

Alva's Institute of Engineering & Technology

Shobhavana Campus, Mijar, Moodbidri, D.K - 574225

Phone: 08258-262725, Fax: 08258-262726

Department of Electronics and Communication Engineering



A Report on

MATLAB and its application in Signal and Image Processing

Certification Course

2016 -17



Alva's Institute of Engineering & Technology
Shobhavana Campus, Mijar, Moodbidri, D.K - 574225
Phone: 08258-262725, Fax: 08258-262726
DEPT. OF ELECTRONICS & COMMUNICATION ENGINEERING

Ref/AIET/ECE/CC/2016-17/002

From,

Date: 04-10-2016

Dr. D V Manjunatha
HOD, ECE
Alva's Institute of Engineering and Technology
Moodbidri.

To,

The Principal
Alva's Institute of Engineering and Technology
Moodbidri.

Respected Sir,

Sub: Requisition for Conducting Certification Course

reg:-

With reference to the above subject, we are planning to conduct a certification course for final year students on the topic "**MATLAB and its Application in Signal and Image Processing**" from 11-10-2016 to 15-10-2016.

So I kindly request you to grant the permission for conducting the certification course.

Thanking you

Your's faithfully

Dr. D V Manjunatha

Head of the Department

H. O. D.

Dept. Of Electronics & Communication
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225

Dr. Peter Fernandes

The Principal

AIET Moodbidri
PRINCIPAL

Alva's Institute of Engg. & Technology,
Mijar, MOODBIDRI - 574 225, D.K



Alva's Institute of Engineering & Technology

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DEPT. OF ELECTRONICS & COMMUNICATION ENGINEERING

From,

Dr. D V Manjunatha
HOD, ECE
Alva's Institute of Engineering and Technology
Moodbidri.

To,

Mr. Sanjeeva Kybakaddi
ITIE knowledge Solutions
Bangalore.

Respected Sir,

Sub: Invitation for Conducting Certification Course

reg:-

With reference to the above subject, we are planning to conduct a certification course for final year students on the topic **"MATLAB and its Application in Signal and Image Processing"** from 11-10-2016 to 15-10-2016.

So I kindly request you to accept the invitation and enhance the knowledge of our students in the field of Signal and Image Processing.

Thanking you

Your's faithfully

05-10-2016

Moodbidri

Dr. D V Manjunatha
Head of the Department

H. O. D.

Dept. Of Electronics & Communication
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225

**ALVA'S INSTITUTE OF ENGINEERING AND
TECHNOLOGY**

**Dept. of Electronics and Communication
Engineering**

*Certification Course
On*

**"MATLAB and its Application in
Signal and Image Processing"**

To,

.....

.....

**Dept. of Electronics and Communication
Engineering**

We cordially invite you to the
Certification Course
On

**"MATLAB and its Application in Signal and
Image Processing"**

By

**Mr.Sanjeeva Kybakaddi,
ITIE knowledge Solutions,
Bangalore**

Venue: Internet Lab

Date: 11/10/2016 to 15/10/2016

Mr. Santhosh S
Staff Coordinators

Dr. D V Manjunatha
HOD

About the Institution

Alva's Institute of Engineering & Technology (AIET) is a premier Engineering Institute of Alva's Education Foundation established in the year 2008.

AIET is recognized by All India Council for Technical Education (AICTE), New Delhi and affiliated to Visvesvaraya Technological University (VTU), Belgaum, approved by Govt. of Karnataka. Ranked as one of the best Technical Institute in Dakshina Kannada region. AIET has established Multi-Disciplinary Research Centers viz Center for Robotics, EMS, CAD Center, Linux Lab.

About the Department

Department of Electronics & Communication was started in the year 2008-09. ECE branch is concerned with the design, development, manufacture and application of electronic devices, circuits and systems. It plays great emphasis on deep understanding of fundamental principles and state of the art knowledge about Electronic Devices and Circuits, Computer Architecture and Microprocessors, VLSI and Embedded systems, Electromagnetic Field Theory,

Analog and Digital Communication, Digital Signal Processing, Microwave and Broadband Communications, MEMS Research and Development Lab.

Scope of the Course

Advances in integrated circuit technology have had a major impact on where and how digital signal processing techniques and hardware are applied. An understanding of digital signal processing fundamentals and techniques is essential for anyone whose work is concerned with signal processing applications.

This course introduces the basic concepts and principles underlying discrete-time signal processing. Concepts will be illustrated using examples of standard technologies and algorithms.

Course Content

1. Fundamental of Signal Processing.
2. Introduction of MATLAB.
3. Analog to Digital Conversions.
4. Design of Filters.
5. Convolution and Correlation.
6. Color Image Processing.
7. Color Models.

