGRAMMING

ASSESSMENT DETAILS

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
PRACTICAL EXAMINATIONS QUESTION PAPER
VALUE ADDED COURSE - VHDL PROGRAMMING

(Answer any one)

Max.Marks: 80
Time: 3 Hrs

Aim/Principle/Apparatus required/Procedure	Tabulation/Circuit/ Program/Drawing	Calculation & Results	Viva-Voce	Record	Total
20	20	20	10	10	80

1. Design of basic combinational and sequential (Flip-flops) circuits using HDL. Simulate it using Xilinx/Altera Software and implement by Xilinx/Altera FPGA
2. Design an Adder ; Multiplier (Min 8 Bit) using HDL. Simulate it using Xilinx/Altera Software and implement by Xilinx/Altera FPGA
3. Design and implement Universal Shift Register using HDL. Simulate it using Xilinx/Altera Software
4. Design Memories using HDL. Simulate it using Xilinx/Altera Software and implement by Xilinx/Altera FPGA
5. Design Finite State Machine (Moore/Mealy) using HDL. Simulate it using Xilinx/Altera Software and implement by Xilinx/Altera FPGA
6. Design 3-bit synchronous up/down counter using HDL. Simulate it using Xilinx/Altera Software and implement by Xilinx/Altera FPGA
7. Design 4-bit Asynchronous up/down counter using HDL. Simulate it using Xilinx/Altera Software and implement by Xilinx/Altera FPGA
8. Design and simulate a CMOS Basic Gates & Flip-Flops. Generate Manual/Automatic Layout .
9. Design and simulate a 4-bit synchronous counter using a Flip-Flops. Generate Manual/Automatic Layout
10. Design and Simulate a CMOS Inverting Amplifier.
11. Design and Simulate basic Common Source, Common Gate and Common Drain Amplifiers.
12. Design and simulate simple 5 transistor differential amplifier

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AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

VALUE ADDED COURSE ON VHDL PROGRAMMING
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT :
YEAR :
DEPARTMENT :

1). Which one of the following is a VHDL logical (Boolean) operator?

Equality

Inequality

Less than

Not

2). Which one of the following is a VHDL shift operator?

SLA

Not equal

Equal

None of the above

3). What is the use of VHDL language?

Provides machine readable documentation

Provides human readable documentation

Both a and b

None of the above

4). How many units does VHDL design consists?

One

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5) . The simple index: integer: =0 is an example declaration of _____ data type provided within VHDL?

Integer

Real

Boolean

Character

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6). Which one of the following is a type of scalar literal?

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Equality

NAND

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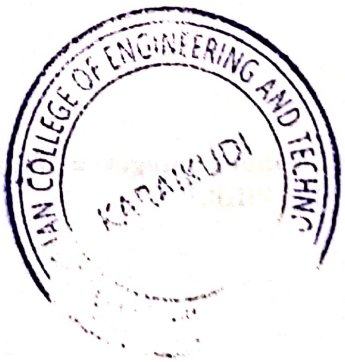
11). What is the standard form of SLA?

Shift Left Arithmetic

Shift Line Arithmetic

Side Left Arithmetic

None of the above



12). Which one of the following, one manages the large design?

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VHDL.

Verilog

Both a and b

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13). Which one of the following supports multidimensional arrays?

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14) . Which one of the following allows concurrent procedure calls?

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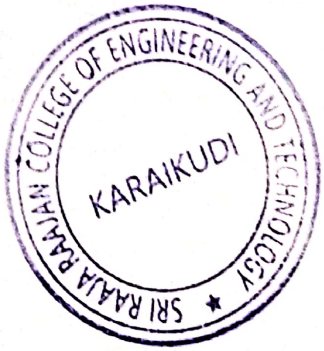

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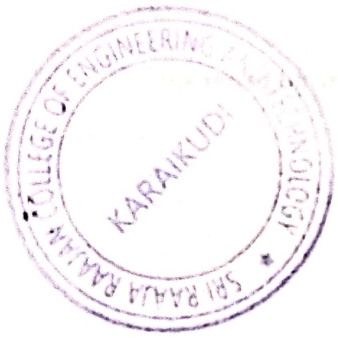

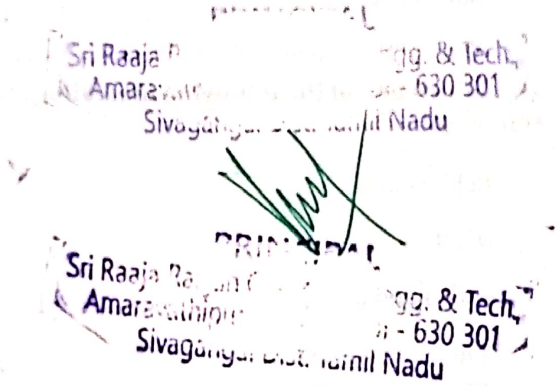

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VALUE ADDED COURSE ON VHDL PROGRAMMING
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT : JANANI.R.
YEAR : II YEAR.
DEPARTMENT : ECE.

17/20

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NAME OF THE STUDENT : Gowrithu.S
YEAR : II year
DEPARTMENT : ECE.

19/20

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EXAMINATION QUESTION PAPER

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YEAR : III Year
DEPARTMENT : ECE

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AMARAVATHIPUDUR, KARAIKUDI-630 301.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
HANDS ON PROGRAM USING VHDL PROGRAMMING
MARK DETAILS

S.NO	REGISTER NUMBER	NAMEOFTHE STUDENT	THEORY	PRACTICAL	TOTAL
		SECOND YEAR ECE			
1	912519106002	ANITHA	17	75	92
2	912519106003	ARUNA DEVI	18	72	90
3	912519106004	CHARULATHA	15	78	93
4	912519106005	DHARANI.C	15	74	89
5	912519106006	DISOSA.M	18	78	96
6	912519106007	GAYATHRI.S	17	76	93
7	912519106008	GOVINDHU. S	15	78	93
8	912519106009	JANANI R.	16	74	90
9	912519106011	KARTHIKA.T	18	71	89
10	912519106012	MAHALAKSHMI S.	17	75	92
11	912519106013	NITHYA. VR.	15	79	94
12	912519106014	PANDIARASI.T	16	78	94
13	912519106015	RAGURAM B	18	76	94
14	912519106016	SUBASOWKIYA.P	19	72	91
15	912519106017	SUSMA.B	16	75	91
16	912519106019	VASANTHAKUMAR	17	74	91
17	912519106020	VEERADHURGA.M	18	73	91
18	912519106021	VIBIESHNAN.P	16	70	86
19	912519106023	VINOSIKA.M	18	71	89
		THIRD YEAR ECE			
1	912518106001	R. Ajay	19	79	98
2	912518106002	S. Divya	18	76	94
3	912518106003	K. Kakkan	18	74	92
4	912518106004	N.Kaleeswaran	19	75	94
5	912518106005	I.Karpaga thendral	18	76	94
6	912518106007	A.Karuppaye	18	74	92
7	912518106009	K.Lingarajan	18	71	89
8	912518106010	C.Manimegalai	16	76	92
9	912518106011	A.Manjavisree	17	75	92
10	912518106013	R.Praveen kumar	18	73	91
11	912518106014	G.Ramba	19	75	94
12	912518106015	N.Sathya priya	19	76	95
13	912518106016	S.Shelciya	18	74	92
14	912518106017	P.Suganthi	17	73	90
15	912518106018	C.Vidhya	19	75	94
		Final Year ECE			
1	912517106001	ABINAYA.C	18	71	89
2	912517106002	ABINAYA.S	16	76	92

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3	912517106003	AJITHA .R	17	75	92
4	912517106004	A.ARUNKUMAR	18	73	91
5	912517106005	BARVIN BANU.I	19	75	94
6	912517106006	CAROLINE.J	19	76	95
7	912517106008	DEEPA.K	18	74	92
8	912517106009	DHINESH.K	17	73	90
9	912517106010	EZHILNILA.U	18	71	89
10	912517106012	JOTHIKA.D	17	75	92
11	912517106013	KARPAGAM.A	15	79	94
12	912517106016	NALINI.M	16	78	94
13	912517106017	NANTHINI.R	18	76	94
14	912517106018	NIVETHA.R	19	72	91
15	912517106019	PANDIMEENAL.G	16	75	91
16	912517106020	PREETHI.M	17	74	91
17	912517106021	PREMA.S	19	79	98
18	912517106022	PRIYADHARSHINI.M	18	76	94
19	912517106024	RATHIGA.S	18	74	92
20	912517106025	RATHNA.P	19	75	94
21	912517106026	SANGEETHA.S(7.6.1999)	18	76	94
22	912517106027	SANGEETHA.S(7.6.2000)	18	71	89
23	912517106028	SARANYA.G	17	75	92
24	912517106029	SARATHA.S	18	73	91
25	912517106030	SOLAIYAMMAL.R	19	75	94
26	912517106032	SUTHA.S	17	75	92
27	912517106301	AYYAPPAN.M	18	73	91
28	912517106302	VENKATESWARAN.M	19	75	94

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Karaikudi-630301,SivagangaiDt,TamilNadu
Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

VALUE ADDED COURSE

HANDS ON TRAINING IN VHDL PROGRAMMING

CERTIFICATE DETAILS

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Organizes

Value added courses

certificate

This is to certify that Mr/Ms A. MANJAVI SREE

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Hands ON Training in VHDL Programming during 6.7.2020 to 11.7.2020

HOD/ECE

SRI RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY KARAIKUDI

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Organizes

Value added courses

certificate

This is to certify that Mr/Ms M.VINOSIKA

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Hands on Training in VHDL Programming **during** 6.7.2020 to 11.7.2020

HOD/ECE

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certificate

This is to certify that Mr/Ms M. PRIYADHARSHINI

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Hands on Training in VHDL Programming **during** 6.7.2020 to 11.7.2020

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

VALUE ADDED COURSE

BASICS OF ROBOTICS

SYLLABUS

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COLLEGE OF ENGINEERING AND TECHNOLOGY
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E-mail : srrcet2010@gmail.com
Website : www.raajaraajan.org

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

BASICS OF ROBOTICS

COURSE CONTENT

OBJECTIVE OF THE COURSE:

Robotics develops machines that can substitute for humans and replicate human actions.Robots can be used in many situations for many purposes, but today many are used in dangerous environments (including inspection of radioactive materials, bomb detection and deactivation), manufacturing processes, or where humans cannot survive (e.g. in space, underwater, in high heat, and clean up and containment of hazardous materials and radiation).

LEARNING OUTCOME:

After the completion of the course, the students will be able to design some robots.

DURATION OF THE COURSE:

- 6 Days (45 Hours)

MINIMUM ELIGIBILITY CRITERIA:

- Pursuing BE Students

COURSE OUTLINE

SL.No.	ModulestobeCovered
1	Automation
2	Fundamentals of Robots
3	Introduction to Robot End Effectors, Sensors and Control System
4	Robot Programming and Applications
5	Intelligent Robots and Lab work
	Project

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DETAILED COURSE SYLLABUS:

1. Automation

- MechanizationAutomationHistory of Automation
- Reasons for automationMerits and limitationsAutomation systems
- Types of AutomationProgrammable Automation
- Intelligent Industrial AutomationAutomation and Robotics.

2.Fundamentals of Robots

- Definition of Fundamentals of RobotsHistorical background
- Various generations of robotsRobotAnatomy
- Robot configurationJoint-armconfiguration
- Degree of freedomWork volume and Dead zone
- Dynamic performanceSpeed of response and Stability
- Precision of movementSpatial Resolution & Accuracy
- Repeatability and Compliance

3. Introduction to Robot End Effectors, Sensors and Control System

- Introduction to Robot End EffectorsEnd Effectors
- Characteristics & FeaturesMechanical grippers
- Magnetic grippersAdhesive gripper
- Vacuum cupsHooks and Scoops
- Tools as end effectorsRobot / End-effectors interface
- Consideration in Gripper selection and Design

4. Robot Programming and Applications

- Robot ProgrammingTextural Programming
- Requirements of robot programming language
- Problems pertaining to robot programming languagesAnalysis the problems
- Common languagesSoftware details
- Robot programsRobot program as a path in space
- Factors influencing the selection of RobotsRobots for Materials handling
- Assembly, Agriculture and Chemical PlantsAdvanced applications

5. Intelligent Robots and Lab work

- Intelligent RobotsIntroduction to Mobile Robots
- Legged Robots and Remote Controlled RobotsAutomated Guided Robots
- Micro RobotsControl and Safety Issues

6. Project

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

VALUE ADDED COURSE

BASICS OF ROBOTICS

REPORT

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REPORT

Department of Electronics and Communication Engineering has organized Value added Course Titled **"BASICS OF ROBOTICS"** from 02.08.21 to 07.08.21. This program started with an inauguration function. Department of Electronics and Communication Engineering student Ms. S.Mahalakshmi Third year, B.E, Department of Electronics and Communication Engineering deliver welcome address. Resource person Mr.S.Arunaakanth has address a key note about the program. The Principal, Dr.A.L.Mayilvahanan, Sri Raaja Raajan college of engineering and Technology, karaikudi and the Head of Department, Mr. T.N. Balaji of Sri Raaja Raajan college of engineering and Technology,Karaikudi has consented felicitation address. Students and faculties from various departments attended the function. The students learnt basics of Robotics and Robotics Programming. Robotics involves design, construction, operation, and use of robots. The goal of robotics is to design machines that can help and assist humans. Robotics integrates fields of mechanical engineering, Electrical engineering, Information engineering, Mechatronics, Electronics, Bioengineering, Computer engineering, Control engineering, Software engineering, Mathematics, etc. The program was successfully completed on 07.08.2021 with a valedictory function. Students of Department of Electronics and Communication Engineering express feedback about the program and participation certificates are distributed to all the participants. The program valedictory with an vote of thanks by the student Ms. G.Ramba Final year, Department of Electronics and Communication Engineering and national anthem.

