



SRI SRINIVASA EDUCATIONAL & CHARITABLE TRUST (R)  
**Sapthagiri College of Engineering**  
(Affiliated to Visvesvaraya Technological University, Belgaum & Approved by AICTE, New Delhi)

### STUDENTS FEEDBACK ON CURRICULUM

This questionnaire is to collect information relating to your satisfaction towards curriculum for creating conducive atmosphere for teaching and learning. The information provided by you will be kept confidential and will be used as important feedback for quality improvement of the program of studies/institution.

Academic Year	2014-15
Branch	ECE
Name of the Student	M. Nihal
USN	15G12EC052

Rate the curriculum/syllabus on the following Points

SL NO	Statements	Excellent	Very good	Good	Average	Below Average
		5	4	3	2	1
1	How do you rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?		✓			
2	How do you rate the allocation of the credits to the courses?	✓				
3	Relevance for implementation in projects			✓		
4	How do you rate the electives offered in relation to the technological advancements?	✓				
5	How do rate the evaluation scheme designed for each of the course?	✓				
6	How do you rate the percentage of courses having LAB components?		✓			
7	Curriculum is sufficient to make you analyze the engineering problems and its suitable solution	✓				
8	Suggestions (if any)					

Suggestions:

Signature

Hands on sessions are required on Image processing.

Principal

Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057



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### STUDENTS FEEDBACK ON CURRICULUM

This questionnaire is to collect information relating to your satisfaction towards curriculum for creating conducive atmosphere for teaching and learning. The information provided by you will be kept confidential and will be used as important feedback for quality improvement of the program of studies/institution.

Academic Year	2014-15
Branch	ECE
Name of the Student	Arha.S
USN	15612EC023

Rate the curriculum/syllabus on the following Points

SL NO	Statements	Excellent	Very good	Good	Average	Below Average
		5	4	3	2	1
1	How do you rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?		✓			
2	How do you rate the allocation of the credits to the courses?		✓			
3	Relevance for implementation in projects					
4	How do you rate the electives offered in relation to the technological advancements?	✓				
5	How do rate the evaluation scheme designed for each of the course?		✓			
6	How do you rate the percentage of courses having LAB components?	✓				
7	Curriculum is sufficient to make you analyze the engineering problems and its suitable solution	✓				
8	Suggestions (if any)					

Suggestions: Only Image processing theory is included in the syllabus, if DIP lab is provided it will be helpful to do projects on IP.

Signature

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### FACULTY FEEDBACK ON CURRICULUM

This questionnaire is intended to collect information relating to your satisfaction towards the curriculum, teaching, learning and evaluation. The information provided by you will be kept confidential and will be used as important feedback for quality improvement of the program of studies/institution.

Academic Year	2014-2015
Branch	ECE
Name of the Faculty	S. Shobha
Designation	Associate Professor
Subject/Sub. code	10EC763

Rate the curriculum/syllabus on the following Points

SL NO	Statements	Excellent	Very good	Good	Average	Below Average
		5	4	3	2	1
1	Do you feel that the curriculum is defined in a way to clarify your teaching goals and what you expect your students to learn?			✓		
2	Is the curriculum sufficient to bridge the gap between industry standards /current global scenarios and academics?		✓			
3	Is the timely coverage of curriculum possible in the mentioned number of hours?	✓				
4	Sufficient reference material and books are available for the topics mentioned in the curriculum?	✓				
5	The evaluation methods mentioned in the curriculum are sufficient for providing proper assessment?		✓			
6	Curriculum is suitable to the course		✓			
7	The curriculum/course of this subject increased my knowledge and perspective in the subject area		✓			

Suggestions: Morphological operations, segmentation and representation topics have to be included. Hand-on on DIP using MATLAB is required so that students can do projects on Image processing.

Signature: *[Signature]*




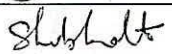
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**ELECTRONICS & COMMUNICATION ENGINEERING**

**CIRCULAR**


Date: 21/05/2015

This is to inform that there will be a meeting of Academic committee members for analyzing curriculum syllabus of academic year 2015-16. The meeting is scheduled on 22/05/2015 at 10.30 AM in HOD's office.