RESOURCE PERSON

Mr.Sanjeewa Kybakaddi,
ITIE knowledge Solutions,
Bangalore

PROGRAM SCHEDULE

October 11, 2016

Introduction:	09:00 am to 10:30 am
Tea Break:	10:30 am to 11:00 am
Session 1:	11:00 am to 01:00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 2:	02:00 pm to 05:00 pm

October 12, 2016

Session 3:	09.30 am to 11:00 am
Tea Break:	11:00 am to 11:15 am
Session 3:	11:15 am to 01:00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 4:	02:00 pm to 05:00 pm

October 13, 2016

Session 5:	09.30 am to 11:00 am
Tea Break:	11:00 am to 11:15 am
Session 5:	11:15 am to 01:00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 6:	02:00 pm to 05:00 pm

October 14, 2016

Session 7:	09.30 am to 11:00 am
Tea Break:	11:00 am to 11:15 am
Session 7:	11:15 am to 01:00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 8:	02:00 pm to 05:00 pm

October 15, 2016

Session 9:	09.30 am to 11:00 am
Tea Break:	11:00 am to 11:15 am
Session 9:	11:15 am to 01:00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 10:	02:00 pm to 04:00 pm
Valedictory:	04:00 pm to 05:00 pm



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Department of Electronics and Communication Engineering

Date: 06/10/2016

Circular

It is hereby informed that the department of ECE is conducting certification course for final year students on the topic "MATLAB and its Application in Signal and Image Processing" from 11-10-2016 to 15-10-2016. For further details meet the coordinator.

Coordinator
Mr. Santhosh S

HOD

H. O. D.

Dept. Of Electronics & Communication
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225



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Department of Electronics and Communication Engineering

VII Semester student list for Certification Course

It is hereby informed to all the students to attend the certification course from 9.00am to 5.00pm without fail.

Sl. No	USN	NAME OF THE STUDENT
1.	4AL11EC017	Nixon Sharma B
2.	4AL11EC036	Madan Gopal.G
3.	4AL11EC041	Mohammed Sanoob
4.	4AL11EC057	Sachin Gowda B S
5.	4AL11EC074	Shyamlal S
6.	4AL11EC077	Yashodhara Gowda
7.	4AL12EC002	Aishwarya Shetti
8.	4AL12EC007	Akshaya Kumar V B
9.	4AL12EC019	Anuraj V
10.	4AL12EC042	Manu Kiran
11.	4AL12EC057	Rai Kaushik Shivaram
12.	4AL13EC002	Abhishek G A
13.	4AL13EC003	Adarsh S Shettigar
14.	4AL13EC004	Aishwarya Keni
15.	4AL13EC005	Akbarbasha H Nadaf
16.	4AL13EC006	Akshatha
17.	4AL13EC007	Akshay Kumar Shanbhogue
18.	4AL13EC009	Asha V
19.	4AL13EC010	Ashwal P R
20.	4AL13EC012	Atmanand Holeyannavar
21.	4AL13EC013	Shettigar Balaji Sadashiv
22.	4AL13EC014	Bhagyashree
23.	4AL13EC015	Bindu Patil B S
24.	4AL13EC016	Chaithra St
25.	4AL13EC017	Charith Kumar
26.	4AL13EC019	D Nootana
27.	4AL13EC020	Deekshitha Coelho
28.	4AL13EC022	Deepika
29.	4AL13EC023	Devaki Patil
30.	4AL13EC024	Dhanush K A
31.	4AL13EC026	Inchara P
32.	4AL13EC028	Jeeshan I N
33.	4AL13EC029	Jishnu Mulachan
34.	4AL13EC030	Jyothi Shetty
35.	4AL13EC031	Kadappa Jakkannavar
36.	4AL13EC033	Kirana M N
37.	4AL13EC034	Krishna Handenavar
38.	4AL13EC035	Lakshmi Sagar K N
39.	4AL13EC037	Madhushree S