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

VALUE ADDED COURSE

BASICS OF ROBOTICS

REGISTRATION DETAILS

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

BASICS OF ROBOTICS

REGISTRATION DETAILS

S.NO	REGISTER NUMBER	NAME OF THE STUDENT	SIGNATURE
		SECOND YEAR ECE	
1	912520106001	ANANTHABALAN J	
2	912520106002	ANNAPOORANI M	
3	912520106003	BALAMURUGAN P	
4	912520106004	CHANDRIKA R	
5	912520106005	HARIHARASUDHAN S	
6	912520106006	HARI PRASATH V	
7	912520106007	HARISH A	
8	912520106008	HARISH N	
9	912520106009	INDHURAJAN A	
10	912520106010	JEEVA N	
11	912520106011	KARTHIKA R	
12	912520106012	KARUPPU S	
13	912520106013	KAVIARASAN K	
14	912520106014	KAVIYA S	
15	912520106015	KAYALVIZHI A	
16	912520106016	MANIVASAN T	
17	912520106018	PRASANNA P	
18	912520106019	PREM KUMAR P	
19	912520106020	PRIYA R	
20	912520106021	SASIKUMAR A	
21	912520106022	SERIN SUREKA J	
22	912520106023	SHANMUGAPRIYA K	
23	912520106024	SIBIRAJ T	
24	912520106025	SINDHU S	
25	912520106026	SIVASANGARI P	
26	912520106027	SURYA T	
27	912520106028	VIGNESH P	
28	9125201063001	ABUKALAM AZATH	
29	9125201063001	AJITHPANDI	
30	9125201063001	ANANTHAJOTHI	
31	9125201063001	BALAKUMARAN	
32	9125201063001	KUBERAN	
33	9125201063001	PRIYA R	
34	9125201063001	LALLUPRASATH	
35	9125201063001	YABESH	
		THIRD YEAR ECE	
1	912519106002	ANITHA	
2	912519106003	ARUNA DEVI	
3	912519106004	CHARULATHA	
4	912519106005	DHARANI.C	
5	912519106006	DISOSA.M	
6	912519106007	GAYATHRI.S	
7	912519106008	GOVINDHU. S	
8	912519106009	JANANI R.	
9	912519106011	KARTHIKA.T	
10	912519106012	MAHALAKSHMI S.	
11	912519106013	NITHYA. VR.	
12	912519106014	PANDIARASI.T	
13	912519106015	RAGURAM B	
14	912519106016	SUBASOWKIYA.P	
15	912519106017	SUSMA.B	
16	912519106019	VASANTHAKUMAR	
17	912519106020	VEERADHURGA.M	
18	912519106021	VIBIESHNAN.P	
19	912519106023	VINOSIKA.M	
		FINAL YEAR ECE	
1	912518106001	R. AJAY	
2	912518106002	S. DIVYA	
3	912518106003	K. KAKKAN	
4	912518106004	N.KALEESWARAN	
5	912518106005	I.KARPAGA THENDRAL	
6	912518106007	A.KARUPPAYE	
7	912518106009	K.LINGARAJAN	
8	912518106010	C.MANIMEGALAI	
9	912518106011	A.MANJAVISREE	
10	912518106013	R.PRAVEEN KUMAR	
11	912518106014	G.RAMBA	
12	912518106015	N.SATHYA PRIYA	
13	912518106016	S.SHELCIYA	
14	912518106017	P.SUGANTHI	
15	912518106018	C.VIDHYA	

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

VALUE ADDED COURSE

BASICS OF ROBOTICS

ATTENDANCE DETAILS

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
BASICS OF ROBOTICS (2021 - 2022)

SL. No.	REG. NUMBER	NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
		Date	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	5	5	5	5	5	5	5	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7
		Month	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
		Class Hours	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8
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51	912519106019	VASANTHAKUMAR
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54	912519106023	VINOSIKA.M
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59	912518106005	K.KARRASAVIENDRAI
60	912518106007	A.KARUPPAYI

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63	912518106011	A.MANJAVISREE
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69	912518106018	C.VIDHYA

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

VALUE ADDED COURSE

BASICS OF ROBOTICS

ASSESSMENT DETAILS

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
PRACTICAL EXAMINATIONS QUESTION PAPER
VALUE ADDED COURSE – BASICS OF ROBOTICS

(Answer any one)

Max. Marks: 80
Time: 3 Hrs

Aim/Principle/Apparatus required/Procedure	Tabulation/Circuit/ Program/Drawing	Calculation & Results	Viva-Voce	Record	Total
20	20	20	10	10	80

1. Determination of maximum and minimum position of links
2. Verification of transformation (Position and orientation) with respect to gripper and world coordinate system.
3. Estimation of accuracy, repeatability and resolution.
4. Robot programming and simulation for pick and place.
5. Robot programming and simulation for Color identification.
6. Robot programming and simulation for Shape identification.
7. Robot programming and simulation for machining (cutting, welding).
8. Robot programming and simulation for writing practice.
9. Robot programming and simulation for any industrial process (Packaging, Assembly).
10. Robot programming and simulation for multi process.

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AMARAVATHIPUDUR

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

VALUE ADDED COURSE ON BASICS OF ROBOTICS

EXAMINATION QUESTION PAPER

NAME OF THE STUDENT :
YEAR :
DEPARTMENT :

1). The robots with the designation TRI are known as _____ robots?

Spherical

Articulated

Both a and b

None of the above

2). How many sections does robot manipulator consists of?

One

Two

Three

Four

3). Which one of the following generation robots are remote controlled?

First

Second

Third

None of the above

4). What is the standard form of DOF?

Degree of Finance

Degree of Freedom

Degree of Fail

None of the above

5). The study of motion without regard to forces is known as

Kinematics

Dynamics

Actuator

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Sensor

6). Which one of the following robots also called spherical robot?

SCARA

Delta

Polar

None of the above

7). Which one of the following robots comes under first generation?

Information robots

Autonomous loading

Autonomous harvesting

None of the above

8). Which one of the following engineering deals with machinery and structure of robots?

Electrical

Mechanical

Computer

All of the above

9). _____ is an example for simple level robots?

Washing machine

Fully automatic washing machine

Laptop

None of the above

10). The robots with the designation TRR is known as _____ robots?

Spherical

Articulated

Both a and b

None of the above

11). The dynamic robots are categorized into _____ types?

One

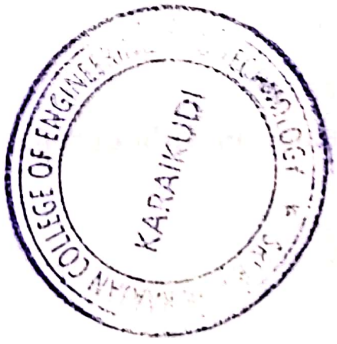
Two

Three

Four

12). What is the standard form of ZMP?

Zero Memory Point



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Zero Momentum Point

Zero Main Point

None of the above

13). The joints of the robots are categorized into _____ types?

One

Two

Three

None of the above

14). Which one of the following sections in robot manipulator used for positioning?

Body & arm

Wrist assembly

Both a and b

None of the above

15). The study of motion with regard to forces is known as _____?

Kinematics

Dynamics

Actuator

All of the above

16). How many categories of sensors are used in industrial robots?

One

Two

Three

Four

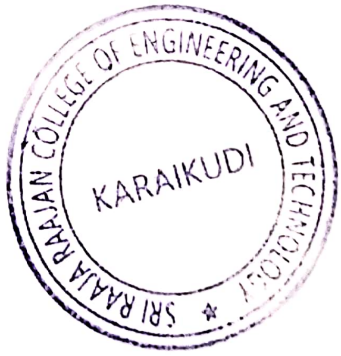
17). What is the standard form of FCAW?

Flux Common Arc Welding

Flux Cored Arc Welding

First Cored Arc Welding

None of the above



18). What are the advantages of robots?

Don't need experience

Cost lot of money

Need a huge power supply

Replace human workers

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19). The robots are categorized into _____ types based on control system?

One

Two

Three

None of the above

20). Which one of the following joints comes under translational motion?

Orthogonal Joint

Rotational Joint

Twisting Joint

None of the above

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SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
AMARAVATHIPUDUR

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

VALUE ADDED COURSE ON BASICS OF ROBOTICS

EXAMINATION QUESTION PAPER

19/20

NAME OF THE STUDENT : S. Divya
YEAR : iv Year
DEPARTMENT : ECE

1). The robots with the designation TRI are known as _____ robots?

Spherical
Articulated
Both a and b
None of the above

2). How many sections does robot manipulator consists of?

One
Two
Three
Four

3). Which one of the following generation robots are remote controlled?

First
Second
Third
None of the above

4). What is the standard form of DOF?

Degree of Finance
Degree of Freedom
Degree of Fail
None of the above

5). The study of motion without regard to forces is known as _____?

Kinematics
Dynamics
Actuator

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Sensor

6). Which one of the following robots also called spherical robot?

SCARA

Delta

Polar

None of the above

7). Which one of the following robots comes under first generation?

Information robots

Autonomous loading

Autonomous harvesting

None of the above

8). Which one of the following engineering deals with machinery and structure of robots?

Electrical

Mechanical

Computer

All of the above

9). _____ is an example for simple level robots?

Washing machine

Fully automatic washing machine

Laptop

None of the above

10). The robots with the designation TRR is known as _____ robots?

Spherical

Articulated

Both a and b

None of the above

11). The dynamic robots are categorized into _____ types?

One

Two

Three

Four

12). What is the standard form of ZMP?

Zero Memory Point

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Zero Momentum Point

Zero Main Point

None of the above

13). The joints of the robots are categorized into _____ types?

One

Two

Three

None of the above

14). Which one of the following sections in robot manipulator used for positioning?

Body & arm

Wrist assembly

Both a and b

None of the above

15). The study of motion with regard to forces is known as _____?

Kinematics

Dynamics

Actuator

All of the above

16). How many categories of sensors are used in industrial robots?

One

Two

Three

Four

17). What is the standard form of FCAW?

Flux Common Arc Welding

Flux Cored Arc Welding

First Cored Arc Welding

None of the above

18). What are the advantages of robots?

Don't need experience

Cost lot of money

Need a huge power supply

Replace human workers

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19). The robots are categorized into _____ types based on control system?

One

Two

Three

None of the above

20). Which one of the following joints comes under translational motion?

Orthogonal Joint

Rotational Joint

Twisting Joint

None of the above

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AMARAVATHIPUDUR

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

VALUE ADDED COURSE ON BASICS OF ROBOTICS

EXAMINATION QUESTION PAPER

19/20

NAME OF THE STUDENT : Charulatha
YEAR : III Year
DEPARTMENT : ECE

1). The robots with the designation TRI are known as _____ robots?

Spherical

Articulated

Both a and b

None of the above

2). How many sections does robot manipulator consists of?

One

Two

Three

Four

3). Which one of the following generation robots are remote controlled?

First

Second

Third

None of the above

4). What is the standard form of DOF?

Degree of Finance

Degree of Freedom

Degree of Fail

None of the above

5). The study of motion without regard to forces is known as _____?

Kinematics

Dynamics

Actuator

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Sensor

6). Which one of the following robots also called spherical robot?

1

SCARA

Delta

Polar

None of the above

7). Which one of the following robots comes under first generation?

20

Information robots

Autonomous loading

Autonomous harvesting

None of the above

8). Which one of the following engineering deals with machinery and structure of robots?

Electrical

Mechanical

Computer

All of the above

9). _____ is an example for simple level robots?

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Articulated

Both a and b

None of the above

11). The dynamic robots are categorized into _____ types?

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Four

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Scanned with OKEN Scanner

Zero Momentum Point

Zero Main Point

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

VALUE ADDED COURSE ON BASICS OF ROBOTICS

EXAMINATION QUESTION PAPER

17/20

NAME OF THE STUDENT : ANNAPOORANI
YEAR : II YEAR
DEPARTMENT : ECE

1). The robots with the designation TRI are known as _____ robots?

Spherical
Articulated
Both a and b
None of the above

2). How many sections does robot manipulator consists of?

One
Two
Three
Four

3). Which one of the following generation robots are remote controlled?

First
Second
Third
None of the above

4). What is the standard form of DOF?

Degree of Finance
Degree of Freedom
Degree of Fail
None of the above

5). The study of motion without regard to forces is known as _____?

Kinematics
Dynamics
Actuator

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Sensor

6). Which one of the following robots also called spherical robot?

SCARA

Delta

Polar

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7). Which one of the following robots comes under first generation?

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Autonomous harvesting

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Articulated

Both a and b

None of the above

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Zero Momentum Point

Zero Main Point

None of the above

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One

Two

Three

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Wrist assembly

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BASICS OF ROBOTICS

MARK DETAILS

S.NO	REGISTER NUMBER	NAME OF THE STUDENT	THEORY	PRACTICAL	TOTAL
SECOND YRAR ECE					
1	912520106001	ANANTHABALAN J	18	71	89
2	912520106002	ANNAPOORANI M	16	76	92
3	912520106003	BALAMURUGAN P	17	75	92
4	912520106004	CHANDRIKA R	18	73	91
5	912520106005	HARIHARASUDHAN S	19	75	94
6	912520106006	HARI PRASATH V	19	76	95
7	912520106007	HARISH A	18	74	92
8	912520106008	HARISH N	17	73	90
9	912520106009	INDHURAJAN A	18	71	89
10	912520106010	JEEVA N	17	75	92
11	912520106011	KARTHIKA R	15	79	94
12	912520106012	KARUPPU S	16	78	94
13	912520106013	KAVIARASAN K	18	76	94
14	912520106014	KAVIYA S	19	72	91
15	912520106015	KAYALVIZHI A	16	75	91
16	912520106016	MANIVASAN T	17	74	91
17	912520106018	PRASANNA P	19	79	98
18	912520106019	PREM KUMAR P	18	76	94
19	912520106020	PRIYA R	18	74	92
20	912520106021	SASIKUMAR A	19	75	94
21	912520106022	SERIN SUREKA J	18	76	94
22	912520106023	SHANMUGAPRIYA K	18	74	92
23	912520106024	SIBIRAJ T	18	71	89
24	912520106025	SINDHU S	18	74	92
25	912520106026	SIVASANGARI P	17	75	92
26	912520106027	SURYA T	18	73	91
27	912520106028	VIGNESH P	17	75	92

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KARAIKUDI

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28	912520106301	ABUKALAM AZATH	19	75	94
29	912520106302	AJITHPANDI	18	76	94
30	912520106303	ANANTHAJOTHI	19	72	91
31	912520106304	BALAKUMARAN	16	75	91
32	912520106305	KUBERAN	17	74	91
33	912520106306	PRIYA R	19	72	91
34	912520106307	LALLUPRASATH	16	75	91
35	912520106308	YABESH	19	76	95
THIRD YEAR ECE					
1	912519106002	ANITHA	16	78	94
2	912519106003	ARUNA DEVI	18	76	94
3	912519106004	CHARULATHA	19	72	91
4	912519106005	DHARANI.C	16	75	91
5	912519106006	DISOSA.M	17	74	91
6	912519106007	GAYATHRI.S	19	79	98
7	912519106008	GOVINDHU. S	18	76	94
8	912519106009	JANANI R.	18	74	92
9	912519106011	KARTHIKA.T	19	75	94
10	912519106012	MAHALAKSHMI S.	18	76	94
11	912519106013	NITHYA. VR.	18	74	92
12	912519106014	PANDIARASI.T	18	71	89
13	912519106015	RAGURAM B	19	79	98
14	912519106016	SUBASOWKIYA.P	17	75	92
15	912519106017	SUSMA.B	18	73	91
16	912519106019	VASANTHAKUMAR	19	75	94
17	912519106020	VEERADHURGA.M	17	75	92
18	912519106021	VIBIESHNAN.P	18	73	91
19	912519106023	VINOSIKA.M	17	75	92
FINAL YEAR ECE					
1	912518106001	R. Ajay	18	74	92
2	912518106002	S. Divya	19	71	90
3	912518106003	K. Kakkan	19	79	98
4	912518106004	N.Kaleeswaran	17	75	92
5	912518106005	I.Karpaga thendral	18	73	91
6	912518106007	A.Karuppaye	19	75	94
7	912518106009	K.Lingarajan	19	72	91
8	912518106010	C.Manimegalai	16	75	91
9	912518106011	A.Manjavisree	17	74	91
10	912518106013	R.Praveen kumar	19	79	98

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Karaikudi-630301,SivagangaiDt,TamilNadu
Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

VALUE ADDED COURSE

BASICS OF ROBOTICS

CERTIFICATE DETAILS

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This is to certify that Mr/Ms J. SERIN SUREKA