Sl No.	Faculty Name	Designation	Signature
1	Prof. Agalya P	Associate Professor	
2	Prof. Shobha S	Associate Professor	
3	Prof. Ravishankara M N	Associate Professor	
4	Prof. Shobha I Hugar	Assistant Professor	



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HOD  
Head of the Department  
Electronics & Communication  
Sapthagiri College of Engineering  
Bangalore - 560 057



**ELECTRONICS & COMMUNICATION ENGINEERING**

Date: 22/05/2015



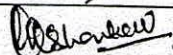
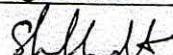
**MINUTES OF MEETING**

With reference to circular dated 21/05/2015, the academic committee members had gathered in HOD's office at 10:30AM on 22.05.2015 for addressing the following points.

**Agenda:**

- Reviewing the department curriculum syllabus of Academic Year 2015-16
- Reviewing the feedback analysis of various stake holders for the Academic year 2014-15
- Identifying the gaps
- Action to be taken for the identified gaps

The following members were present at the meeting

Sl No.	Faculty Name	Designation	Signature
1	Prof. Agalya P	Associate Professor	
2	Prof. Shobha S	Associate Professor	
3	Prof. Ravishankara M N	Associate Professor	
4	Prof. Shobha I Hugar	Assistant Professor	

Sl. No.	Semester	Course Title	Identified Gap
1	VI-A/B	IMAGE PROCESSING	Lack of practical implementation
2	III-A/B	Analog Electronics Circuit	Use of simulation tools in the circuit design

The following points were discussed in the meeting

1. The committee members reviewed the analysis of department curriculum syllabus.
2. The committee members discussed about the feedback of department curriculum syllabus.
3. The members identified the gaps based on the analysis.
4. The following actions were taken for the gaps identified.

  
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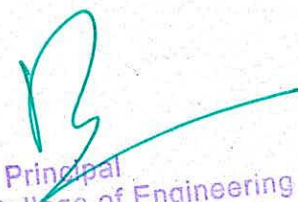
**Action Taken:**

Based on the feedback obtained from Students, Faculties and Alumni and analysis of syllabus by department academic committee members, it was decided to conduct two certification courses (i) Image Processing using matlab in ODD semester (ii) Electrical & Electronics circuit design using EDA Tools in EVEN semester to overcome the gaps identified in the curriculum/syllabus.



HOD

Head of the Department  
Electronics & Communication  
Sapthagiri College of Engineering  
Bangalore-560 057



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**Sapthagiri College of Engineering**  
#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru - 560057

**ELECTRONICS & COMMUNICATION ENGINEERING**

Date: 11/06/2015

To

IQAC Coordinator  
Sapthagiri College of Engineering  
Bengaluru-560 057

Respected sir/madam,

Subject: Requisition for conduction of certification course and approval from  
Governing Council.

With respect to the subject above, a meeting of the academic committee members was held for analyzing department curriculum/syllabus for the academic year 2015-16. Certain gaps were identified by the committee members after analyzing the syllabus and feedback from stakeholders. To bridge the gaps identified in the curriculum, the committee members decided to conduct two certification courses, (i) Image Processing using Matlab for 7<sup>th</sup> Semester students in ODD semester and (ii) Electrical & Electronics Circuit Design using EDA tools for 4<sup>th</sup> semester students in the EVEN semester for the academic year-2015-16. So, I request you to forward and get the approval from the governing council for the same.

Thanking You,

*Forwarded for the HC approval / ratification*

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HOD

Head of the Department  
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#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru – 560057

**ELECTRONICS & COMMUNICATION ENGINEERING**

Date:11/06/2015

To,

The IQAC Coordinator  
Sapthagiri College of Engineering,  
Bengaluru - 560057

Respected Sir,

Subject: Budget Proposal for conduction of certification program on “Image Processing”.

The Budget Proposal for conducting two certification programs(i) Image Processing using Matlab from 27<sup>th</sup> July 2015 to 31<sup>st</sup> July 2015 and (ii) Electrical and Electronics Circuit Design using EDA tools from 18<sup>th</sup> January 2016 to 22<sup>nd</sup> January 2016 is hereby enclosed for your kind consideration and approval.