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40.	4AL13EC038	Manali Jain
41.	4AL13EC039	Manasa K Moger
42.	4AL13EC040	Manaswitha M Shetty
43.	4AL13EC041	Manjunath
44.	4AL13EC042	Maruti
45.	4AL13EC043	Meghana B V
46.	4AL13EC044	Muktha V
47.	4AL13EC045	Nagaveni A Mullur
48.	4AL13EC048	Nikitha J
49.	4AL13EC049	Nischitha Charanya
50.	4AL13EC050	Nithesh J
51.	4AL13EC051	Pattem Joshna Ramesh
52.	4AL13EC054	Pooja
53.	4AL13EC055	Pooja
54.	4AL13EC056	Pooja Ashok Melavanki
55.	4AL13EC059	Prathiksha
56.	4AL13EC060	Praveen Kumar C
57.	4AL13EC061	Priya P B
58.	4AL13EC062	Raksha Satish
59.	4AL13EC063	Ramya S
60.	4AL13EC064	Ranjith S
61.	4AL13EC065	Rashmitha M
62.	4AL13EC069	Roopesh Karthik
63.	4AL13EC070	Roslin Rajan
64.	4AL13EC072	Salian Navya Vishwanath
65.	4AL13EC073	Sampath D
66.	4AL13EC074	Sandesh D M
67.	4AL13EC075	Sangeetha K M
68.	4AL13EC077	Saptha Purushothaman
69.	4AL13EC080	Shek Sharuk
70.	4AL13EC081	Shetty Abhilash Sudhakar
71.	4AL13EC082	Shetty Vridhi Sridhar
72.	4AL13EC084	Shivaraja
73.	4AL13EC086	Shreya J Francis
74.	4AL13EC087	Shreyas
75.	4AL13EC088	Shruthi
76.	4AL13EC089	Sindhu H C
77.	4AL13EC091	Soniya Thomas
78.	4AL13EC094	Srijan Kumar M
79.	4AL13EC095	Srikanth C R
80.	4AL13EC096	Sudha B S
81.	4AL13EC097	Sudhina Kotian
82.	4AL13EC099	Suparna G
83.	4AL13EC101	Syed Ismail Zabiulla
84.	4AL13EC103	Ullas U



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85.	4AL13EC104	Veena B Morabad
86.	4AL13EC106	Vignesh
87.	4AL13EC107	Vinay V
88.	4AL13EC108	Vinayabhooshan R
89.	4AL13EC109	Vinutha K R
90.	4AL13EC110	Vishnu T V
91.	4AL13EC111	Vishwas V
92.	4AL13EC112	Yamuna Chandrakant Naik
93.	4AL13EC400	Amulya R
94.	4AL13EC403	Bharath S Patil
95.	4AL13EC404	Havale Pooja Uday
96.	4AL13EC417	Sowmya G K
97.	4AL13EC421	Vinod Kumar
98.	4AL14EC400	Anilkumar
99.	4AL14EC401	Arun Kumar H
100.	4AL14EC405	Lakshmikanth
101.	4AL14EC406	Manjunath Siddan
102.	4AL14EC407	Megha S Devamane
103.	4AL14EC408	Mrudula Anil Shinde
104.	4AL14EC409	Nagaraj Jatti Naik
105.	4AL14EC410	Prashantha S
106.	4AL14EC411	Preeti Hanamanth Makani
107.	4AL14EC414	Ranjitha N
108.	4AL14EC415	Sateesha Kotin
109.	4AL14EC416	Shiddalingesh Koppal
110.	4AL14EC417	Shubham K Rashinkar
111.	4AL14EC419	Vidyashree M

HOD
H. O. D.

Dept. Of Electronics & Communication
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Department of Electronics and Communication Engineering

MATLAB and its Application in Signal and Image Processing Certification course

Attendance details-VII SEM-A Sec -Batch 1

Sl. No	USN	NAME	11/10	11/10	12/10	12/10	13/10	13/10	14/10	14/10	15/10	15/10	Signature	
1	4AL11EC017	Nixon Sharma B	1	2	3	4	5	6	7	8	9	10	Nixon	
2	4AL11EC036	Madan Gopal.G	1	2	3	4	5	6	7	8	9	10	Madan	
3	4AL11EC041	Mohammed Sanoob	1	2	3	4	5	6	7	8	9	10	Mohammed	
4	4AL11EC057	Sachin Gowda B S	1	2	4	3	4	5	6	7	8	9	Sachin	
5	4AL11EC074	Shyamlal S	1	2	3	4	5	6	7	8	9	10	Shyamlal	
6	4AL11EC077	Yashodhara Gowda	1	2	3	4	5	6	7	8	9	10	Yashodhara	
7	4AL12EC007	Akshaya Kumar V B	1	2	3	4	5	6	7	8	9	10	Akshaya	
8	4AL12EC002	AishwaryaShetti	1	2	3	4	5	6	7	8	9	10	Aishwarya	
9	4AL12EC019	Anuraj V	1	2	3	4	5	6	7	8	9	10	Anuraj	
10	4AL12EC042	Manu Kiran	1	2	3	4	5	6	7	8	9	10	Manu	
11	4AL12EC057	Rai Kaushik Shivaram	1	2	3	4	5	6	7	8	9	10	Rai Kaushik	
12	4AL13EC002	Abhishek G A	1	2	3	4	5	6	7	8	9	10	Abhishek	
13	4AL13EC003	Adarsh S Shettigar	1	2	3	4	5	6	7	8	9	10	Adarsh	
14	4AL13EC004	AishwaryaKeni	1	2	3	4	5	6	7	8	9	10	Aishwarya	
15	4AL13EC005	Akbarbasha H Nadaf	1	2	3	4	5	6	7	8	9	10	Akbarbasha	
16	4AL13EC006	Akshatha	1	2	3	4	5	6	7	8	9	10	Akshatha	
17	4AL13EC007	Akshay Kumar S	1	2	3	4	5	6	7	8	9	10	Akshay	
18	4AL13EC009	Asha V	1	2	3	4	5	6	7	8	9	10	Asha	
19	4AL13EC010	Ashwal P R	1	2	3	4	5	6	7	8	9	10	Ashwal	
20	4AL13EC012	AtmanandHoleyannavar	1	2	3	4	5	6	7	8	9	10	Atmanand	
21	4AL13EC013	ShettigarBalaji S	1	2	3	4	5	6	7	8	9	10	Shettigar	
22	4AL13EC014	Bhagyashree	1	2	3	4	5	6	7	8	9	10	Bhagyashree	
23	4AL13EC015	BinduPatil B S	1	2	3	4	5	6	7	8	9	10	Bindu	
24	4AL13EC016	Chaithra St	1	2	3	4	5	6	7	8	9	10	Chaithra	
25	4AL13EC017	Charith Kumar	1	2	3	4	5	6	7	8	9	10	Charith	