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Basics of Robotics

during 2.8.2021 to 7.8.2021

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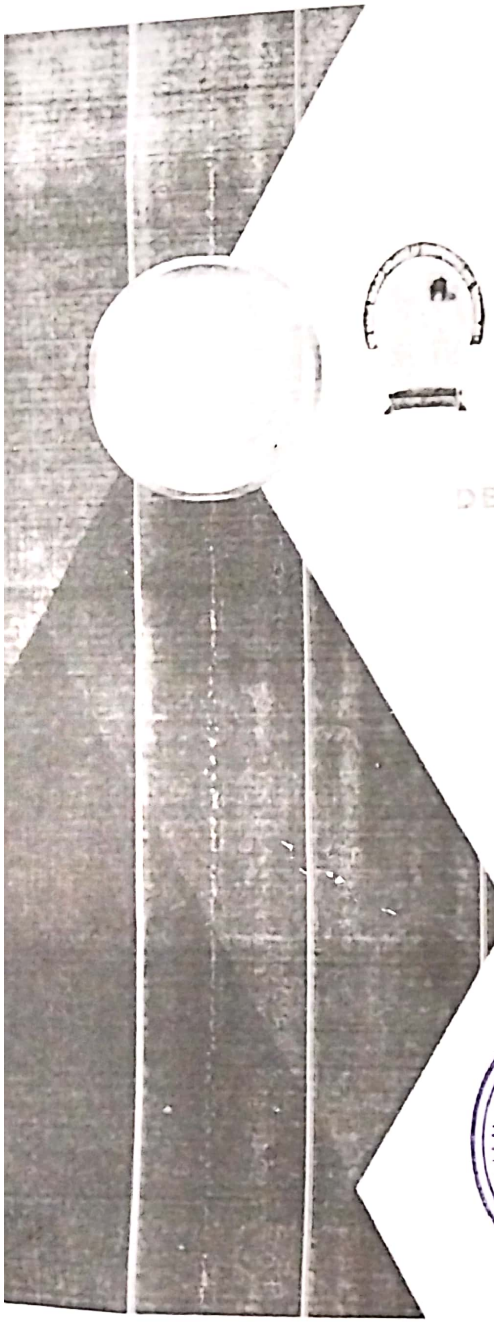

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This is to certify that Mr/Ms A. KAYALVIZHI

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Basics of Robotics

during 2.8.2021 to 7.8.2021

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This is to certify that Mr/Ms M.VEERADHURGA

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Basics of Robotics

during 2.8.2021 to 7.8.2021

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certificate

This is to certify that Mr/Ms G. RAMBA

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Basic of Robotics

during 2.8.2021 to 7.8.2021

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This is to certify that Mr/Ms J.ANANTHABALAN

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on BASICS OF ROBOTICS

during 2.8.2021 to 7.8.2021

HOD/ECE

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

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This is to certify that Mr/Ms M.ANNAPOORANI

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Basics Of Robotics

during 2.8.2021 to 7.8.2021

HOD/ECE

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Sivagangai Dist. Tamil Nadu

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This is to certify that Mr/Ms S.KARUPPU

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Basics of Robotics

during 2.8.2021 to 7.8.2021

HOD/ECE

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This is to certify that Mr/Ms K.KAVIARASAN

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Basics of Robotics

during 2.8.2021 to 7.8.2021

HOD/ECE

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Organizes

Value added courses

certificate

This is to certify that Mr/Ms P. SUBASOWKIYA

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Basics of Robotics

during 2.8.2021 to 7.8.2021

HOD/ECE

SRI RAAJA RAAJAN COLLEGE OF ENGG & TECH KARAIKUDI

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Organizes

Value added courses

certificate

This is to certify that Mr/Ms T. KARTHIKA

from Sri Raaja Raajan College of Engineering and Technology has attended Value added course on Basics of Robotics

during 13.7.2021 - 16.7.2021

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COLLEGE OF ENGINEERING AND TECHNOLOGY

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Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Certificate Courses

Introduction

Certificate courses are part of the curriculum designed to provide necessary skills to increase the employability quotient and equipping the students with essential skills to succeed in life. Sri Raaja Raajan College of Engineering and Technology offers a wide variety of Certificate Courses which shall be conducted on after class hours. These courses shall be conducted by experts or in-house staff and help students stand apart from the rest in the job market by adding further value to their resume. These certificate courses will be mostly independent to each type of the fields.

Objectives

Objectives of the certificate Course are:

1. To provide students an understanding of the expectations of industry.
2. To improve employability skills of students.
3. To bridge the skill gaps and make students industry ready.
4. To provide an opportunity to students develop their inter-disciplinary skills.
5. To mould students as job providers rather than job seekers.

Designing the Courses

1. Before designing the syllabus, the feedback from the employers, alumni and industry people will be analysed and considered to select and design an appropriate course by identifying the gaps.
2. Apart from these discussions may also be held with the employers, alumni and industrial experts to understand the expectations for current and emerging trends.

SRI RAAJA RAAJAN COLLEGE OF ENGG & TECH. KARAIKUDI

3. Any new certificate Course developed by a department should be placed before the Board of Studies and approved by the Academic Council.

4. The course offered should not be the same as any course listed in the curriculum of the respective program/ or any other program offered in University Departments.

5. A unique course code is to be given for each course.

Course Completion

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

2. The students who have successfully completed the Certificate Course shall be issued with a Certificate duly signed by the Authorized signatories.

S. NO	PAPER TITLE	THEORY/PRACTICAL	MARKS	TOTAL
1	DIGITAL CIRCUIT DESIGN USING VHDL	THEORY	20	100
		PRACTICAL	80	
2	BASIC OF IMAGE PROCESSING USING MATLAB	THEORY	20	100
		PRACTICAL	80	
3	NETWORK SIMULATOR – NS2	THEORY	20	100
		PRACTICAL	80	
4	CCTV INSTALLATION AND GPS TRACKING	THEORY	20	100
		PRACTICAL	80	
5	PCB DESIGN ENGINEER	THEORY	20	100
		PRACTICAL	80	

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE COURSE

S.NO	ACADEMIC YEAR	COURSE TITLE	PARTICIPATION STRENGTH
1.	2017-2018	DIGITAL CIRCUIT DESIGN USING VHDL	33
	2018-2019	BASICS OF IMAGE PROCESSING USING MATLAB	27
2.	2019-2020	NETWORK SIMULATOR-NS2	14
3.	2020-2021	CCTV Installation & GPS Tracking Training	28
4.	2021-2022	PCB Design Engineer	15

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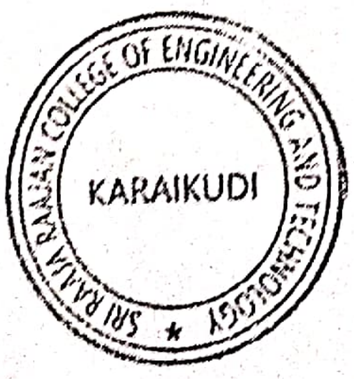
DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2017-2018)

CERTIFICATE COURSE

DIGITAL CIRCUIT DESIGN USING VHDL

SYLLABUS



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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

DIGITAL CIRCUIT DESIGN USING VHDL

COURSE SYLLABUS

COURSE OBJECTIVES:

The objectives of the course are to

1. Recollect the fundamental concepts in digital electronics & microcontroller based systems
2. Make the students to know about the PIC microcontroller based system and also to provide the practical experience
3. Introduce the basic concepts in Hardware Description language
4. Illustrate the procedures for implementing the combinational and sequential ci rcuits in FPGA

COURSE OUTCOMES:

At the end of the course the students will able to

1. Design interfacing applications based on internal peripheral units of PIC microcontroller and programming them
2. Design and write HDL code for sequential and combinational circuits and implement them in FPGA

COURSE SYLLABUS:

1. Introduction to Digital Logics and Its Application in Control.
2. Embedded Systems Programming – FPGA
   - ➢ Introduction to Digital Logic Circuits
   - ➢ Introduction to Programmable Logic Device
   - ➢ Introduction to FPGA
   - ➢ Introduction to Hardware Description Language (HDL) – VHDL
     - Basic language elements
     - VHDL program using Structural Modelling
     - VHDL program using Data Flow Modelling
     - VHDL program using Behavioural Modelling
     - VHDL program using Mixed Modelling & State Machine Modelling
   - ➢ Introduction to Xilinx ISE & ModelSim
     - Implementation of Basic design using Xilinx ISE
     - Simulation of design using ModelSim
     - Configuring FPGA
3. Embedded Systems Programming – PIC microcontroller
   Architecture of PIC microcontroller and Details of units such as ADC, DAC, Interrupts, Timers.

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2017-2018)

CERTIFICATE COURSE

DIGITAL CIRCUIT DESIGN USING VHDL

REPORT

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY ★ KARAIKUDI

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REPORT

Department of Electronics and Communication Engineering has organized certificate programme Titled "**Digital circuit design using VHDL**" from 03.07.2017 to 06.07.17. This program started with an inauguration function. Ms. R. Bhuvaneswari Final year, B.E, delivered welcome address. Resource person Mr.S.Gnanasambanthan has given a key note address about the program. The Principal, Dr.A.Kumaravadivel Sri Raaja Raajan college of engineering and Technology, karaikudi and the Head of Department, Mr. T.N. Balaji of Sri Raaja Raajan college of engineering and Technology, Karaikudi has consented felicitation address. Students and faculties from various departments attended the function. The students learnt basics of arduino programming and interfacing various sensors with arduino. As the complexity of digital systems has increased, computer-aided design tools were developed to reduce the amount of manual effort required to specify circuits and verify that they worked correctly. The first computer-aided design tools simply replaced hand-drawn diagrams with diagrams that were drawn using a graphical editor. This did not greatly simplify the designer's job, but did make it possible to automate the later steps in the process required to turn the designer's logic diagram into a collection of transistors on an actual integrated circuit device. The program was successfully completed on 06.07.2017 with a valedictory function. Resource person Mr.S.Gnanasambanthan and students of department of electronics and communication Engineering express feedback about the program and participation certificates are distributed to all the participants.

Mr.R. Mohamed Asif Final year B.E, department of electronics and communication engineering delivered vote of thanks and national anthem.

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2017-2018)

CERTIFICATE COURSE

DIGITAL CIRCUIT DESIGN USING VHDL

REGISTRATION DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY ★ KARAIKUDI

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AMARAVATHIPUDUR, KARAIKUDI-630 301

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

DIGITAL CIRCUIT DESIGN USING VHDL

REGISTRATION DETAILS

S.NO	REGISTER NO	NAME	SIGNATURE
1	912514106001	ANATHA NAYAKI	
2	912514106002	ASHVIN KARTHICK.N	
3	912514106003	BHUVANESHWARI.R	
4	912514106004	DIVYA.P	
5	912514106005	GAYATHRI.A	
6	912514106006	GOKILA DEVI.S	
7	912514106007	JAYANA.SR	
8	912514106008	JEYAPRIYA.P	
9	912514106009	JEYARANI.R	
10	912514106011	KARPAGACHITRA.T	
11	912514106012	MAHALAKSHMI.K	
12	912514106013	MAHALAKSHMI.S	
13	912514106014	MOHAMED ASIF.R	
14	912514106015	PAVITHRA.R	
15	912514106016	PECHI GOWRI.T	
16	912514106017	POORANI DEVI.S	
17	912514106019	PRIYADHARSHINI.S	
18	912514106020	PRIYANGA.K	
19	912514106021	RAJKUMAR.M	
20	912514106023	SANGEETHA.R	
21	912514106024	SELVAKUMAR.C	
22	912514106026	SHRILEKA.M	
23	912514106027	SRIMATHI.S	
24	912514106028	STELLA.R	
25	912514106029	TAMILTHENDRAL.MT	
26	912514106030	VEERAN.N	
27	912514106301	ANANTHI.S	
28	912514106302	BALASUBRAMANIAN K	
29	912514106304	PALANIKUMAR M	
30	912514106306	PRADEEP N	
31	912514106307	PRAGADEESH M	
32	912514106701	MATHAN RAJ M	
33	9.12514106702	PANDIYA RAJAN B	

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DIGITAL CIRCUIT DESIGN USING VHDL

ATTENDANCE DETAILS

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

DIGITAL CIRCUIT DESIGN USING VHDL

S. No	REG. NUMBER	NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
		DATE	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6
		MONTH	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		CLASS HOURS	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6
1	912514106001	ANEETHA MARY	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2	912514106002	ASWIN KARTHICK N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	912514106003	BHUVANESHWARI A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4	912514106004	DURGA P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	912514106005	GAYATHRI A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	912514106006	GOKILA DEVI S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	912514106007	JEYANTHI R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
8	912514106008	JEYAPRIYA P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
9	912514106009	JEYARANI R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
10	912514106010	KARPAGAVINAYAGAM	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11	912514106011	KARTHIKEYAN K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
12	912514106012	KARTHIKEYAN S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13	912514106013	MOHAMED ASIER A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
14	912514106014	PAVITHRA R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15	912514106015	PERUMAL KUMAR T	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
16	912514106016	POORANI DEVI S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
17	912514106017	PRIYADHARSHINI S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
18	912514106018	REVATHI K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
19	912514106019	SABARIMALAI M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
20	912514106020	SANGEETHA R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
21	912514106021	SIVAKUMARI C	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
22	912514106022	SUBULAKSHMI M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

23	912514106027	SRIMATHI.S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
24	912514106028	STELLA.R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
25	912514106029	TAMILTHENDRAL.MT	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
26	912514106030	VEERAN.N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
27	912514106301	ANANTHI.S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
28	912514106302	BALASUBRAMANIAN V	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
29	912514106304	PALANIKUMAR M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
30	912514106306	PRADEEP N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
31	912514106307	PRAGADEESH M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
32	912514106701	MATHAN RAJ M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
33	912514106702	PANDIYA RAJAN B	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2017-2018)

CERTIFICATE COURSE

DIGITAL CIRCUIT DESIGN USING VHDL

ASSESSMENT DETAILS

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
PRACTICAL EXAMINATIONS QUESTION PAPER
CERTIFICATE COURSE – DIGITAL CIRCUIT DESIGN USING VHDL

(Answer any one)

Max. Marks: 80
Time: 3 Hrs

Aim/Principle/Apparatus required/Procedure	Tabulation/Circuit/ Program/Drawing	Calculation & Results	Viva-Voce	Record	Total
20	20	20	10	10	80

1. DESIGN OF ADDER AND SUBTRACTOR.
2. DESIGN AND IMPLEMENTATION OF CODE CONVERTORS.
3. DESIGN AND IMPLEMENTATION OF MULTIPLEXER AND DEMULTIPLEXER.
4. DESIGN AND IMPLEMENTATION OF ENCODER AND DECODER.
5. DESIGN OF MAGNITUDE COMPARATORS.
6. CONSTRUCTION AND VERIFICATION OF 4 BIT RIPPLE COUNTER AND MOD 10/MOD 12 RIPPLE COUNTER.
7. DESIGN AND IMPLEMENTATION OF SHIFT REGISTER.
8. DESIGN AND IMPLEMENTATION OF SEVEN SEGMENT DISPLAY INTERFACE.
9. DESIGN AND IMPLEMENTATION OF D & T FLIPFLOP.
10. DESIGN AND IMPLEMENTATION OF JKMS FLIPFLOP.