The details of the Recurring budget are given as follows:

Recurring Amount:

Sl. No.	Description	Quantity	Amount in Rs.
1	Bouquet	4	600
2	Certificates	Students	5000
3	Others		2000
Total			7600

Forwarded for the HC approval for certification

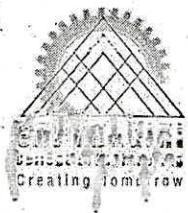
*[Signature]*

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*[Signature]*  
HOD

Head of the Department  
Electronics & Communication  
Sapthagiri College of Engineering  
Bangalore - 560 057









**Sapthagiri College of Engineering**  
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**ELECTRONICS & COMMUNICATION ENGINEERING**


Date: 16/07/2015

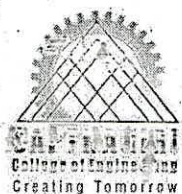
**CIRCULAR**

This is to inform that the Academic Committee members are requested to attend the meeting on 17/07/2015 at 10.30 AM in the HOD's office to decide the syllabus and the lesson plan for the certification program on "Image Processing using MATLAB".

Sl. No.	Faculty Name	Designation	Signature
1	Prof. Agalya P	Associate Professor	
2	Prof. Shobha S	Associate Professor	
3	Prof. Ravishankara M N	Associate Professor	
4	Prof. Shobha I Hugar	Assistant Professor	

  
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**Sapthagiri College of Engineering**  
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**ELECTRONICS & COMMUNICATION ENGINEERING**

Date:16/07/2015

To,

Prof. H C Sateesh Kumar,  
Associate Professor,  
Department of ECE,  
SaiVidya Institute of Technology,  
Bengaluru - 560057

Respected Sir,

Subject: Invitation as a “Guest Speaker” in Certification Program and to attend meeting to discuss about the Certification Program


Department of ECE has planned to conduct a certification program titled “Image Processing using MATLAB” for 7<sup>th</sup> semester students from 27-07-2015 to 31-07-2015. In this regard, we are privileged to invite you as a guest speaker on the above mentioned topic.

Thanking you for your kind acceptance to our request on phone. We request you to attend the meeting to discuss about the conduction of certification course on 17/07/2015 at 10:30 AM. We look forward to welcome you at SCE.

Thanking you,

  
Principal  
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Yours faithfully,

  
HOD  
Head of the Department  
Electronics & Communication  
Sapthagiri College of Engineering  
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**ELECTRONICS & COMMUNICATION ENGINEERING**

17.07.2015

**Minutes of Meeting**

A meeting was held on 17/07/2015 in the ECE HOD's office to discuss and approve the following about the 5 days Certification Course for 7<sup>th</sup> semester ECE Students.

- **Course Title :** Image Processing using MATLAB
- **Resource Personnel :** (i) Prof. H C Sateesh Kumar, Assoc. Professor, Dept. of ECE, SaiVidya Institute of Technology, Bengaluru.  
(ii) Prof. Shobha S., Assoc. Professor, Dept. of ECE, SCE, Bengaluru
- **Course Duration & Date:** 5 Days from 27-07-2015 to 31-07-2015

**Syllabus**

Introduction, Working with Images in MATLAB, MATLAB implementation of Image Enhancement Techniques and Filtering in spatial domain, Image Restoration Techniques, Feature Extraction Using Segmentation and Edge Detection, Image Registration and image reconstruction, Case Studies




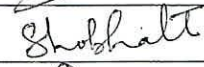
**Syllabus & Schedule of the certification course**

Date	Time	Topics
27.07.2015	08:30 am To 10:15 am	Image types, Importing and exporting images, Displaying images, Finding image characteristics, Converting image from one colour format to another colour formats.
	10:30 am To 12:30 pm	Applying Image Enhancement Techniques : Enhancing images using arithmetic operations, piecewise linear and non linear transformation, Correcting image alignment – Rotating images, Cropping and resizing images
	01:30 pm To 04:00 pm	Hands on session on image enhancement techniques
28.07.15	08:30 am To 10:15 am	Filtering Images :Applying spatial domain filters and frequency domain filters to images to enhance the image.
	10:30 am To 12:30 pm	Applying morphological operations to images.
	01:30 pm To 04:00 pm	Hands on session spatial filtering
29.07.2015	08:30 am	Image Restoration Techniques: Reduce the effects of unwanted