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26	4AL13EC019	D Nootana	1	2	3	4	5	6	7	8	9	10	10		
27	4AL13EC020	Deekshitha Coelho	1	2	3	4	5	6	7	8	9	10	10		
28	4AL13EC022	Deepika	1	2	3	4	5	6	7	8	9	10	10		
29	4AL13EC023	Devaki Patil	1	2	3	4	5	6	7	8	9	10	10		
30	4AL13EC024	Dhanush K A	1	2	3	4	5	6	7	8	9	10	10		
31	4AL13EC026	Inchara P	1	2	3	4	5	6	7	8	9	10	10		
32	4AL13EC028	Jeeshan I N	1	2	3	4	5	6	7	8	9	10	10		
33	4AL13EC029	Jishnu Mulachan	1	2	3	4	5	6	7	8	9	10	10		
34	4AL13EC030	Jyothi Shetty	1	2	3	4	5	6	7	8	9	10	10		
35	4AL13EC031	Kadappa Jakkannavar	1	2	3	4	5	6	7	8	9	10	10		
36	4AL13EC033	Kirana M N	1	2	3	4	5	6	7	8	9	10	10		
37	4AL13EC034	Krishna Handenavar	1	2	3	4	5	6	7	8	9	10	10		
38	4AL13EC035	Lakshmi Sagar K N	1	2	3	4	5	6	7	8	9	10	10		
39	4AL13EC037	Madhushree S	1	2	3	4	5	6	7	8	9	10	10		
40	4AL13EC038	Manali Jain	1	2	3	4	5	6	7	8	9	10	10		
41	4AL13EC039	Manasa K Moger	1	2	3	4	5	6	7	8	9	10	10		
42	4AL13EC040	Manaswitha M Shetty	1	2	4	3	4	5	6	7	8	9	10		
43	4AL13EC041	Manjunath	1	2	3	4	5	6	7	8	9	10	10		
44	4AL13EC042	Maruti	1	2	3	4	5	6	7	8	9	10	10		
45	4AL13EC043	Meghana B V	1	2	3	4	5	6	7	8	9	10	10		
46	4AL13EC044	Muktha V	1	2	3	4	5	6	7	8	9	10	10		
47	4AL13EC045	Nagaveni A Mullur	1	2	3	4	5	6	7	8	9	10	10		
48	4AL13EC048	Nikitha J	1	2	3	4	5	6	7	8	9	10	10		
49	4AL13EC049	Nischitha Charanya	1	2	3	4	5	6	7	8	9	10	10		
50	4AL13EC050	Nithesh J	1	2	3	4	5	6	7	8	9	10	10		
51	4AL13EC051	Pattam Joshna Ramesh	1	2	3	4	5	6	7	8	9	10	10		
52	4AL13EC054	Pooja	1	2	3	4	5	6	7	8	9	10	10		
53	4AL13EC055	Pooja	1	2	3	4	5	6	7	8	9	10	10		
54	4AL13EC056	Pooja Ashok Melavanki	1	2	3	4	5	6	7	8	9	10	10		
55	4AL13EC059	Prathiksha	1	2	3	4	5	6	7	8	9	10	10		
56	4AL13EC060	Praveen Kumar C	1	2	3	4	5	6	7	8	9	10	10		



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57	4AL13EC061	Priya P B	1	2	A	3	4	5	6	7	8	9	D.B.A.		
58	4AL13EC062	Raksha Satish	1	2	3	4	5	A	6	7	8	9	D.B.A.		