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SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING
CERTIFICATE COURSE ON DIGITAL CIRCUIT DESIGN USING VHDL
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT :
YEAR :
DEPARTMENT :

1. What is the full form of EDA in terms of VHDL?

A. Electronic Design Automation
B. Electrical Data Automation
C. Electronic Data Auto-collection
D. Electrical Design Adapter

2. The act of building a model or representation of a digital circuit or system in order to forecast its behaviour and evaluate its usefulness is known as ___.

A. Implementation
B. Simulation
C. Verification
D. Synthesis

3. The process of validating that a digital design satisfies its functional and performance criteria is referred to as ___.

A. Implementation
B. Simulation
C. Verification
D. Synthesis

4. The process of converting a high-level hardware description language (HDL) design, such as VHDL, into a lower-level representation, often a gate-level netlist, is known as ___.

A. Implementation
B. Simulation
C. Verification
D. Synthesis

5. Which of the following tools are used to create physical designs and deploy digital systems?

A. Verification tools
B. Place and route tools
C. Time analysis tools
D. Synthesis tools

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6. VHDL code is converted into a gate-level representation or netlist by which of the following tools?

A. Verification tools
B. Place and route tools
C. Time analysis tools
D. Synthesis tools

7. Which of the following is not an example of a synthesis tool?

A. Yosys
B. Cadence Genus
C. Prime time
D. Xilinx Vivado HLS

8. Which of the following statement is True?

A. A netlist file is a pictorial representation of the connectivity and logic of a digital circuit
B. A netlist file is a written representation of the connectivity and logic of a digital circuit

9. Is there any visual or graphical information in a netlist file?

A. Yes
B. No

10. Does HDLs emphasize the concept of abstraction?

A. Yes
B. No

11. Does HDLs encourage modularity and reusability in design and development?

A. Yes
B. No

12. An HDL takes which of the following approaches?

A. Structure and behavioral approach
B. Object-oriented approach
C. Master-servant approach

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13. Verilog enables which modeling techniques?

A. Structural modeling techniques
B. Behavioural modeling techniques
C. Both

14. Can the user specify data types in Verilog?

A. Yes
B. No

15. VHDL ___ represent a component's external behavior and interface.

A. Port
B. Architecture
C. Signal
D. Entity

16. Using VHDL ___, one can transfer data between components or inside them.

A. Package
B. Signal
C. Port
D. Component

17. Port name in VHDL is ___.

A. Case sensitive
B. Case insensitive

18. Which of the following things is True, when it comes to writing up a port name?

A. It always begins with a number
B. It always begins with a symbol
C. It always begins with a letter
D. It always begins with a letter and symbol

19. In VHDL, a ___ is a grouping of related declarations such as data types, constants, and functions that may be shared and utilized across different design units.

A. Components
B. Testbench
C. Concurrent statements
D. Package

20. Which of the following in VHDL specifies the internal implementation and behavior of a design component?

A. Port
B. Architecture
C. Signal

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DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING
CERTIFICATE COURSE ON DIGITAL CIRCUIT DESIGN USING VHDL
EXAMINATION QUESTION PAPER

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY KARAIKUDI

NAME OF THE STUDENT : T. Karpagachitra
YEAR : III
DEPARTMENT : ECE

19/20

1. What is the full form of EDA in terms of VHDL?

A. Electronic Design Automation
B. Electrical Data Automation
C. Electronic Data Auto-collection
D. Electrical Design Adapter

2. The act of building a model or representation of a digital circuit or system in order to forecast its behaviour and evaluate its usefulness is known as ___.

A. Implementation
B. Simulation
C. Verification
D. Synthesis

3. The process of validating that a digital design satisfies its functional and performance criteria is referred to as ___.

A. Implementation
B. Simulation
C. Verification
D. Synthesis

4. The process of converting a high-level hardware description language (HDL) design, such as VHDL, into a lower-level representation, often a gate-level netlist, is known as ___.

A. Implementation
B. Simulation
C. Verification
D. Synthesis

5. Which of the following tools are used to create physical designs and deploy digital systems?

A. Verification tools
B. Place and route tools
C. Time analysis tools
D. Synthesis tools

6. VHDL code is converted into a gate-level representation or netlist by which of the following tools?

A. Verification tools
B. Place and route tools
C. Time analysis tools
D. Synthesis tools

7. Which of the following is not an example of a synthesis tool?

A. Yosys
B. Cadence Genus
C. Prime time
D. Xilinx Vivado HLS

8. Which of the following statement is True?

A. A netlist file is a pictorial representation of the connectivity and logic of a digital circuit
B. A netlist file is a written representation of the connectivity and logic of a digital circuit

9. Is there any visual or graphical information in a netlist file?

A. Yes
B. No

10. Does HDLs emphasize the concept of abstraction?

A. Yes
B. No

11. Does HDLs encourage modularity and reusability in design and development?

A. Yes
B. No

12. An HDL takes which of the following approaches?

A. Structure and behavioral approach
B. Object-oriented approach
C. Master-servant approach

13. Verilog enables which modeling techniques?

A. Structural modeling techniques
B. Behavioural modeling techniques
C. Both

14. Can the user specify data types in Verilog?

A. Yes
B. No

15. VHDL ___ represent a component's external behavior and interface.

A. Port
B. Architecture
C. Signal
D. Entity

16. Using VHDL ___, one can transfer data between components or inside them.

A. Package
B. Signal
C. Port
D. Component

17. Port name in VHDL is ___.

A. Case sensitive
B. Case insensitive

18. Which of the following things is True, when it comes to writing up a port name?

A. It always begins with a number
B. It always begins with a symbol
C. It always begins with a letter
D. It always begins with a letter and symbol

19. In VHDL, a ___ is a grouping of related declarations such as data types, constants, and functions that may be shared and utilized across different design units.

A. Components
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20. Which of the following in VHDL specifies the internal implementation and behavior of a design component?

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CERTIFICATE COURSE ON DIGITAL CIRCUIT DESIGN USING VHDL
EXAMINATION QUESTION PAPER

19/20

NAME OF THE STUDENT : M Srilhka
YEAR : Final Year
DEPARTMENT : ECE

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CERTIFICATE COURSE ON DIGITAL CIRCUIT DESIGN USING VHDL
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT : P. DIVYA
YEAR : THIRD YEAR
DEPARTMENT : ECE

17
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AMARAVATHIPUDUR, KARAIKUDI-630 301

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

DIGITAL CIRCUIT DESIGN USING VHDL

MARK DETAILS

S.NO	REGISTER NUMBER	NAME OF THE STUDENT	THEORY	PRACTICAL	TOTAL
1	912514106001	ANATHA NAYAKI	18	71	89
2	912514106002	ASHVIN KARTHICK.N	16	75	91
3	912514106003	BHUVANESHWARI.R	17	74	91
4	912514106004	DIVYA.P	17	79	96
5	912514106005	GAYATHRI.A	18	76	94
6	912514106006	GOKILA DEVI.S	18	74	92
7	912514106007	JAYANA.SR	19	75	94
8	912514106008	JEYAPRIYA.P	18	76	94
9	912514106009	JEYARANI.R	18	74	92
10	912514106011	KARPAGACHITRA.T	19	71	90
11	912514106012	MAHALAKSHMI.K	18	74	92
12	912514106013	MAHALAKSHMI.S	17	75	92
13	912514106014	MOHAMED ASIF.R	18	73	91
14	912514106015	PAVITHRA.R	18	74	92
15	912514106016	PECHI GOWRI.T	17	75	92
16	912514106017	POORANI DEVI.S	15	79	94
17	912514106019	PRIYADHARSHINI.S	16	78	94
18	912514106020	PRIYANGA.K	18	76	94
19	912514106021	RAJKUMAR.M	19	72	91
20	912514106023	SANGEETHA.R	17	75	92
21	912514106024	SELVAKUMAR.C	18	73	91
22	912514106026	SHRILEKA.M	19	74	93
23	912514106027	SRIMATHI.S	17	75	92
24	912514106028	STELLA.R	15	79	94
25	912514106029	TAMILTHENDRAL.MT	16	78	94
26	912514106030	VEERAN.N	18	76	94
27	912514106301	ANANTHI.S	19	72	91
28	912514106302	BALASUBRAMANIAN K	18	71	89
29	912514106304	PALANIKUMAR M	18	74	92
30	912514106306	PRADEEP N	17	75	92
31	912514106307	PRAGADEESH M	18	73	91
32	912514106701	MATHAN RAJ M	18	74	92
33	912514106702	PANDIYA RAJAN B	17	75	92

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2017-2018)

CERTIFICATE COURSE

DIGITAL CIRCUIT DESIGN USING VHDL

CERTIFICATE DETAILS

SRI RAAJA RAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY ★ KARAIKUDI

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AMARAVATHIPUDUR, KARAIKUDI – 630 301, SIVAGANGAI DIST.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

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This is to certify that Mr/Ms N.VEERAN

from Sri Raaja Raajan College of Engineering and Technology has attended Certificate

course on DIGITAL CIRCUIT DESIGN USING VHDL

during 3.07.2017 – 6.7.2017

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This is to certify that Mr/Ms PANDIYARAJAN.B

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2018-2019)

CERTIFICATE COURSE

BASICS OF IMAGE PROCESSING USING MATLAB

SYLLABUS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

SRI RAAJA RAAJAN
COLLEGE OF ENGINEERING AND TECHNOLOGY
(Approved by AICTE, New Delhi & Affiliated to Anna University)

146 -4D1, Amaravathi Village,
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E-mail : sracet2010@gmail.com
Website : www.raajarnajan.org

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

BASICS OF IMAGE PROCESSING USING MATLAB

COURSE CONTENT

OBJECTIVE OF THE COURSE:

Digital images are everywhere – in thousands of scientific (e.g., astronomical, bio-medical), consumer, industrial, and artistic applications. Moreover they come in a wide range of the electromagnetic spectrum - from visible light and infrared to gamma rays and beyond. The ability to process image signals is therefore an incredibly important skill to master for engineering/science students, software developers, and practicing scientists. Digital image processing continues to enable the multimedia technology revolution we are experiencing today. Some important examples of image and video processing include the removal of degradations images suffer during acquisition (e.g., removing blur from a picture of a fast moving car), and the compression and transmission of images and videos (if you watch videos online, or share photos via a social media website, you use this everyday), for economical storage and efficient transmission.

LEARNING OUTCOME:

After the completion of the course, the students will be work and process with various source of images.

DURATION OF THE COURSE:

- 4 Days

MINIMUM ELIGIBILITY CRITERIA:

- Academic and un-academic students with basic Matlab knowledge.

COURSE OUTLINE

Sl.No.	Modules to be Covered
1	Introduction and fundamental of image processing using Matlab
2	Transformation and filtering
3	Restoration, reconstruction, segmentation and compression
4	Image representation
5	Color and morphological image processing
6	Project and assignment

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E-mail : srrcet2010@gmail.com
Website: www.raajaraajan.org

DETAILED COURSE SYLLABUS:

1. **Introduction**
   - Applications of digital image processing
   - Elements of digital image processing system
2. **Digital Image Fundamentals**
   - Image perception
   - Sampling and quantization
   - Basic relationships between pixels
3. **Intensity Transformation and Spatial Filtering**
   - Point processing
   - Spatial filtering
4. **Filtering in the frequency domain**
   - Noise removal
   - Mean and adaptive filters
5. **Image Restoration and Reconstruction**
   - Degradation models
   - Minimum mean square error (Wiener) filtering
   - Image reconstruction from projection

   Inverse filtering
   Constrained least squares filtering
6. **Wavelets and multi-resolution processing**
   - Multi-resolution expansion
   - Wavelet transforms in two dimensions

   Wavelet transforms in one dimension
7. **Image Compression**
   - Elements of information theory
   - Lossy compression

   Lossless compression
8. **Image Segmentation**
   - Detection of discontinuities
   - Region based segmentation

   Segmentation by thresholding
9. **Image representation and description**
   - Chain codes
   - Fourier descriptors
   - Moments
10. **Color image processing**
    - Color models
    - Color transformation

    Pseudocolor image processing
11. **Morphological image processing**
    - Dilation and erosion
    - Hit or miss transformation

    Opening and closing
12. **Project**
    - Abstract writing
    - Execution
    - Viva

    Software implementation
    Presentation
    Result

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Sri Raaja Raajan College of Engg. & Tech
Amaravathipudur, Karaikudi - 630 301
Sivagangai Dist. Tamil Nadu

SRI RAAJA RAAJAN
COLLEGE OF ENGINEERING ANDTECHNOLOGY

(Approved by AICTE, New Delhi &Affiliated to Anna University, Chennai)
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Karaikudi-630301,SivagangaiDt,TamilNadu
Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2018-2019)

CERTIFICATE COURSE

BASICS OF IMAGE PROCESSING USING MATLAB

REPORT

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY ★ KARAIKUDI

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E-mail : srreet2010@gmail.com
Website: www.raajaraajan.org

REPORT

Department of Electronics and Communication Engineering has organized Certificate Course Titled "**Basics of image processing using Matlab**" on 01.08.2018 to 04.08.2018.This program started with an inauguration function. Department of Electronics and Communication Engineering student Ms.T.Ajitha Final year, B.E, Department of Electronics and Communication Engineering deliver welcome address. Resource person Dr.K.Murali Babu has address a key note about the program. The Principal, Dr.X.Hyacinth Suganthi, Sri Raaja Raajan college of engineering and Technology, karaikudi and the Head of Department, Mr. T.N. Balaji of Sri Raaja Raajan college of engineering and Technology, Karaikudi has consented felicitation address. Students and faculties from various departments attended the function. The students learnt basics and some depth about image procesing. Digital image processing continues to enable the multimedia technology revolution we are experiencing today. Some important examples of image and video processing include the removal of degradations images suffer during acquisition (e.g., removing blur from a picture of a fast moving car), and the compression and transmission of images and videos. The program was successfully completed on 04.08.2018 with a valedictory function. Resource person Dr.K.Murali Babu and students from various departments express feedback about the program and participation certificates are distributed to all the participants. The program valedictory with an vote of thanks by the student Mr. S. Saranya Final year, Department of Electronics and Communication Engineering and national anthem.