**ELECTRONICS & COMMUNICATION ENGINEERING**

	To 10:15 am	distortions, such as noise, blurring, and background illumination. De-blurring images and Correcting background illumination.
	10:30 am To 12:30 pm	Feature Extraction using Segmentation and Edge Detection : Extract image features and measurements using different segmentation and edge detection methodologies. Image thresholding, Edge detection Transforms, Color-based image segmentation , Watershed segmentation.
	01:30 pm To 04:00 pm	Hands on session on Restoration techniques
30.07.2015	08:30 am To 10:15 am	Image Registration and Image Reconstruction: Implement image registration using the Image Processing Toolbox and review examples of reconstruction methodologies.
	10:30 am To 12:30 pm	Basics of image registration, Basics of object reconstruction Morphological reconstruction.
	01:30 pm To 4pm	Hands on session on morphological operations
31.07.2015	08:30 am To 10:15 am	Case Studies : Investigation and problem solving using a set of case studies: Motion detection, Text recognition, Finding particles, Bouncing ball .
	10:30 am To 12:30 pm	Ball tracking, Microarray analysis and Pattern matching.
	01:30 pm To 04:00 pm	Case studies

The following members were present in the meeting and the syllabus and lesson plan for the certification program has been decided.

Sl. No.	Faculty Name	Designation	Signature
1	Prof. Agalya P	Associate Professor	
2	Prof. Shobha S	Associate Professor	
3	Prof. Ravishankara M N	Associate Professor	
4	Prof. Shobha I Hugar	Assistant Professor	
5	Prof. H C Sateesh Kumar	Guest Speaker	

  
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# Sapthagiri College of Engineering

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## ELECTRONICS & COMMUNICATION ENGINEERING

21.07.2015

### NOTICE

As a part of skill development Department of Electronics and Communication Engineering is conducting Five days Certification Course on “Image Processing using MATLAB” from 27-07-2015 to 31-07-2015

All the 7<sup>th</sup> sem ECE students must attend the course compulsorily.

Principal

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HOD

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Bangalore- 560 057

# Sapthagiri College of Engineering

#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru – 560057  
Electronics and Communication Engineering

Academic Year : 2015-16

List of Students enrolled for the certification course on Image Processing using Matlab

Sl. No	USN	Name of the Students	Semester & Sec
1.	1SG12EC001	ABHILASH N	VII A
2.	1SG12EC002	ABHISHEK	VII A
3.	1SG12EC003	ABHISHEK KUMAR	VII A
4.	1SG12EC004	AJEET KUMAR	VII A
5.	1SG12EC005	AKSHATA ASHOK NAIK	VII A
6.	1SG12EC006	AMAN KUMAR	VII A
7.	1SG12EC008	ANAND VARDHAN	VII A
8.	1SG12EC009	ANEESHA JOVIAL	VII A
9.	1SG12EC010	ANURAG GHOSH	VII A
10.	1SG12EC011	ANURAG KUMAR	VII A
11.	1SG12EC012	ANUSHA S	VII A
12.	1SG12EC013	APOORVA S	VII A
13.	1SG12EC014	ARBINTAJ N	VII A
14.	1SG12EC015	ARCHANA O V	VII A
15.	1SG12EC017	ARPITH D BHAT	VII A
16.	1SG12EC019	ARSHIYA TABASSUM	VII A
17.	1SG12EC020	ARUN R	VII A
18.	1SG12EC021	ASHA N G	VII A
19.	1SG12EC022	ASHA R	VII A
20.	1SG12EC023	ASHA S	VII A
21.	1SG12EC024	AVINASH KUMAR	VII A
22.	1SG12EC025	AVINASH KUMAR	VII A
23.	1SG12EC026	BHAVANA H T	VII A
24.	1SG12EC027	BUDUR SIDDHARTHA REDDY	VII A
25.	1SG12EC028	C N LAKSITH CHENGAPPA	VII A
26.	1SG12EC029	CHANDRESH VIKRAM	VII A
27.	1SG12EC030	CHARAN S	VII A
28.	1SG12EC031	CHARANRAJ O	VII A
29.	1SG12EC032	CHIDANANDA HONNAPPA HALLI	VII A
30.	1SG12EC034	DEEPA	VII A
31.	1SG12EC035	DHANYASHREE K V	VII A
32.	1SG12EC036	DIVYA LAKSHMI B N	VII A
33.	1SG12EC037	G SRINIVAS	VII A
34.	1SG12EC039	GHANENDRA SINGH	VII A
35.	1SG12EC040	GRISHM KHURANA	VII A
36.	1SG12EC041	GURUPRASAD G	VII A
37.	1SG12EC042	HARSH KUMAR	VII A
38.	1SG12EC043	HEMALATHA S	VII A
39.	1SG12EC044	JATRAM AKSHAY	VII A
40.	1SG12EC045	KARTHIK HEGDE H A	VII A
41.	1SG12EC046	KAVITHA B	VII A
42.	1SG12EC047	KAVYA S	VII A