Coordinator


HOD

H. O. D.
Dept. Of Electronics & Communication
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Department of Electronics and Communication Engineering

MATLAB and its Application in Signal and Image Processing Certification course

Attendance details-VII SEM-B Sec -Batch 2

Sl. No	USN	NAME	11/10	11/10	12/10	12/10	13/10	13/10	14/10	14/10	15/10	15/10	Signature	
1.	4AL13EC063	Ramya S	1	2	3	4	5	6	7	8	9	10	Ramya S	
2.	4AL13EC064	Ranjith S	1	2	3	4	5	6	7	8	9	10	Ranjith S	
3.	4AL13EC065	Rashmitha M	1	2	3	4	5	6	7	8	9	10	Rashmitha M	
4.	4AL13EC069	RoopeshKarthik	1	2	3	4	5	6	7	8	9	10	RoopeshKarthik	
5.	4AL13EC070	RoslinRajan	1	2	3	4	5	6	7	8	9	10	RoslinRajan	
6.	4AL13EC072	SalianNavya V	1	2	3	4	5	6	7	8	9	10	SalianNavya V	
7.	4AL13EC073	Sampath D	1	2	3	4	5	6	7	8	9	10	Sampath D	
8.	4AL13EC074	Sandesh D M	1	2	3	4	5	6	7	8	9	10	Sandesh D M	
9.	4AL13EC075	Sangeetha K M	1	2	3	4	5	6	7	8	9	10	Sangeetha K M	
10.	4AL13EC077	SapthaPurushothaman	1	2	3	4	5	6	7	8	9	10	SapthaPurushothaman	
11.	4AL13EC080	ShekSharuk	1	2	3	4	5	6	7	8	9	10	ShekSharuk	
12.	4AL13EC081	Shetty Abhilash S	1	2	3	4	5	6	7	8	9	10	Shetty Abhilash S	
13.	4AL13EC082	Shetty Vridhi Sridhar	1	2	3	4	5	6	7	8	9	10	Shetty Vridhi Sridhar	
14.	4AL13EC084	Shivaraja	1	2	3	4	5	6	7	8	9	10	Shivaraja	
15.	4AL13EC086	Shreya J Francis	1	2	3	4	5	6	7	8	9	10	Shreya J Francis	
16.	4AL13EC087	Shreyas	1	2	3	4	5	6	7	8	9	10	Shreyas	
17.	4AL13EC088	Shruthi	1	2	3	4	5	6	7	8	9	10	Shruthi	
18.	4AL13EC089	Sindhu H C	1	2	3	4	5	6	7	8	9	10	Sindhu H C	
19.	4AL13EC091	Soniya Thomas	1	2	3	4	5	6	7	8	9	10	Soniya Thomas	
20.	4AL13EC094	Srijan Kumar M	1	2	3	4	5	6	7	8	9	10	Srijan Kumar M	
21.	4AL13EC095	Srikanth C R	1	2	3	4	5	6	7	8	9	10	Srikanth C R	
22.	4AL13EC096	Sudha B S	1	2	3	4	5	6	7	8	9	10	Sudha B S	
23.	4AL13EC097	SudhinaKotian	1	2	3	4	5	6	7	8	9	10	SudhinaKotian	
24.	4AL13EC099	Suparna G	1	2	3	4	5	6	7	8	9	10	Suparna G	
25.	4AL13EC101	Syed Ismail Zabiulla	1	2	3	4	5	6	7	8	9	10	Syed Ismail Zabiulla	
26.	4AL13EC103	Ullas U	1	2	3	4	5	6	7	8	9	10	Ullas U	