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BASICS OF IMAGE PROCESSING USING MATLAB

REGISTRATION DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING & TECHNOLOGY
AMARAVATHIPUDUR, KARAIKUDI-630 301.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

BASICS OF IMAGE PROCESSING USING MATLAB

COURSE CONTENT

REGISTRATION DETAILS

S.NO	REGISTER NUMBER	NAME OF THE STUDENT	SIGNATURE
1	912515106001	AISHWARYA LEKSHMI.M	M. Aishwarya.
2	912515106002	AJITHA.T	T. Ajitha
3	912515106004	ANUSHYA.A	Aarohya.
4	912515106005	ARUNA.K	K. Aruna
5	912515106007	BIRUNTHA KUMARI.R	R. Biruntha.
6	912515106008	JEEVITHA.G	Jeevitha.
7	912515106009	JENIFAR NACHIYAR.J	Jenifar
8	912515106010	KANIMOZHI.P	P. Kanimozhi
9	912515106011	KANMANI.PR	PR. Kanmani
10	912515106012	MOHAMEDZIYATH KHAN.M	Mohamedziyath
11	912515106013	NIVASHINI.S	Nivashini
12	912515106014	PREETHI.G	Preethi
13	912515106015	PRIYADHARSHINI.S	Priyadharshini
14	912515106016	RANGITHA.R	Rangitha
15	912515106017	SANGEETHA.S	Sangeetha.
16	912515106018	SARANYA.S	Saranya
17	912515106019	SELVAMUKILA.M	Selva.
18	912515106020	SUMITHA M	Sumitha.
19	912515106021	SUTHA K	Sutha
20	912515106022	VIGNESH M	M. Vignesh.
21	912515106023	VIJAY B	Vijay
22	912515106301	ABINESH	Abinesh
23	912515106302	ELLAKIYA	Ellakiya
24	912515106304	NAGARAJ	Nagaraj
25	912515106305	NITHYA	Nithya.
26	912515106306	SOUNDHARIYA V	V. Soundhariya
27	912515106307	VALLIKANNU	Vallikannu.

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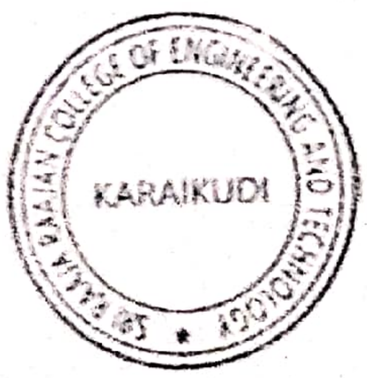
ATTENDANCE DETAILS



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AMARAVATHIPUDUR, KARAIKUDI-630 301.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINNERING

BASICS OF IMAGE PROCESSING USING MATLAB

S. No	REG. NUMBER	NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
DATE			01	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4
MONTH			8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
CLASS HOURS			1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1	912515106001	AISHWARYA LEKSHMI.M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2	912515106002	AJITHA.T	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	912515106004	ANUSHYA.A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4	912515106005	ARUNA.K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	912515106007	BIRUNTHA KUMARI.R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	912515106008	JEEVITHA.G	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	912515106009	JENIFAR NACHIYAR.J	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
8	912515106010	KANIMOZHI.P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
9	912515106011	KANMANI.PR	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
10	912515106012	MOHAMEDZIYATH KHAN.M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11	912515106013	NIVASHINI.S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
12	912515106014	PREETHI.G	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13	912515106015	PRIYADHARSHINI.S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
14	912515106016	RANGITHA.R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15	912515106017	SANGEETHA.S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
16	912515106018	SARANYA.S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
17	912515106019	SELVAMUKILA.M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
18	912515106020	SUMITHA M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
19	912515106021	SUTHA K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
20	912515106022	VIGNESH M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
21	912515106023	VIJAY B	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
22	912515106301	ABINESH	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
23	912515106302	ELLAKIYA	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
24	912515106304	NAGARAJ	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
25	912515106305	NITHYA	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

26	912515106306	SOUNDHARIYA V	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
27	912515106307	VALLIKANNU	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
28	912514106302	BALASUBRAMANIAN K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
29	912514106304	PALANIKUMAR M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
30	912514106306	PRADEEP N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
31	912514106307	PRAGADEESH M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
32	912514106701	MATHAN RAJ M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
33	912514106702	PANDIYA RAJAN B	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2018-2019)

CERTIFICATE COURSE

BASICS OF IMAGE PROCESSING USING MATLAB

ASSESSMENT DETAILS

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
PRACTICAL EXAMINATIONS QUESTION PAPER
CERTIFICATE COURSE – BASICS OF IMAGE PROCESSING

(Answer any one) Max. Marks: 80

Time: 3 Hrs

Aim/Principle/Apparatus required/Procedure	Tabulation/Circuit/ Program/Drawing	Calculation & Results	Viva-Voce	Record	Total
20	20	20	10	10	80

1. Simulation and Display of an Image, Negative of an Image(Binary & Gray Scale)

2. Implementation of Relationships between Pixels

3. Implementation of Transformations of an Image

4. Contrast stretching of a low contrast image, Histogram, and Histogram Equalization

5. Display of bit planes of an Image

6. Display of FFT(1-D & 2-D) of an image

7. Computation of Mean, Standard Deviation, Correlation coefficient of the given Image

8. Implementation of Image Smoothening Filters(Mean and Median filtering of an Image)

9. Implementation of image sharpening filters and Edge Detection using Gradient Filters

10. Image Compression by DCT,DPCM, HUFFMAN coding

11. Implementation of image restoring techniques

12. Implementation of Image Intensity slicing technique for image enhancement

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DEPARTMENT OF
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CERTIFICATE COURSE ON IMAGE PROCESSING USING MATLAB
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT :
YEAR :
DEPARTMENT :

Q. No 1. Image processing implies digital processing of any ___ data.
(a) One-dimensional
(b) Two-dimensional
(c) Three-dimensional
(d) Multi-dimensional

Q.No 2. The field of "digital image processing" refers to the processing of a finite number of elements, each of which has a particular location and value. These elements are referred to as ___
(a) Data elements
(b) Point elements
(c) Picture elements
(d) Graphical elements

Q. No 3. Which are not the digital image processing broad-spectrum applications?
(a) Image transmission
(b) Remote sensing via satellites
(c) Storage for business applications
(d) None of the above

Q.No 4. ___ is the foundation for representing images in various degrees of resolution.
(a) Wavelets
(b) Compression
(c) Morphological
(d) Image enhancement

Q. No 5. To acquire a digital image ___elements are required.
(a) 4
(b) 2
(c) 3
(d) 5

Q.No 6. The output of a single imaging sensor is ___
(a) Unidirectional Waveform
(b) Alternating Waveform
(c) Voltage Waveform
(d) Square wave Waveform

Q. No 7. ___ is the most widely used term to denote the elements of a digital image.
(a) Pixel
(b) Number

(c) Coordinates
(d) None

Q. No 8. ___ is used to calculate the spatial distance between pixel locations.
(a) Euclidean distance
(b) Speed measures
(c) Distance measures
(d) D4 & D8 Distance

Q.No 9. GIF stands for
(a) Graphics Interchange Format
(b) Graphical Interface Format
(c) Graphical Interface Function
(d) Graphics Integrated Format

Q. No 10. ___ uses a lossy compression method, meaning that the decompressed image isn't quite the same as the original.
(a) GIF (Graphics Interchange Format)
(b) JPEG (Joint Photographic Experts Group)
(c) TIFF (Tagged Image File Format)
(d) PNG (Portable Network Graphics)

Q.No 11. Identify the below formula: C = A B
(a) The union of A and B
(b) The intersection of A and B
(c) A and B is disjoint
(d) The difference between A and B

Q. No 12. In ___ the intensity of the output image decreases as the intensity of the input increases.
(a) Image Positives
(b) Image Negatives
(c) Image Enhancement
(d) Image restoration

Q.No 13. ___ is used to increase the dynamic range of the gray levels in the image being processed.
(a) Contrast Range
(b) Contrast Image
(c) Contrast Stretching
(d) Intensity Stretching

Q. No 14. A ___ is a small 2-D array, in which the values of the coefficients determine the nature of the process.
(a) Mask
(b) Fourier Spectrum
(c) Static Histogram
(d) Dynamic Histogram

Q.No 15. ___ process an image with pixel-by-pixel transformation based on the histogram statistics or neighborhood operations.
(a) Frequency domain methods
(b) Frequency filtering methods
(c) Spatial domain methods

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(d) None

Q. No 16. The values in the filter sub-image are referred to as ___
(a) Pixel
(b) Coefficients
(c) Coordination
(d) Constants

Q.No 17. The process of linear filtering is similar to a frequency domain concept called___
(a) Mask
(b) Filter
(c) Convolution
(d) Kernel

Q. No 18. Operate on neighborhoods, and the mechanics of sliding a mask past an image are the same as was just outlined.
(a) Nonlinear spatial filters
(b) Linear spatial filters
(c) Smoothing Linear Filters
(d) Averaging filters

Q.No 19. ___ filters are used to highlight fine detail in an image
(a) Linear spatial filters
(b) Sharpening spatial filters
(c) Frequency filtering
(d) Low pass filters

Q. No 20. The tool, which converts a spatial description of an image into one in terms of its frequency components, is called the ___.
(a) Fourier transforms
(b) Inverse Fourier Transform
(c) Discrete Fourier transforms
(d) None

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AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE COURSE ON IMAGE PROCESSING USING MATLAB
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT : T. Ajitha
YEAR : IV year
DEPARTMENT : ECE

19
20

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(b) Contrast Image
(c) Contrast Stretching
(d) Intensity Stretching

Q. No 14. A __ is a small 2-D array, in which the values of the coefficients determine the nature of the process.
(a) Mask
(b) Fourier Spectrum
(c) Static Histogram
(d) Dynamic Histogram

Q.No 15. __ process an image with pixel-by-pixel transformation based on the histogram statistics or neighborhood operations.
(a) Frequency domain methods
(b) Frequency filtering methods
(c) Spatial domain methods

(d) None

Q. No 16. The values in the filter sub-image are referred to as ___
(a) Pixel
(b) Coefficients
(c) Coordination
(d) Constants

Q.No 17. The process of linear filtering is similar to a frequency domain concept called___
(a) Mask
(b) Filter
(c) Convolution
(d) Kernel

Q. No 18. Operate on neighborhoods, and the mechanics of sliding a mask past an image are the same as was just outlined.
(a) Nonlinear spatial filters
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Q.No 19. ___ filters are used to highlight fine detail in an image
(a) Linear spatial filters
(b) Sharpening spatial filters
(c) Frequency filtering
(d) Low pass filters

Q. No 20. The tool, which converts a spatial description of an image into one in terms of its frequency components, is called the ___.
(a) Fourier transforms
(b) Inverse Fourier Transform
(c) Discrete Fourier transforms
(d) None

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE COURSE ON IMAGE PROCESSING USING MATLAB
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT : M. Aishwarya Lekshmi
YEAR : IV - Year
DEPARTMENT : ECE

19
20

Q. No 1. Image processing implies digital processing of any ___ data.
(a) One-dimensional
(b) Two-dimensional
(c) Three-dimensional
(d) Multi-dimensional

Q.No 2. The field of "digital image processing" refers to the processing of a finite number of elements, each of which has a particular location and value. These elements are referred to as ___
(a) Data elements
(b) Point elements
(c) Picture elements
(d) Graphical elements

Q. No 3. Which are not the digital image processing broad-spectrum applications?
(a) Image transmission
(b) Remote sensing via satellites
(c) Storage for business applications
(d) None of the above

Q.No 4. ___ is the foundation for representing images in various degrees of resolution.
(a) Wavelets
(b) Compression
(c) Morphological
(d) Image enhancement

Q. No 5. To acquire a digital image ___elements are required.
(a) 4
(b) 2
(c) 3
(d) 5

Q.No 6. The output of a single imaging sensor is ___
(a) Unidirectional Waveform
(b) Alternating Waveform
(c) Voltage Waveform
(d) Square wave Waveform

Q. No 7. ___ is the most widely used term to denote the elements of a digital image.
(a) Pixel
(b) Number

(c) Coordinates
(d) None

Q. No 8. ___ is used to calculate the spatial distance between pixel locations.
(a) Euclidean distance
(b) Speed measures
(c) Distance measures
(d) D4 & D8 Distance

Q.No 9. GIF stands for
(a) Graphics Interchange Format
(b) Graphical Interface Format
(c) Graphical Interface Function
(d) Graphics Integrated Format

Q. No 10. ___ uses a lossy compression method, meaning that the decompressed image isn't quite the same as the original.
(a) GIF (Graphics Interchange Format)
(b) JPEG (Joint Photographic Experts Group)
(c) TIFF (Tagged Image File Format)
(d) PNG (Portable Network Graphics)

Q.No 11. Identify the below formula: C = A B
(a) The union of A and B
(b) The intersection of A and B
(c) A and B is disjoint
(d) The difference between A and B

Q. No 12. In ___ the intensity of the output image decreases as the intensity of the input increases.
(a) Image Positives
(b) Image Negatives
(c) Image Enhancement
(d) Image restoration

Q.No 13. ___ is used to increase the dynamic range of the gray levels in the image being processed.
(a) Contrast Range
(b) Contrast Image
(c) Contrast Stretching
(d) Intensity Stretching

Q. No 14. A ___ is a small 2-D array, in which the values of the coefficients determine the nature of the process.
(a) Mask
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CERTIFICATE COURSE ON IMAGE PROCESSING USING MATLAB
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT : Saranya S
YEAR : IV
DEPARTMENT : ECE

18/20

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

BASICS OF IMAGE PROCESSING USING MATLAB
COURSE CONTENT
MARK DETAILS

S.NO	REGISTER NUMBER	NAME OF THE STUDENT	THEORY	PRACTICAL	TOTAL
1	912515106001	AISHWARYA LEKSHMI.M	19	75	94
2	912515106002	AJITHA.T	19	76	95
3	912515106004	ANUSHYA.A	18	74	92
4	912515106005	ARUNA.K	17	73	90
5	912515106007	BIRUNTHA KUMARI.R	18	71	89
6	912515106008	JEEVITHA.G	17	75	92
7	912515106009	JENIFAR NACHIYAR.J	15	79	94
8	912515106010	KANIMOZHI.P	16	78	94
9	912515106011	KANMANI.PR	18	76	94
10	912515106012	MOHAMEDZIYATH KHAN.M	19	72	91
11	912515106013	NIVASHINI.S	16	75	91
12	912515106014	PREETHI.G	17	75	92
13	912515106015	PRIYADHARSHINI.S	15	79	94
14	912515106016	RANGITHA.R	18	76	94
15	912515106017	SANGEETHA.S	19	72	91
16	912515106018	SARANYA.S	18	75	93
17	912515106019	SELVAMUKILA.M	17	74	91
18	912515106020	SUMITHA M	19	79	98
19	912515106021	SUTHA K	18	76	94
20	912515106022	VIGNESH M	17	75	92
21	912515106023	VIJAY B	18	71	89
22	912515106301	ABINESH	18	76	94
23	912515106302	ELLAKIYA	19	72	91
24	912515106304	NAGARAJ	16	75	91
25	912515106305	NITHYA	17	75	92
26	912515106306	SOUNDHARIYA V	15	79	94
27	912515106307	VALLIKANNU	17	75	92

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2018-2019)

CERTIFICATE COURSE

BASICS OF IMAGE PROCESSING USING MATLAB

CERTIFICATE DETAILS

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Organizes

Certificate courses

certificate

This is to certify that ~~Mr~~/Ms SARANYA.S

from Sri Raaja Raajan College of Engineering and Technology has attended Certificate course on BASICS OF IMAGIE PROCESSNG USING MATLAB

during 1.08.2018 - 4.08.2018

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from Sri Raaja Raajan College of Engineering and Technology has attended Certificate course on BASICS OF IMAGE PROCESSING USING MATLAB

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This is to certify that Mr/~~Ms~~ VIJAY.B

from Sri Raaja Raajan College of Engineering and Technology has attended Certificate course on BASICS OF IMAGE PROCESSING USING MATLAB.

during 1.08.2018 - 4.08.2018.