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43.	1SG12EC048	KIRAN KUMAR S L	VII A
44.	1SG12EC049	KSHITIJ YADAV	VII A
45.	1SG12EC050	LAVANYA K	VII A
46.	1SG12EC051	LIKITHA A B	VII A
47.	1SG12EC052	M NIHAL	VII A
48.	1SG12EC054	MANASA K	VII A
49.	1SG12EC055	MANJULA H N	VII A
50.	1SG12EC056	MOHIT G	VII A
51.	1SG12EC057	NANDINI N P	VII A
52.	1SG12EC058	NAYANA R	VII A
53.	1SG12EC059	NEHA U TATTI	VII A
54.	1SG12EC060	NIKESH KUMAR	VII A
55.	1SG12EC061	NILESH KUMAR	VII A
56.	1SG12EC062	NIRANJAN P M	VII A
57.	1SG13EC402	AMRUTHRAJ S	VII A
58.	1SG13EC403	ANJALI	VII A
59.	1SG13EC404	ASHOK T	VII A
60.	1SG13EC405	BASAVARAJU M	VII A
61.	1SG13EC406	CHAITHRA D N	VII A
62.	1SG13EC408	GIRISH B S	VII A
63.	1SG13EC409	HARISH KUMAR PRASAD	VII A
64.	1SG13EC411	LAVANYA P	VII A
65.	1SG11EC017	CHAITHRA P	VII A
66.	1SG09EC009	ASHWINI D	VII A
67.	1SG09EC044	NISHANT KHANNA	VII A
68.	1SG12EC403	DHANUSH P	VII A
69.	1SG11EC045	MUKHIL P	VII A
70.	1SG11EC019	CHANDRASHEKAR	VII A
71.	1SG12EC063	NIRANJAN SINGH	VII B
72.	1SG12EC065	NITHIN VISHWA M V	VII B
73.	1SG12EC066	NITISH KUMAR	VII B
74.	1SG12EC067	P PRIYADARSHINI	VII B
75.	1SG12EC069	PAVAN H R	VII B
76.	1SG12EC071	POORNESH K P	VII B
77.	1SG12EC073	PRAVEEN SHASHWAT	VII B
78.	1SG12EC074	PRIYANKA B M	VII B
79.	1SG12EC075	PRUTHVIK G.S	VII B
80.	1SG12EC076	PUSHPALATHA K	VII B
81.	1SG12EC077	R MANJUNATH	VII B
82.	1SG12EC078	RAHUL CHANDRA	VII B
83.	1SG12EC079	RAJEEV RANJAN MISHRA	VII B
84.	1SG12EC081	RAKSHITH B A	VII B
85.	1SG12EC082	RAKSHITH KUMAR G	VII B
86.	1SG12EC083	RAMYA R PAI	VII B
87.	1SG12EC084	RASHMI	VII B
88.	1SG12EC085	RAVIRAJ KAMATI	VII B
89.	1SG12EC086	RODRIGUES RYAN	VII B