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27.	4AL13EC104	Veena B Morabad	1	2	3	4	5	6	7	8	9	10	Ven
28.	4AL13EC106	Vignesh	1	2	3	4	5	6	7	8	9	10	Vign
29.	4AL13EC107	Vinay V	1	2	3	4	5	6	7	8	9	10	Vinay
30.	4AL13EC108	Vinayabhooshan R	1	2	3	4	5	6	7	8	9	10	Vinay
31.	4AL13EC109	Vinutha K R	1	2	3	4	5	6	7	8	9	10	Vinutha
32.	4AL13EC110	Vishnu T V	1	2	3	4	5	6	7	8	9	10	Vishnu
33.	4AL13EC111	Vishwas V	1	2	3	4	5	6	7	8	9	10	Vishwas
34.	4AL13EC112	Yamuna Chandrakant N	1	2	3	4	5	6	7	8	9	10	Yamuna
35.	4AL13EC400	Amulya R	1	A	2	3	4	5	6	7	8	9	Amulya
36.	4AL13EC403	Bharath S Patil	1	2	3	4	5	6	7	8	9	10	Bharath
37.	4AL13EC404	Havale Pooja Uday	1	2	3	4	5	6	7	8	9	10	Havale
38.	4AL13EC421	Vinod Kumar	1	2	3	4	5	6	7	8	9	10	Vinod
39.	4AL13EC417	Sowmya G K	1	2	3	4	5	A	6	7	8	9	Sowmya
40.	4AL14EC400	Anilkumar	1	2	3	4	5	6	7	8	9	10	Anilkumar
41.	4AL14EC401	Arun Kumar H	1	2	3	4	5	6	7	8	9	10	Arun
42.	4AL14EC405	Lakshmikanth	1	2	3	4	5	6	7	8	9	10	Lakshmikanth
43.	4AL14EC406	ManjunathSiddan	1	2	3	4	5	6	7	8	9	10	Manjunath
44.	4AL14EC407	Megha S Devamane	1	2	3	4	5	6	7	8	9	10	Megha
45.	4AL14EC408	Mrudula Anil Shinde	1	2	3	4	5	6	7	8	9	10	Mrudula
46.	4AL14EC409	Nagaraj JattiNaik	1	A	2	3	4	5	6	7	8	9	Nagaraj
47.	4AL14EC410	Prashantha S	1	2	3	4	5	6	7	8	9	10	Prashantha
48.	4AL14EC411	PreetiHanamanth M	1	2	3	4	5	6	7	8	9	10	Preeti
49.	4AL14EC414	Ranjitha N	1	2	3	4	5	6	7	8	9	10	Ranjitha
50.	4AL14EC415	SateeshaKotin	1	2	3	4	5	6	7	A	8	9	Sateesha
51.	4AL14EC416	ShiddalingeshKoppal	1	2	3	4	5	6	7	8	9	10	Shiddalingesh
52.	4AL14EC417	Shubham K Rashinkar	1	2	3	4	5	6	7	8	9	10	Shubham
53.	4AL14EC419	Vidyashree M	1	2	3	4	A	5	6	7	8	9	Vidyashree


Coordinator



HOD

H. O. D.

Dept Of Electronics & Communication
Alva's Institute of Engg. & Technology
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ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY



(A unit of Alva's Education Foundation, Moodbidri)
Shobhavana Campus, Mijar, Moodbidri DK Karnataka-574225
(Affiliated to VTU, Belgaum, Approved by AICTE, New Delhi)



Department of Electronics and Communication Engineering

Certificate

This is to certify that Mr./Ms..... of

Semester, Electronics & Communication Department, has attended the Certification Course on **"MATLAB and its Application in Signal and Image Processing"** from 11th October to 15th October, 2016 organized by Department of ECE, Alva's Institute of Engineering and Technology, Moodbidri.

Mr. Sanjeeva Kubakaddi
ITIE Knowledge
Solutions, Bangalore

Dr. D V Manjunatha
Head of the Department
ECE, AIET

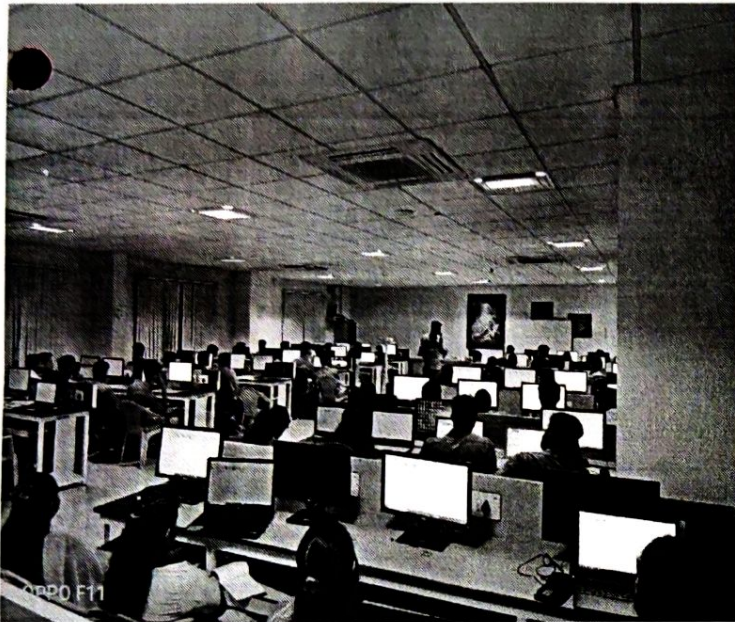
Dr. Peter Fernandes
Principal
AIET Moodbidri



DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Report on Certificate Course

Department of Electronics and Communication Engineering organized Five days **"Certificate course MATLAB and its Applications in Signal and Image Processing"** for VII semester Electronics and communication Engineering students was conducted by Mr.Sanjeeva Kybakaddi, ITIE knowledge Solutions, Bangalore, from 11/10/2016 to 15/10/2016.