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This is to certify that Mr/Ms K. ARUNA

from Sri Raaja Raajan College of Engineering and Technology has attended Certificate

course on BASICS OF IMAGE PROCESSIG USING MATLAB

during 1.08.2018 - 4.08.2018.

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from Sri Raaja Raajan College of Engineering and Technology has attended Certificate course on BASICS OF IMAGE PROCESSING USING MATLAB during 1.08.2018 – 4.08.2018

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

CERTIFICATE COURSE

NETWORK SIMULATOR-NS2

SYLLABUS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

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Fax : 04565 – 234430
Mobile : 73737 11322, 73737 11333
E-mail : srrcet2010@gmail.com
Website : www.raajaraajan.org

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

NETWORK SIMULATOR-NS2

COURSE CONTENT

OBJECTIVE OF THE COURSE:

Network Simulator (NS2) is a powerful open source network simulation tool. In this course, NS2 is discussed with hands on and plenty of examples. Many tools and techniques are covered with the support of shared resources.

Network Simulator is the software package that models the behaviour of any network. Evidently, it makes sense on any network by testing the newest ideas. So students can evaluate and compare the novel ideas in any network; in this way, the evolution happens in all networks.

LEARNING OUTCOME:

After the completion of the course, the students will be able simulate Network simulations using NS2.

DURATION OF THE COURSE:

- 4 Days

MINIMUM ELIGIBILITY CRITERIA:

- Pursuing BE Students

COURSE OUTLINE

Sl.No.	Modules to be Covered
1	Introduction to NS2
2	TCL/OTCL Programming
3	Tools and fundamentals of simulations
4	Introduction to standard protocols
5	Implementation of a new protocol and trust management
6	Performance analysis and best practices

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DETAILED COURSE SYLLABUS:

1. Introduction to NS2

- Course overview
- Ubuntu OS installation on VirtualBox
- Development environment setup

Introduction to NS2
NS2 installation on ubuntu OS

2.Wireless Systems

- Introduction to TCL-I
- Introduction to TCL-II
- Introduction to Otcl

3. Tools and fundamentals of simulation

- Introduction to wired Tcl script
- Introduction to wireless Tcl script
- Introduction to Network Scenario Generator (NSG)
- Introduction to setdest utility
- Introduction to cbrgen utility
- Introduction to Bonnmotion utility

4. Introduction to standard protocols

- Introduction to AODV routing protocol
- Introduction to DSR
- Overview of AODV protocol source code.

5. Implementation of a new protocol and trust management

- Cloning of existing protocol part-I
- Cloning of existing protocol part-II
- Add promiscuous mode in new protocol
- Add a malicious node in new protocol
- Trust management in new protocol part-I
- Trust management in new protocol part-I

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Fax : 04565 - 234439
Mobile : 73737 11322, 73737 11333
E-mail : srrcet2010@gmail.com
Website: www.rajaraajan.org

6. Performance analysis and best practices

- Performance analysis parameters
- Trace formats is NS2
- Introduction to AWK scripting with analysis script
- Varying simulation parameters in TCL script
- Dos and Don'ts of simulation

7. Automation of performance analysis

- Automation of performance analysis
- Introduction to Bash scripting
- Automation script
- Graph plotting using GNUPLOT

8. Project

- Abstract writing
- Software implementation
- Execution
- Presentation
- Viva
- Result

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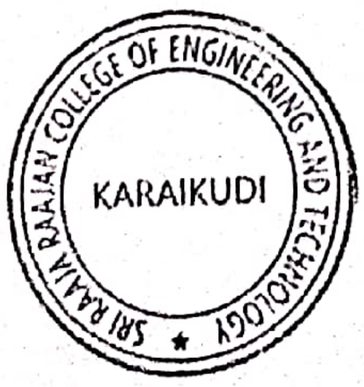
DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

CERTIFICATE COURSE

NETWORK SIMULATOR-NS2

REPORT



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Website : www.raajaraajan.org

REPORT

Department of Electronics and Communication Engineering has organized certificate Course Titled "**Network simulator using NS2**" on 23.8.2019 to 26.08.2019. This program started with an inauguration function. Department of Electronics and Communication Engineering student Ms.S.Kaveeta Final year, B.E, Department of Electronics and Communication Engineering deliver welcome address. Resource person Dr.K.Murali Babu has address a key note about the program. The Principal, Dr.A.L.Mayilvahanan, Sri Raaja Raajan college of engineering and Technology, karaikudi and the Head of Department, Mr. T.N. Balaji of Sri Raaja Raajan college of engineering and Technology, Karaikudi has consented felicitation address. The students learnt basics of Network simulator NS2. Network Simulator (NS2) is a powerful open source network simulation tool. In this course, NS2 is discussed with hands on and plenty of examples. Many tools and techniques are covered with the support of shared resources. The program was successfully completed on 22.08.2019 with a valedictory function. Resource person Dr.K.Murali Babu and students of Department of Electronics and Communication Engineering express feedback about the program and participation certificates are distributed to all the participants. The program valedictory with an vote of thanks by the student Mr. M. Malu Final year, Department of Electronics and Communication Engineering and national anthem.

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY KARAIKUDI

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Sivagangai Dist. Tamil Nadu

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COLLEGE OF ENGINEERING ANDTECHNOLOGY

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Website: www.sriraajaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

CERTIFICATE COURSE

NETWORK SIMULATOR-NS2

REGISTRATION DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING & TECHNOLOGY
AMARAVATHIPUDUR, KARAIKUDI-630 301.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

NETWORK SIMULATOR-NS2

REGISTRATION DETAILS

S.NO	REGISTER NUMBER	NAME	SIGNATURE
1	912516106002	Arthi	
2	912516106003	Elavalagan M	
3	912516106004	Ezhilarasi J	
4	912516106007	Kaveeta S	
5	912516106008	Lourthiga rani X	
6	912516106009	Malini K	
7	912516106012	Sneha R	
8	912516106013	Soniya M	
9	912516106014	Sowmiya. M	
10	912516106015	Suganthi N	
11	912516106301	Boomathi C	
12	912516106303	Malu M	
13	912516106304	Suganthi S	
14	912516106306	Vasanth raj L	

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

CERTIFICATE COURSE

NETWORK SIMULATOR-NS2

ATTENDANCE DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING & TECHNOLOGY

AMARAVATHIPUDUR, KARAIKUDI-630 301.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINNERING

NETWORK SIMULATOR-NS2

S. No	REG. NUMBER	NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
DATE			19	19	19	19	19	19	19	19	20	20	20	20	20	20	20	20	21	21	21	21	21	21	21	22	22	22	22	22	22	22
MONTH			8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
CLASS HOURS			1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1	912516106002	Arthi	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2	912516106003	Elavalagan M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	912516106004	Ezhilarasi J	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4	912516106007	Kaveeta S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	912516106008	Lourthiga rani X	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	912516106009	Malini K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	912516106012	Sneha R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
8	912516106013	Soniya M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
9	912516106014	Sowmiya. M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
10	912516106015	Suganthi N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11	912516106301	Boomathi C	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
12	912516106303	Malu M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13	912516106304	Suganthi S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
14	912516106306	Vasanth raj L	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

CERTIFICATE COURSE

NETWORK SIMULATOR-NS2

ASSESSMENT DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

SRI RAAJA RAAJAN
COLLEGE OF ENGINEERING AND TECHNOLOGY
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Ph : 04565 – 234230 / 326132

Fax : 04565 – 234430
Mobile : 73737 11322, 73737 11333
E-mail : srrcet2010@gmail.com
Website: www.raajaraajan.org

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
PRACTICAL EXAMINATIONS QUESTION PAPER
CERTIFICATE COURSE ON NETWORK SIMULATOR

(Answer any one)

Max.Marks: 80
Time: 3 Hrs

Aim/Principle/Apparatus required/Procedure	Tabulation/Circuit/ Program/Drawing	Calculation & Results	Viva-Voce	Record	Total
20	20	20	10	10	80

1. Array implementation of Stack, Queue and Circular Queue ADTs

2. Implementation of Singly Linked List

3. Linked list implementation of Stack and Linear Queue ADTs

4. Implementation of Polynomial Manipulation using Linked list

5. Implementation of Evaluating Postfix Expressions, Infix to Postfix conversion

6. Implementation of Binary Search Trees

7. Implementation of AVL Trees

8. Implementation of Heaps using Priority Queues

9. Implementation of Dijkstra's Algorithm

10. Implementation of Prim's Algorithm

11. Implementation of Linear Search and Binary Search

12. Implementation of Insertion Sort and Selection Sort

13. Implementation of Merge Sort

14. Implementation of Open Addressing (Linear Probing)

15. Implementation of Open Addressing (Quadratic Probing)

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Sivaganga Dist. Tamil

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE COURSE ON NETWORK SIMULATOR
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT :
YEAR :
DEPARTMENT :

1. Which one of the following is a data link protocol?

A) point to point protocol
B) HDLC
C) Ethernet
D) all of these answers

2. Data communication system within a building or campus is

A) MAN
B) LAN
C) WAN
D) None of these answers

3.The transmission data rate is decided by

A) transport layer
B) network layer
C) data link layer
D) physical layer

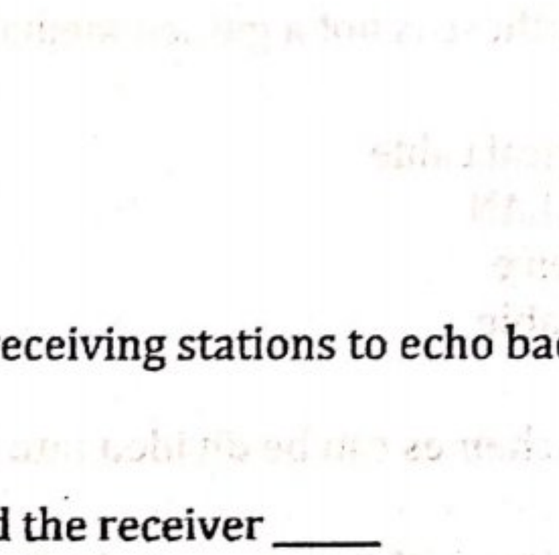
4. The term 'duplex' refers to the ability of the data receiving stations to echo back a confirming message to the sender.

In full duplex data transmission, both the sender and the receiver _____

A) can send or receive data one at a time
B) can receive and send data simultaneously
C) can do one way data transmission only
D) cannot talk at once

5. The network layer protocol of the internet is

A) hypertext transfer protocol
B) internet protocol
C) Ethernet
D) none of these answers



6. CRC stands for

A) cyclic redundancy check
B) code redundancy check
C) code repeat check
D) cyclic repeat check

7.Application layer protocol defines

A) types of messages exchanged
B) message format, syntax and semantics
C) rules for when and how processes send and respond to messages
D) all of these answers

8. TCP/IP model does not have _____ layer but OSI model have this layer.

A) presentation layer
B) application layer
C) both session layer and presentation layer
D) session layer

9.Most packet switches use this principle

A) None of these answers
B) Store and forward
C) Both Stop and wait & Store and forward
D) Stop and wait

10.Which of these is not a guided media?

A) Fiber optical cable
B) Wireless LAN
C) Copper wire
D) Coaxial cable

11. Coding schemes can be divided into two broad categories _____

A) Block Coding and Convolution Coding.
B) Hamming coding and convolution coding
C) character coding, integer coding
D) hamming coding and block coding

12. Which one of the following tasks is not done by the data link layer?

A) framing
B) channel coding
C) flow control
D) error control

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KARAIKUDI

13. Which one of the following tasks is not done by the data link layer?

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14.Data Link Control Protocol (HDLC) is implemented at the _____

A) Data link layer
B) Network layer
C) transport layer
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15.A distributed network configuration in which all data/information pass through a central computer is

A) All of these answers
B) star network
C) bus network
D) ring network

16. OSI stands for

A) none of these answers
B) operating system interface
C) open system interconnection
D) optical service implementation

17. A _____ is a device that forwards packets between networks by processing the routing information included in the packet.

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SRI RAAJA RAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

D) application layer

28. TCP/IP model was developed _____ the OSI model.

A) none of these answers
B) prior to
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AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE COURSE ON NETWORK SIMULATOR
EXAMINATION QUESTION PAPER

19/20

NAME OF THE STUDENT : S. Suganthi
YEAR : ECE - III Year,
DEPARTMENT : ECE

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SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
AMARAVATHIPUDUR
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CERTIFICATE COURSE ON NETWORK SIMULATOR
EXAMINATION QUESTION PAPER

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY KARAIKUDI

NAME OF THE STUDENT : R. Sneha
YEAR : III - year
DEPARTMENT : ECE

16/20

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DEPARTMENT OF
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CERTIFICATE COURSE ON NETWORK SIMULATOR
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT : M. Elavalagana
YEAR : III
DEPARTMENT : ECE

19
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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

NETWORK SIMULATOR-NS2

MARK DETAILS

S.NO	REGISTER NUMBER	NAME OF THE STUDENT	THEORY	PRACTICAL	TOTAL
1	912516106002	Arthi	19	75	94
2	912516106003	Elavalagan M	19	76	95
3	912516106004	Ezhilarasi J	18	74	92
4	912516106007	Kaveeta S	17	73	90
5	912516106008	Lourthiga rani X	18	71	89
6	912516106009	Malini K	17	75	92
7	912516106012	Sneha R	16	79	95
8	912516106013	Soniya M	16	78	94
9	912516106014	Sowmiya. M	18	76	94
10	912516106015	Suganthi N	19	72	91
11	912516106301	Boomathi C	16	75	91
12	912516106303	Malu M	17	75	92
13	912516106304	Suganthi S	19	79	98
14	912516106306	Vasanth raj L	16	78	94

Sri Raaja Raajan College of Engg. & Tech
Amaravathipudur - 630 301
Sivagangai Dist. Tamil Nadu

SRI RAAJA RAAJAN
COLLEGE OF ENGINEERING ANDTECHNOLOGY

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146/14B1,AmaravathiVillage,AmaravathiputhurPost,
Karaikudi-630301,SivagangaiDt,TamilNadu
Website: www.sricaaiaraajan.in, E-mail:srrcet2010@gmail.com, Ph: 04565-234230

DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020)

CERTIFICATE COURSE

NETWORK SIMULATOR-NS2

CERTIFICATE DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Organizes

Certificate courses

certificate

This is to certify that Mr/Ms ELAVALAGAN.M

from Sri Raaja Raajan College of Engineering and Technology has attended Certificate

course on NETWORK SIMULATOR USING NS2

during 23.8.2019 – 26.8.2019

HOD/ECE

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certificate

This is to certify that ~~Mr~~/Ms SNEKA.R

from Sri Raaja Raajan College of Engineering and Technology has attended Certificate course on NETWORK SIMULATOR USING NS2

during 23.08.2019 - 26.08.2019

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY KARAIKUDI

HOD/ECE

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

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This is to certify that ~~Mr~~/Ms MALU.M

from Sri Raaja Raajan College of Engineering and Technology has attended Certificate course on NETWORK SIMULATOR USING NS2

during 23.8.2019 - 26.08.2019

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This is to certify that Mr/Ms M. SONIYA

from Sri Raaja Raajan College of Engineering and Technology has attended Certificate

course on NETWORK SIMULATOR USING NS2

during 23.8.2019 - 26.8.2019

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Sivagangai Dist. Tamil Nadu

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certificate

This is to certify that Mr/Ms M.SOWMIYA

from Sri Raaja Raajan College of Engineering and Technology has attended Certificate

course on NETWORK SIMULATOR USING NS2

during 23.8.2019 - 26.8.2019

HOD/ECE

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from Sri Raaja Raajan College of Engineering and Technology has attended Certificate