Principal

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90.	1SG12EC087	RONIT SINGH	VII B
91.	1SG12EC088	ROOPA M	VII B
92.	1SG12EC089	ROOPASHREE M	VII B
93.	1SG12EC090	SACHIN TENDULKAR	VII B
94.	1SG12EC091	SAKET KUMAR	VII B
95.	1SG12EC092	SALIL KUMAR GUPTA	VII B
96.	1SG12EC093	SANDHYA R	VII B
97.	1SG12EC095	SANTOSH MURTHY B K	VII B
98.	1SG12EC096	SANTOSH KUMAR	VII B
99.	1SG12EC097	SAURAV NIRALA	VII B
100.	1SG12EC098	SMITHA IYENGAR	VII B
101.	1SG12EC099	SMITHA K SABNIS	VII B
102.	1SG12EC100	SRINIDHI M RAO	VII B
103.	1SG12EC101	SRINIVASA B R	VII B
104.	1SG12EC102	SUHAS V	VII B
105.	1SG12EC103	SUMA C	VII B
106.	1SG12EC104	SUNITHA Y	VII B
107.	1SG12EC105	SUSHMITHA H N	VII B
108.	1SG12EC106	SUSHMITHA T S	VII B
109.	1SG12EC107	SUVARNA SUSHMITHA PADMANABHA	VII B
110.	1SG12EC108	T R VIJAY	VII B
111.	1SG12EC109	T V SWAROOP	VII B
112.	1SG12EC110	THEERTHA C	VII B
113.	1SG12EC111	TRILOK KUMAR	VII B
114.	1SG12EC112	VASUDEV D	VII B
115.	1SG12EC113	VIJAY A	VII B
116.	1SG12EC114	VILAS RAJ V URS	VII B
117.	1SG12EC115	VINOD PANDURANGA PATIL	VII B
118.	1SG12EC116	VISHWAS V	VII B
119.	1SG12EC117	VIVEK ANAND	VII B
120.	1SG12EC118	VIVEK KUMAR	VII B
121.	1SG12EC119	VIVEK KUMAR MANN	VII B
122.	1SG12EC121	YESHASWINI L	VII B
123.	1SG12EC123	YUVASHREE M	VII B
124.	1SG12EC124	POOJA J	VII B
125.	1SG12EC126	ANIKI SANJEEVAN	VII B
126.	1SG12EC127	AISHWARYA P	VII B
127.	1SG12EC128	SATEESH B R	VII B
128.	1SG13EC413	LOKESHACHAR N E	VII B
129.	1SG13EC414	NAVEEN KUMAR D M	VII B
130.	1SG13EC415	NAYANA G S	VII B
131.	1SG13EC419	RAVICHANDRAN M	VII B
132.	1SG13EC420	SANDHYARANI C K	VII B
133.	1SG13EC422	UDAY N V	VII B
134.	1SG13EC423	VIDYA SREE R	VII B
135.	1SG11EC041	MAHENDRA CHOUDARY	VII B

Principal

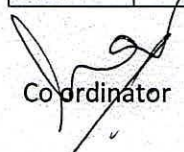
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# Sapthagiri College of Engineering

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**Electronics and Communication Engineering**

136.	1SG11EC032	KARTHIK M N	VII B
137.	1SG11EC049	PAVAN P	VII B
138.	1SG13EC424	KAVITHA HS(COC)	VII B
139.	1SG11EC057	PRINCE NITHIN	VII B
140.		VARUN S	VII B
141.		RAGHU	VII B

  
Coordinator

  
**Principal**  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore- 560 057

  
HOD  
Head of the Department  
Electronics & Communication  
Sapthagiri College of Engineering  
Bangalore - 560 057.