Topics covered include basic fundamentals of signal processing, different Filters, Data conversions, Decimation and Interpolation, Convolution and Correlation and also practical experimentation of all these topics using MATLAB tool.

D.V. J.
H. O. D.

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Department of Electronics & Communication Engineering

Summary Report of Add-on/Certificate program with its Outcomes

Academic Year : 2016-17	Duration: 11-10-2016 to 15-10-2016
Title of the Course: MATLAB and its application in Signal and Image Processing.	
Resource Person: Mr. Sanjeeva Kybakaddi, ITIE Knowledge Solutions, Bangalore	

The department conducted Certification Course on “MATLAB and its application in Signal and Image Processing” for Final students of Electronics and Communication Engineering from 11-10-2016 to 15-10-2016 from UniQval Software solutions, Bangalore.

111 students of Final year, Electronics and Communication Engineering are benefitted from this course and were able to

- Understand the Fundamentals of Signal Processing.
- Basics of MATLAB and its applications.
- Design different filters and operations such as convolution and correlation.
- Fundamentals of color image processing and color models.

Dr. D V Manjunatha

H. O. D.

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Digital Signal Processing- QUIZ

1. In a flash analog-to-digital converter, the output of each comparator is connected to an input of a _____.

- A. decoder
- B. priority encoder
- C. multiplexer
- D. demultiplexer

2. Which term applies to the maintaining of a given signal level until the next sampling?

- A. Holding
- B. Aliasing
- C. Shannon frequency sampling
- D. "Stair-stepping"

3. An op-amp has very _____.

- A. high voltage gain
- B. high input impedance
- C. low output impedance
- D. all of the above

4. For a 4-bit DAC, the least significant bit (LSB) is _____.

- A. 6.25% of full scale
- B. 0.625% of full scale
- C. 12% of full scale
- D. 1.2% of full scale

5. The dual-slope analog-to-digital converter finds extensive use in _____.

- A. digital voltmeters
- B. function generators
- C. frequency counters



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D. all of the above

6. The ADC0804 is an example of a _____.

- A. single-slope analog-to-digital converter
- B. dual-slope analog-to-digital converter
- C. digital-ramp analog-to-digital converter
- D. successive-approximation analog-to-digital converter

7. In a digital representation of voltages using an 8-bit binary code, how many values can be defined?

- A. 16
- B. 64
- C. 128
- D. 256

8. A 4-bit R/2R ladder digital-to-analog converter uses _____.

- A. one resistor value
- B. two resistor values
- C. three resistor values
- D. four resistor values

9. A binary-weighted-input digital-to-analog converter has a feedback resistor, R_f , of 12 k. If 50 μ A of current is through the resistor, voltage out of the circuit is _____.

- A. 0.6 V
- B. -0.6 V
- C. 0.1 V
- D. -0.1 V

10. The resolution of a 6-bit DAC is _____.

- A. 63%
- B. 64%
- C. 15.9%
- D. 1.59%



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11. How are unwanted frequencies removed prior to digital conversion?

- A. Pre-filters
- B. Digital signal processing
- C. Sample-and-hold circuits
- D. All of the above

12. Which type of programming is typically used for digital signal processors?

- A. Assembly language
- B. Machine language
- C. C
- D. None of the above

13. Which of the following best defines Nyquist frequency?

- A. The frequency of resonance for the filtering circuit
- B. The second harmonic
- C. The lower frequency limit of sampling
- D. The highest frequency component of a given analog signal

14. Which is not an A/D conversion error?

- A. Differential nonlinearity
- B. Missing code
- C. Incorrect code
- D. Offset

15. Settling time is normally defined as the time it takes a DAC to settle within _____.

- A. $1/8$ LSB of its final value when a change occurs in the input code
- B. $1/4$ LSB of its final value when a change occurs in the input code
- C. $1/2$ LSB of its final value when a change occurs in the input code
- D. 1 LSB of its final value when a change occurs in the input code

16. Which type of ADC quantizes the analog signal into a stream of bits whose amount corresponds to the signal level?

- A. Successive approximation



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B. Sigma-delta

C. Dual-slope

D. None of the above

17. A binary-weighted-input digital-to-analog converter has an input resistor of 100 k. If the resistor is connected to a 5 V source, current through the resistor is _____.

A. 50 mA

B. 50 A

C. 5 mA

D. 500 A

18. In troubleshooting a DAC, we check its performance characteristics, such as _____.

A. nonmonotonicity

B. differential nonlinearity

C. low and high gain

D. all of the above

19. In a digital reproduction of an analog curve, accuracy can be increased by _____.

A. sampling the curve more often

B. sampling the curve less often

C. decreasing the number of bits used to represent each sampled value

D. all of the above

20. In a 4-bit R/2R ladder digital-to-analog converter, because of negative feedback, the operational amplifier keeps the inverting (minus) input near _____.