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This is to certify that Mr/Ms S.SUGANTHI

from Sri Raaja Raajan College of Engineering and Technology has attended Certificate

course on NETWORK SIMULATOR USING NS2

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certificate

This is to certify that Mr/Ms C. ROOMATHI

from Sri Raaja Raajan College of Engineering and Technology has attended Certificate

course on NETWORK SIMULATOR USING NS2

during 23.8.2019 - 26.8.2019

HOD/ECE

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

CERTIFICATE COURSE

CCTV INSTALLATION & GPS TRACKING TRAINING

SYLLABUS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY ★ KARAIKUDI

20-21

SRI RAAJA RAAJAN
COLLEGE OF ENGINEERING AND TECHNOLOGY
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136 - 4B1, Amaravathi Village,
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E-mail : srrcet2010@gmail.com
Website : www.raajaraajan.org

Certificate in CCTV Installation & GPS Tracking Training
CCTV Installer

Course Code	Course Title	Theory / Practical
JSD/EC/ 002/01	**CCTV INSTALLATION & GPS TRACKING THEORY**	**Theory**
Unit No	**Modules (Theory)**	**T (Hrs.)**
I	**Unit Title: Hardware Basics:** List types of cameras used by CCTV systems, Describe security camera types, mounts, and lighting, Describe bullet-type surveillance cameras, Explain infrared camera technology , Security cameras, Bullet , Infrared, Dome Pan-Tilt-Zoom, Hidden & IP , Miniature,	**10**
II	**Unit Title Recorders & Mounts, Enclosures & housing** Different DVR systems, types, Function and operation of DVR, Configuration of DVR system, Accessing, setting and troubleshooting basic DVR problems, Explain premises restoration purpose and methods ,Compare different types of camera mounts , Explain optimum camera beam angles, Use of Housing	**5**
III	**Unit Title: Video & Audio, Cabling Systems:** Compare types of video monitors and displays used in CCTV, Explain video amplifier usage in security systems Describe and name common cable connectors and which cable types they apply to , Explain the use of cabling standards	**5**
IV	**Unit Title: Computer Network systems:** Explain how to draw a block diagram of a residential computer network and explain the basic uses, Explain the differences between LANS (local area networks) and, Explain the importance of the residential cabling & wiring standards, Describe the purpose of a computer bus and how it is used with CCTV,	**5**
V	**Unit Title: Software , Wireless Basics & Distribution Systems:** Introduction to Operating System, Explain different storage methods for CCTV images and evidence , Playback, Backup and restore, Different DVR file players , Explain how wireless receivers operate within the CCTV system	**5**
VI	**Unit Title :Environmental Control, System Design, Troubleshooting , Test Equipment–Legal Issues, Wireless & IP Camera:** Explain the needs or options for CCTV equipment lighting , Explain the relevance of event recording and evidence storageList the steps in planning a CCTV original or retrofit installation, Explain the usage and precautions for multi meters, Explain the various types of liability CCTV, alarm and security firms may experience ,	**10**
	Total	**40**

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

CERTIFICATE COURSE

CCTV INSTALLATION & GPS TRACKING TRAINING

REPORT

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

SRI RAAJA RAAJAN
COLLEGE OF ENGINEERING AND TECHNOLOGY
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Mobile : 73737 11331, 73737 11338
E-mail : principal@raajaraajan.edu
Website : www.raajaraajan.edu

REPORT

Department of Electronics and Communication Engineering has organized certificate Course Titled **"Certificate in CCTV Installation & GPS Tracking Training"** on 02.7.2020 to 5.07.2020. This program started with an inauguration function. Department of Electronics and Communication Engineering student Ms.R.Ajitha Final year, B.E, Department of Electronics and Communication Engineering deliver welcome address. Resource person Mr.Muthuraj has address a key note about the program. The Principal, Dr.A.L.Mayilvahanan, Sri Raaja Raajan college of engineering and Technology, karaikudi and the Head of Department, Mr. T.N. Balaji of Sri Raaja Raajan college of engineering and Technology, Karaikudi has consented felicitation address. The students learnt basics of CCTV INSTALLATION. Create and maintain hardware requirements specification and hardware interface control documentsPerforms SPICE analysis of circuits using Altium/ORCAD PSPICE tools. The program was successfully completed on 5.07.2020 with a valedictory function. Resource person Mr.Muthuraj and students of Department of Electronics and Communication Engineering express feedback about the program and participation certificates are distributed to all the participants. The program valedictory with an vote of thanks by the student Mr. S.Prema Final year, Department of Electronics and Communication Engineering and national anthem.

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

CERTIFICATE COURSE

CCTV INSTALLATION & GPS TRACKING TRAINING

REGISTRATION DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING & TECHNOLOGY
AMARAVATHIPUDUR, KARAIKUDI-630 301.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

"Certificate in CCTV Installation & GPS Tracking Training"

Registration Details

Sl No	Register Number	Student Name	SIGNATURE
1	912517106001	ABINAYA.C	C. Abinaya
2	912517106002	ABINAYA.S	S. Abinaya
3	912517106003	AJITHA .R	R. Ajitha
4	912517106004	A.ARUNKUMAR	A. Arunkumar
5	912517106005	BARVIN BANU.I	I Barvin
6	912517106006	CAROLINE.J	J. Caroline
7	912517106008	DEEPA.K	K. Deepa
8	912517106009	DHINESH.K	K. Dhinesh
9	912517106010	EZHILNILA.U	U. Ezhilnila
10	912517106012	JOTHIKA.D	D. Jothika
11	912517106013	KARPAGAM.A	A. Karpagam
12	912517106016	NALINI.M	M. Nalini
13	912517106017	NANTHINI.R	R. Nanthini
14	912517106018	NIVETHA.R	R. Nivetha
15	912517106019	PANDIMEENAL.G	G. Pandimeenal
16	912517106020	PREETHI.M	M. Preethi
17	912517106021	PREMA.S	S. Prema
18	912517106022	PRIYADHARSHINI.M	M. Priyadharshini
19	912517106024	RATHIGA.S	S. Rathiga
20	912517106025	RATHNA.P	P. Rathna
21	912517106026	SANGEETHA.S(7.6.1999)	S. Sangeetha
22	912517106027	SANGEETHA.S(3.2.2000)	S. Sangeetha
23	912517106028	SARANYA.G	G. Saranya
24	912517106029	SARATHA.S	S. Saratha
25	912517106030	SOLAIYAMMAL.R	R. Solaiyammal
26	912517106032	SUTHA.S	S. Sutha
27	912517106301	AYYAPPAN.M	M. Ayyappan
28	912517106302	VENKATESWARAN.M	M. Venkatesh

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

CERTIFICATE COURSE

CCTV INSTALLATION & GPS TRACKING TRAINING

ATTENDANCE DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY ★ KARAIKUDI

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING & TECHNOLOGY

AMARAVATHIPUDUR, KARAIKUDI-630 301.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINNERING

"Certificate in CCTV Installation & GPS Tracking Training"

S. No	REG. NUMBER	NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
DATE			2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	5	5	5	5	5	5	5
MONTH			7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
CLASS HOURS			1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1	912517106001	ABINAYA.C	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2	912517106002	ABINAYA.S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	912517106003	AJITHA .R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4	912517106004	A.ARUNKUMAR	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	912517106005	BARVIN BANU.I	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	912517106006	CAROLINE.J	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	912517106008	DEEPA.K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
8	912517106009	DHINESH.K	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
9	912517106010	EZHILNILA.U	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
10	912517106012	JOTHIKA.D	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11	912517106013	KARPAGAM.A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
12	912517106016	NALINI.M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13	912517106017	NANTHINI.R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
14	912517106018	NIVETHA.R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15	912517106019	PANDIMEENAL.G	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
16	912517106020	PREETHI.M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
17	912517106021	PREMA.S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
18	912517106022	PRIYADHARSHINI.M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
19	912517106024	RATHIGA.S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
20	912517106025	RATHNA.P	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
21	912517106026	SANGEETHA.S(7.6.1999)	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
22	912517106027	SANGEETHA.S(3.2.2000)	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
23	912517106028	SARANYA.G	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
24	912517106029	SARATHA.S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
25	912517106030	SOLAIYAMMAL.R	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
26	912517106032	SUTHA.S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
27	912517106301	AYYAPPAN.M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
28	912517106302	VENKATESWARAN.M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

CERTIFICATE COURSE

CCTV INSTALLATION & GPS TRACKING TRAINING

ASSESSMENT DETAILS

KARAIKUDI

SRI RAAJA RAAJAN
COLLEGE OF ENGINEERING AND TECHNOLOGY
(Approved by AICTE, New Delhi & Affiliated to Anna University)

146 /4B1, Amaravathi Village,
Amaravathipudur (Po.),
Karaikudi – 630 301.
Ph : 04565 – 234230 / 326132

Fax : 04565 – 234430
Mobile : 73737 11322, 73737 11333
E-mail : srrcet2010@gmail.com
Website: www.raajaraajan.org

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
PRACTICAL EXAMINATIONS QUESTION PAPER
CERTIFICATE COURSE – CCTV INSTALLATION & GPS TRACKING

(Answer any one)

Max. Marks: 80
Time: 3 Hrs

Aim/Principle/Apparatus required/Procedure	Tabulation/Circuit/ Program/Drawing	Calculation & Results	Viva-Voce	Record	Total
20	20	20	10	10	80

1. To Adjust LCD and Key Panel Brilliance & Display modes.
2. To Change Track Plotting Interval, Stop Recording.
3. To edit waypoints on the plotter display & edit waypoints on the list.
4. To set a destination waypoint with the cursor.
5. Installation of Receiver unit.
6. Design CCTV system.
7. Designing the wired and wireless medium.
8. Design video storage & video analytics.
9. Design image from thermal camera.
10. To write the components of CCTV systems.

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PRINCIPAL
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Sivagangai Dist. Tamil Nadu

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
AMARAVATHIPUDUR
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE COURSE ON CCTV INSTALLATION & GPS TRACKING
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT :
YEAR :
DEPARTMENT :

1). GNSS systems are _____.

- GPS
- GLONASS
- Galileo
- All the above

2). During which year the project on GPS was launched?

- 1970
- 1971
- 1972
- 1973

3). Who are the members involved in the success of GPS invention?

- Roger L. Easton
- Ivan A. Getting
- Bradford Parkinson
- All the above

4). A test on General Relativity was proposed by _____.

- Roger L. Easton
- Ivan A. Getting
- Bradford Parkinson
- Friedwardt Winterberg

5). Global Positioning System (GPS) is operated by _____?

- Russian Space Force
- China Space Force
- United States Space Force

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY ★ KARAIKUDI

- French Air and Space Force

6). A receiver at GPS calculates the self time and position basing on the received data from the different _____.

- Satellites
- Radio waves
- Atomic clocks
- None of the above

7). _____ is present on the satellites of GPS to contribute the accurate time information.

- Antenna
- Transponder
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- All the above

8). How many minimum satellites are operational in the constellation of GPS?

- 24
- 25
- 26
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9). The degradation in the quality of GPS by the government of the U.S. discontinued by whom?

- Ivan A. Getting
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10). Which country developed GLONASS in contemporary with the GPS?

- China
- India
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11). Galileo system for Navigation is operated by _____.

- China

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- India
- Europe
- Russia

12). Compass satellite system of navigation is operated under _____ government.

- Chinese
- Indian
- European
- Russian

13). The satellites meant for GPS orbits in _____.

- Low Earth Orbit (LEO)
- Medium Earth Orbit (MEO)
- Geosynchronous Orbit (GSO)
- Geostationary Equatorial Orbit (GEO)

14). Once the Selective Availability got lifted the accuracy of GPS was for _____ meters.

- 3
- 4
- 5
- 6

15). The mathematical principle involved in GPS is _____?

- Graphical Resection
- Analytical Resection
- Trilateration
- Triangulation

16). The services offered by GPS _____?

- Positioning, Navigation and Timing
- Pollution, Navigation and Temperature
- Position, Navigation and Temperature
- Position, Network and Timing

17). The satellites placed in the constellation of GPS arranged into _____ orbital are surrounded to Earth?

- Five
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18). The term 'Epoch' in GPS is a coded sequence of _____.

- Time of Departure
- Time of Closure
- Time of Arrival (TOA)
- None of the above

19). The two satellites and its extensions connecting line forming the axis of _____.

- Parabola
- Hyperboloid
- Ellipse
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20). Based on _____ a receiver of GPS indicates how far the satellite located is.