# Sapthagiri College of Engineering

#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru - 560057  
Electronics and Communication Engineering

Academic Year: 2015-16

## List of Students enrolled for the certification course on Image Processing using Mat lab

Sl. No	UGN	Name of the Students	27.07.2015		28.07.2015		29.07.2015		30.07.2015		31.07.2015	
			MS	AS	MS	AS	MS	AS	MS	AS	MS	AS
1.	1SG12EC001	ABHILASH N	1	2	3	4	5	6	7	8	9	10
2.	1SG12EC002	ABHISHEK	1	2	3	4	5	6	7	8	9	10
3.	1SG12EC003	ABHISHEK KUMAR	1	2	3	4	5	6	7	8	9	10
4.	1SG12EC004	AJAY KUMAR	1	2	3	4	5	6	7	8	9	10
5.	1SG12EC005	AKSHATA ASHOK NAIK	1	2	3	4	5	6	7	8	9	10
6.	1SG12EC006	AMAN KUMAR	1	2	3	4	5	6	7	8	9	10
7.	1SG12EC008	ANAND VARDHAN	1	2	3	4	5	6	7	8	9	10
8.	1SG12EC009	ANEESHA JOVIAL	1	2	3	4	5	6	7	8	9	10
9.	1SG12EC010	ANURAG GHOSH	1	2	3	4	5	6	7	8	9	10
10.	1SG12EC011	ANURAG KUMAR	1	2	3	4	5	6	7	8	9	10
11.	1SG12EC012	ANUSHA S	1	2	3	4	5	6	7	8	9	10
12.	1SG12EC013	APOORVA S	1	2	3	4	5	6	7	8	9	10
13.	1SG12EC014	ARJINTAJ N	1	2	3	4	5	6	7	8	9	10
14.	1SG12EC015	ARCHANA O V	1	2	3	4	5	6	7	8	9	10
15.	1SG12EC017	ARPITH D BHAT	1	2	3	4	5	6	7	8	9	10
16.	1SG12EC019	ARSHIYA TABASSUM	1	2	3	4	5	6	7	8	9	10
17.	1SG12EC020	ARUN R	1	2	3	4	5	6	7	8	9	10
18.	1SG12EC021	ASHA N G	1	2	3	4	5	6	7	8	9	10
19.	1SG12EC022	ASHA R	1	2	3	4	5	6	7	8	9	10
20.	1SG12EC023	ASHA S	1	2	3	4	5	6	7	8	9	10
21.	1SG12EC024	AVINASH KUMAR	1	2	3	4	5	6	7	8	9	10
22.	1SG12EC025	AVINASH KUMAR	1	2	3	4	5	6	7	8	9	10
23.	1SG12EC026	BHAVANA H T	1	2	3	4	5	6	7	8	9	9
24.	1SG12EC027	BUDUR SIDDHARTHA REDDY	1	2	3	4	5	6	7	8	9	10
25.	1SG12EC028	C N LAKSHI CHENCAPPA	1	2	3	4	5	6	7	8	9	9
26.	1SG12EC029	CHANDRESH VIKRAM	1	2	3	4	5	6	7	8	9	9
27.	1SG12EC030	CHARAN S	1	2	3	4	5	6	7	8	9	10
28.	1SG12EC031	CHARANRAJ O	1	2	3	4	5	6	7	8	9	10
29.	1SG12EC032	CHIDANANDA HONNAPPA HALI	1	2	3	4	5	6	7	8	9	9
30.	1SG12EC034	DEEPA	1	2	3	4	5	6	7	8	9	9
31.	1SG12EC035	DHANYASHREE K V	1	2	3	4	5	6	7	8	9	10
32.	1SG12EC036	DIVYA LAKSHMI B N	1	2	3	4	5	6	7	8	9	9
33.	1SG12EC037	G SRINIVAS	1	2	3	4	5	6	7	8	9	10
34.	1SG12EC038	GHANENDRA	1	2	3	4	5	6	7	8	9	10