A. 5 volts

B. zero volts

C. a voltage determined by the binary weighted input

D. none of the above



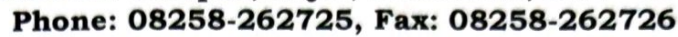
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Digital Image Processing- QUIZ

1. Intensity levels in 8-bit image are
 - A. 128
 - B. 255
 - C. 256
 - D. 512
2. In an image accentuating a specific range is called
 - A. slicing
 - B. color slicing
 - C. cutting
 - D. color enhancement
3. RGB colors on internet applications are called
 - A. safe colors
 - B. colors space
 - C. web colors
 - D. safe web colors
4. Color transformation is processed between the
 - A. single color model
 - B. dual color model
 - C. tri color model
 - D. any color model
5. Black color in image processing is usually represented by the
 - A. 0
 - B. 1
 - C. 255
 - D. 256
6. CRT technology stands for
 - A. carbon ray tube
 - B. cathode ray tube
 - C. cathode ray technology
 - D. carbon ray technology
7. Full color images have at least
 - A. 2 components
 - B. 3 components
 - C. 4 components
 - D. 5 components
8. For HSI color space, no of transformations will be
 - A. $n = 2$
 - B. $n = 3$
 - C. $n = 4$
 - D. $n = 5$
9. Hue and saturation, both together produce
 - A. brightness
 - B. transitivity
 - C. chromaticity
 - D. reflectivity
10. Equation that describes the hue is
 - A. $H = H-90$
 - B. $H = H-100$



- C. $H = H - 120$ D. $H = H - 180$
11. Image can be blurred using

A. low-pass filter B. contouring

C. erosion D. high-pass filter
12. 0 degree of red color in hue image will correspond to

A. boundary B. edges

C. white region D. black region
13. Black level is represented by the formula

A. $[f(x) = 0]$ B. $[f(y) = 0]$

C. $[f(x,y) = 0]$ D. $[f(x,y) = 1]$
14. In $c(x,y)$ the x, y are the

A. spatial variables B. frequency variables

C. intensity variables D. Both A and B
15. Green plus blue color produces

A. yellow B. red

C. magenta D. cyan
16. Image can be sharpened using

A. low-pass filter B. contouring

C. erosion D. high-pass filter
17. White color in a Cartesian coordinate system can be represented as

A. (0,1,1) B. (0,1,0)

C. (0,0,1) D. (1,1,1)
18. Three primary colors are

A. Red, green, blue B. Red, cyan, blue

C. Red, white, black D. Red, green, yellow
19. Brightness of the light is a subject

A. oriented B. descriptor

C. matter D. defined
20. Transformation set is also called

A. color mapping functions B. color space

C. chromaticity D. Cartesian coordinate system



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-
21. The total amount of energy from the light source is called
A. brightness
B. reflectance
C. luminance
D. radiance
22. LCD stands for
A. liquid crystal device
B. large crystal display
C. liquid crystal display
D. large crystal device
23. Gaussian noise is referred to as
A. red noise
B. black noise
C. white noise
D. normal noise
24. Convolution in spatial domain is multiplication in
A. frequency domain
B. time domain
C. spatial domain
D. plane
25. Linear functions possesses property of
A. additivity
B. homogeneity
C. multiplication
D. Both A and B
28. PDF in image processing is called
A. probability degraded function
B. probability density function
C. probabilistic density function
D. probabilistic degraded function



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FEEDBACK FORM

Five days Student Training Program

On

"MATLAB and its Application in Signal and Image Processing"

For the following areas, please indicate your rating from 1 to 5:

1=strongly Disagree 2=Disagree 3=neither agree nor disagree 4=Agree 5=strongly Agree

SN	Topics	1	2	3	4	5
A.	Content					
1	Understood the Fundamental of Signal Processing.				✓	
2	Understood the basics of Matlab.					✓
3	Able to understand Convolution and Correlation of signals.				✓	
4	Understood the concept of design of filters.					✓
5	Able to understand Decimation and Interpolation concepts.				✓	
B	Presentation					
6	Instructor's knowledge				✓	
7	Instructor's presentation style					✓
8	Instructor covered material clearly					✓
9	Instructor responded well to questions				✓	
10	Instructor facilitated interactions among participants well					✓
C. How could this workshop be improved?						
D. Any other comments or suggestions? Matlab tool was useful to understand signal & image processing.						
E. Overall, how would you rate this workshop?						
<input type="checkbox"/>	Poor	<input checked="" type="checkbox"/>	Good			
<input type="checkbox"/>	Neither Good Nor Poor	<input type="checkbox"/>	Excellent			