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AMARAVATHIPUDUR
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE COURSE ON CCTV INSTALLATION & GPS TRACKING
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT : D. Jothika
YEAR : III
DEPARTMENT : ECE

19
20

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE COURSE ON CCTV INSTALLATION & GPS TRACKING
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT : R. Deepa
YEAR III
DEPARTMENT ECE

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE COURSE ON CCTV INSTALLATION & GPS TRACKING
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT : I. Barvin Banu
YEAR : III
DEPARTMENT : ECE

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
"Certificate in CCTV Installation & GPS Tracking Training"

MARK DETAILS

S.NO	REGISTER NUMBER	NAME OF THE STUDENT	THEORY	PRACTICAL	TOTAL
1	912517106001	ABINAYA.C	16	78	94
2	912517106002	ABINAYA.S	19	72	91
3	912517106003	AJITHA .R	16	75	91
4	912517106004	A.ARUNKUMAR	17	74	91
5	912517106005	BARVIN BANU.I	19	79	98
6	912517106006	CAROLINE.J	18	76	94
7	912517106008	DEEPA.K	19	74	93
8	912517106009	DHINESH.K	17	75	92
9	912517106010	EZHILNILA.U	18	71	89
10	912517106012	JOTHIKA.D	19	75	94
11	912517106013	KARPAGAM.A	15	79	94
12	912517106016	NALINI.M	16	78	94
13	912517106017	NANTHINI.R	18	76	94
14	912517106018	NIVETHA.R	19	72	91
15	912517106019	PANDIMEENAL.G	16	75	91
16	912517106020	PREETHI.M	17	74	91
17	912517106021	PREMA.S	19	79	98
18	912517106022	PRIYADHARSHINI.M	18	76	94
19	912517106024	RATHIGA.S	18	74	92
20	912517106025	RATHNA.P	16	78	94
21	912517106026	SANGEETHA.S(7.6.1999)	18	76	94
22	912517106027	SANGEETHA.S(3.2.2000)	19	72	91
23	912517106028	SARANYA.G	16	75	91
24	912517106029	SARATHA.S	17	74	91
25	912517106030	SOLAIYAMMAL.R	19	79	98
26	912517106032	SUTHA.S	18	76	94
27	912517106301	AYYAPPAN.M	17	75	92
28	912517106302	VENKATESWARAN.M	18	71	89

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021)

CERTIFICATE COURSE

CCTV INSTALLATION & GPS TRACKING TRAINING

CERTIFICATE DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING ANDTECHNOLOGY

APPROVED BY AICTE, NEW DELHI & AFFLIATED BY ANNA UNIVERSITY, CHENNAI

AMARAVATHIPUDUR, KARAIKUDI - 630 301, SIVAGANGAI DIST.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Organizes

Certificate courses

certificate

This is to certify that ~~Mr~~/Ms ABINAYA.C

from Sri Raaja Raajan College of Engineering and Technology has attended Certificate course on CCTV INSTALLATION & GPS TRACKING TRAINING during 2.7.2020 - 5.07.2020

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING KARAIKUDI

HOD/ECE

PRINCIPAL

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

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certificate

This is to certify that ~~Mr~~/Ms AJITHA.R

from Sri Raaja Raajan College of Engineering and Technology has attended Certificate course on CCTV INSTALLATION AND GPS TRACKING TRAINING during 02.07.20 - 5.07.20

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY KARAIKUDI

HOD/ECE

PRINCIPAL

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This is to certify that ~~Mr~~/Ms PREETHI.M

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SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY KARAIKUDI

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

CERTIFICATE COURSE

PCB DESIGN ENGINEER

SYLLABUS

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146 3B1, Amaravathi Village,
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Karaikudi - 630 301.
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Mobile : 73737 11322, 73737 11333
E-mail : srrcet2010@gmail.com
Website: www.raajaraajan.org

PCB Design Engineer

Qualification:	**: PCB Design Engineer**
Sector:	**:PCB Assembly**
SUB-SECTOR OCCUPATION:	**PCB Design**
Role Description:	Assisting R&D to research on new products, working with systems designer to create initial designs, library management for component building, testing and finalizing design.
Minimum Educational :Qualifications Maximum Educational Qualifications:	Diploma BE
Duration:	**30 Hrs**

Outcome	Course Content	Hrs.
Acquire the basic level knowledge required to understand PCBs, history of PWBs/PCBs, types of PCBs, basic electronics and components values, polarities, packages of Electronic components, SMD type components and process of PCB design and product development flow	**Printed circuit Board Design:** History of Printed Circuit Boards. Various types of Printed Circuit Boards-Single Sided Boards, Double Sided Plated through Hole Boards, multilayer Boards. Study of Packages of Electronic Components. Study of SMD Components. Process of PCB design and product development flow	15
Understanding the flow of computer aided design packages. Understand the rules before PCB Designing.	**Schematic Design:** Study of PCB Design packages such as Or CAD, eagle, PADs, PCB123 software for schematic capture, PCB design and layout tools (any two). • Starting a project • Working with schematic design tools • Schematic drawing from circuit • Rules for PCB Design • Standards for PCB Design • Placing, editing, and connecting parts and electrical symbols • About libraries and parts • Creating a net list • Exporting and importing schematic data • Basic Circuit simulation using EDA tool	15
Understand the methods of soldering of PCBs, material used in soldering process. Understand the methods of soldering.	**Soldering Techniques :** Materials used in Soldering Process. Types of soldering techniques. Soldering Methods –Manual and Mass soldering Techniques. Tools for soldering and de-soldering. Study of soldering defect and rectification. Testing for quality Control.	15

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Sivagangai Dist. Tamil Nadu

Understand the basic concept of SMD Soldering and understand repair and rework methods	Introduction to SMD soldering methods, placing methods of SMDs, study of material for SMD soldering. Rework and Repairing methods.	15
Practical/Tutorial	Based on theory- practical and Assignment in Design, Manufacturing and Assembly	15

Learning Outcome:

- Students will acquire the basic level knowledge and will understand the packages of Electronic components, types of PCBs and history of PCBs.
- Students will understand the rules before PCB Designing, the flow of computer aided design packages and will Acquire the importance of manufacturing documents (output file generation)
- Understand the basic concept of how to design PCB for Manufacturing and assembly point of view.
- Acquire the basic level knowledge required to understand Film Master Generation method, material used for manufacturing, cleaning methods of base material.
- Understand the methods for manufacturing of PCBS. Type of material used for manufacturing.
- Understand the mechanical method in manufacturing.
- Understand the basic concept of fault finding /repair and rework methods
- Acquire the basic level knowledge required to understand assembly techniques for leaded and SMDs.
- Acquire the basic level knowledge of use of various tools during assembly.
- Understand the methods of soldering of PCBs., material used in soldering process. Understand Methods of soldering.
- Understand the basic concept of SMD Soldering and understand repair and rework methods
- Understand the design and manufacturing Techniques of Printed Circuit Boards.

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

CERTIFICATE COURSE

PCB DESIGN ENGINEER

REPORT

SRI RAAJAH COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

SRI RAAJA RAAJAN
COLLEGE OF ENGINEERING AND TECHNOLOGY
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REPORT

Department of Electronics and Communication Engineering has organized certificate Course Titled "**PCB DESIGN ENGINEER** " on 13.7.2021 to 16.07.2021. This program started with an inauguration function. Department of Electronics and Communication Engineering student Ms.S. Kaveeta Final year, B.E, Department of Electronics and Communication Engineering deliver welcome address. Resource person Mr.S.Gnanasambanthan has address a key note about the program. The Principal, Dr.A.L.Mayilvahanan, Sri Raaja Raajan college of engineering and Technology, karaikudi and the Head of Department, Mr. T.N. Balaji of Sri Raaja Raajan college of engineering and Technology, Karaikudi has consented felicitation address. The students learnt basics of PCB Design Engineer. Create and maintain hardware requirements specification and hardware interface control documents Performs SPICE analysis of circuits using Altium/OrCAD PSPICE tools. The program was successfully completed on 16.07.2021 with a valedictory function. Resource person Mr.S.Gnanasambanthan and students of Department of Electronics and Communication Engineering express feedback about the program and participation certificates are distributed to all the participants. The program valedictory with an vote of thanks by the student Mr. N.Kaleeswaran Final year, Department of Electronics and Communication Engineering and national anthem.

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

CERTIFICATE COURSE

PCB DESIGN ENGINEER

REGISTRATION DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING & TECHNOLOGY
AMARAVATHIPUDUR, KARAIKUDI-630 301.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

PCB Design Engineer

REGISTRATION DETAILS

S.NO	REGISTER NEMBER	NAMEOFTHE STUDENT	SIGNATURE
1	912518106001	R. Ajay	R. Ajay
2	912518106002	S. Divya	S. Divya.
3	912518106003	K. Kakkan	Kakkan
4	912518106004	N.Kaleeswaran	N.
5	912518106005	I.Karpaga thendral	Karpagathendral.
6	912518106007	A.Karuppaye	A. K
7	912518106009	K.Lingarajan	Lingarajan.
8	912518106010	C.Manimegalai	Manimegalai
9	912518106011	A.Manjavisree	A. Manja.
10	912518106013	R.Praveen kumar	Praveenkumar
11	912518106014	G.Ramba	G. Ramba.
12	912518106015	N.Sathya priya	Sathya Priya
13	912518106016	S.Shelciya	Shelciya.
14	912518106017	P.Suganthi	P. Suganthi
15	912518106018	C.Vidhya	C. Vidhya

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

CERTIFICATE COURSE

PCB DESIGN ENGINEER

ATTENDANCE DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
KARAIKUDI

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING & TECHNOLOGY

AMARAVATHIPUDUR, KARAIKUDI-630 301.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINNERING

PCB Design Engineer

S. No	REG. NUMBER	NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
DATE			13	13	13	13	13	13	13	13	14	14	14	14	14	14	14	14	15	15	15	15	15	15	15	16	16	16	16	16	16	16
MONTH			7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
CLASS HOURS			1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1	912518106001	R. Ajay	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2	912518106002	S. Divya	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	912518106003	K. Kakkan	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4	912518106004	N.Kaleeswaran	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	912518106005	I.Karpaga thendral	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	912518106007	A.Karuppaye	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	912518106009	K.Lingarajan	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
8	912518106010	C.Manimegalai	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
9	912518106011	A.Manjavisree	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
10	912518106013	R.Praveen kumar	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11	912518106014	G.Ramba	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
12	912518106015	N.Sathya priya	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13	912518106016	S.Shelciya	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
14	912518106017	P.Suganthi	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15	912518106018	C.Vidhya	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

CERTIFICATE COURSE

PCB DESIGN ENGINEER

ASSESSMENT DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY ★ KARAIKUDI

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
PRACTICAL EXAMINATIONS QUESTION PAPER
CERTIFICATE COURSE – PCB DESIGN ENGINEER

(Answer any one)

Max. Marks: 80
Time: 3 Hrs

Aim/Principle/Apparatus required/Procedure	Tabulation/Circuit/ Program/Drawing	Calculation & Results	Viva-Voce	Record	Total
20	20	20	10	10	80

1. Introduction to circuit creation and simulation software TINAPRO.
2. Introduction to Layout Tool, and creating Layout board using TINAPRO.
3. Design a half wave rectifier using TINAPRO and observe its output on a virtual oscilloscope.
4. Design a full wave centre tapped rectifier using TINAPRO & its output on a virtual oscilloscope.
5. Design a clipper circuits using TINAPRO.
6. Design a clamper circuits using TINAPRO.
7. Design a RLC resonance circuit & verify the transient response for different values of R, L &C.
8. Convert the power supply circuit into PCB & simulates its 2D & 3D view.
9. Introduction of the materials required for the fabrication of PCB's
10. Development of PCB in hardware lab.

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SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY
AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING
CERTIFICATE COURSE ON PCB DESIGN ENGINEER
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT :
YEAR :
DEPARTMENT :

1). Metal surfaces of smaller areas embedded in PCB's are _____?

Traces

Planes

Targets

Regions

2). What is a firm structure with targets and planes embedded in it known as?

Electrical Device

Machine

System

PCB

3). Metals of large areas embedded in PCB are known as _____?

Traces

Planes

Targets

Regions

4). Where the components placed on the board are soldered?

Traces

Planes

Metal Pads

Regions

5). FR-4 is commonly used in _____?

Rigid

Flex

Metal-core

All Mentioned Above

6). How many layers does a PCB have?

Single

Double

Multiple

All Mentioned Above

7). Dielectric core used in PCB design have _____ electrical conduction?

Poor

High

Severe

Highest

8). What ensures pure transmission in PCB design?

Traces

Planes

Metal Pads

Dielectric Core

9). Dielectric material utilized in the PCBs is _____?

Resistant

Pads

Metal Traces

Flame Resistant

10). Flame-resistant in PCB design consists of _____?

Epoxy Resin

Woven Fiberglass Cloth

Resistant

a & b

11). Traces and planes utilized in PCB designing comprises of _____?

Lead

Copper

Silver

Titanium

12). What are the various classes of PCB?

Class 1

Class 2

Class 3

All Mentioned Above

13). What does a class of PCB determine?

Reliability of Design

Quality of Design

Quantity of Design

a & b

14). Which board is designated for consumer electronics?

Class 1

Class 2

Class 3

Class 4

15). Where does a class 2 PCB is used?

High Reliability Concerned

Failure Minimized

Consumer Electronics

a & b

16). What class PCBs are used in minimizing failures?

Class 1

Class 2

Class 3

Class 4

17). Which class PCB has the most exact standard of manufacturing?

Class 1

Class 2

Class 3

Class 4

18). What are the general categories of PCBs?

Rigid

Flex

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All Mentioned Above

19). What category of PCBs are available in vast majorities?

Rigid

Flex

Metal-core

All Mentioned Above

20). How does the rigid PCB substrate is created?

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High Heat

Pressure Lamination

Low Heat

a & b

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AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING
CERTIFICATE COURSE ON PCB DESIGN ENGINEER
EXAMINATION QUESTION PAPER

NAME OF THE STUDENT : A. Karuppaye.
YEAR : IV
DEPARTMENT : ECE

1). Metal surfaces of smaller areas embedded in PCB's are _____?

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Planes

Targets

Regions

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Machine

System

PCB

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Regions

5). FR-4 is commonly used in _____?

Rigid

Flex

Metal-core

All Mentioned Above

6). How many layers does a PCB have?

Single

19/20

Double

Multiple

All Mentioned Above

7). Dielectric core used in PCB design have _____ electrical conduction?

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High

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AMARAVATHIPUDUR
DEPARTMENT OF
ELECTRONICS & COMMUNICATION ENGINEERING
CERTIFICATE COURSE ON PCB DESIGN ENGINEER
EXAMINATION QUESTION PAPER

17/20

NAME OF THE STUDENT : K. LINGARAJAN
YEAR : IV
DEPARTMENT : ECE

1). Metal surfaces of smaller areas embedded in PCB's are _____?

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Regions

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Pressure Lamination

Low Heat

a & b

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AMARAVATHIPUDUR, KARAIKUDI-630 301.

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

PCB Design Engineer

MARK DETAILS

S.NO	REGISTER NUMBER	NAME OF THE STUDENT	THEORY	PRACTICAL	TOTAL
1	912518106001	R. Ajay	17	76	93
2	912518106002	S. Divya	15	78	93
3	912518106003	K. Kakkan	16	74	90
4	912518106004	N.Kaleeswaran	18	71	89
5	912518106005	I.Karpaga thendral	17	75	92
6	912518106007	A.Karuppaye	19	79	98
7	912518106009	K.Lingarajan	17	78	95
8	912518106010	C.Manimegalai	18	76	94
9	912518106011	A.Manjavisree	19	72	91
10	912518106013	R.Praveen kumar	16	75	91
11	912518106014	G.Ramba	17	74	91
12	912518106015	N.Sathya priya	18	72	90
13	912518106016	S.Shelciya	15	78	93
14	912518106017	P.Suganthi	15	74	89
15	912518106018	C.Vidhya	18	76	94

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DEPARTMENT OF ELECTRONICS & COMMMUNICATION ENGINEERING

ACADEMIC YEAR (2021-2022)

CERTIFICATE COURSE

PCB DESIGN ENGINEER

CERTIFICATE DETAILS

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING AND TECHNOLOGY ★ KARAIKUDI

SRI RAAJA RAAJAN COLLEGE OF ENGINEERING ANDTECHNOLOGY

APPROVED BY AICTE, NEW DELHI & AFFLIATED BY ANNA UNIVERSITY, CHENNAI

AMARAVATHIPUDUR, KARAIKUDI – 630 301, SIVAGANGAI DIST.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Organizes

Certificate courses

certificate

This is to certify that Mr/Ms S. DIVYA

from Sri Raaja Raajan College of Engineering and Technology has attended Certificate

course on PCB DESIGN ENGINEER

during 13.7.2021 - 16.7.2021.

HOD/ECE

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This is to certify that Mr/Ms A. KARUPPAYE

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from Sri Raaja Raajan College of Engineering and Technology has attended Certificate course on PCB DESIGN ENGINEER.

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This is to certify that Mr/Ms T. KARPAGA THENDRAL

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from Sri Raaja Raajan College of Engineering and Technology has attended Certificate

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This is to certify that Mr/Ms G. RAMBA

from Sri Raaja Raajan College of Engineering and Technology has attended Certificate

course on PCB DESIGN ENGINEER

during 13.7.2021 – 16.7.2021

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