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		SINGH										
35.	1SG12EC040	GRISHM KHURANA	1	2	3	4	5	6	7	8	9	10
36.	1SG12EC041	GURUPRASAD G	1	2	3	4	5	5	6	7	8	9
37.	1SG12EC042	KARSH KUMAR	1	2	3	4	5	6	7	8	9	10
38.	1SG12EC043	HEMALATHA S	1	2	3	4	5	6	7	8	9	10
39.	1SG12EC044	JATRAM AKSHAY	1	2	3	4	5	5	6	7	8	9
40.	1SG12EC045	KARTHIK HEGDE H A	1	2	3	4	5	5	6	7	8	9
41.	1SG12EC046	KAVITHA B	1	2	3	4	5	6	7	8	9	10
42.	1SG12EC047	KAVYA S	1	2	3	4	5	6	7	8	9	10
43.	1SG12EC048	KIRAN KUMAR S L	1	2	3	4	5	6	7	8	9	10
44.	1SG12EC049	KSHITIJ YADAV	1	2	3	4	5	6	7	8	9	9
45.	1SG12EC050	LAVANYA K	1	2	3	4	5	5	6	7	8	9
46.	1SG12EC051	LAKITHA A B	1	2	3	4	5	6	7	8	9	10
47.	1SG12EC052	M NIHAL	1	2	3	4	5	6	7	8	9	10
48.	1SG12EC054	MANASA K	1	2	3	4	5	6	7	8	9	10
49.	1SG12EC055	MANJULA H N	1	2	3	4	5	5	6	7	8	9
50.	1SG12EC056	MOHIT G	1	2	3	4	5	5	6	7	8	9
51.	1SG12EC057	NANDINI N P	1	2	3	4	5	5	6	7	8	9
52.	1SG12EC058	NAYANA R	1	2	3	4	5	6	7	8	9	10
53.	1SG12EC059	NEHA U TATTI	1	2	3	4	5	6	7	8	9	10
54.	1SG12EC060	NIKESH KUMAR	1	2	3	4	5	6	7	8	9	10
55.	1SG12EC061	NILESH KUMAR	1	2	3	4	5	6	7	8	9	10
56.	1SG12EC062	NIRANJAN P M	1	2	3	4	5	5	6	7	8	9
57.	1SG12EC062	AMRUTHRAJ S	1	2	3	4	5	5	6	7	8	9
58.	1SG13EC403	ANJALI	1	2	3	4	5	5	6	7	8	9
59.	1SG13EC404	ASHOK T	1	2	3	4	5	6	7	8	9	10
60.	1SG13EC405	BASAVARAJU M	1	2	3	4	5	6	7	8	9	10
61.	1SG13EC406	CHAITHRA D N	1	2	3	4	5	6	7	8	9	10
62.	1SG13EC408	GIRISH B S	1	2	3	4	5	6	7	8	9	10
63.	1SG13EC409	HARISH KUMAR PRASAD	1	2	3	4	5	6	7	8	9	10
64.	1SG13EC411	LAVANYA P	1	2	3	4	5	6	7	8	9	10
65.	1SG13EC417	CHAITHRA P	1	2	3	4	5	6	7	8	9	10
66.	1SG09EC049	ASHWINI D	1	2	3	4	5	6	7	8	9	10
67.	1SG09EC044	NISHANT KHANNA	1	2	3	4	5	6	7	8	9	10
68.	1SG12EC041	DHANUSH F	1	2	3	4	5	6	7	8	9	10
69.	1SG12EC045	MUKHIL P	1	2	3	4	5	6	7	8	9	10
70.	1SG12EC049	CHANDRASHEKAR	1	2	3	4	5	5	6	7	8	9
71.	1SG12EC062	NIRANJAN SINGH	1	2	3	4	5	5	6	7	8	9
72.	1SG12EC065	RITHIN VISHWA M V	1	2	3	4	5	6	7	8	9	10
73.	1SG12EC066	NITISH KUMAR	1	2	3	4	5	6	7	8	9	10
74.	1SG12EC067	P PRIYADARSHINI	1	2	3	4	5	6	7	8	9	10
75.	1SG12EC069	PAVAN H R	1	2	3	4	5	6	7	8	9	10
76.	1SG12EC071	POORNESH K P	1	2	3	4	5	6	7	8	9	10
77.	1SG12EC073	PRAVEEN SHASHWAT	1	2	3	4	5	6	7	8	9	10



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78.	1SG12EC074	PRIYANKA B M	1	2	3	4	5	6	7	8	9	9
79.	1SG12EC075	PRUTHVIK G.S	1	2	3	4	5	6	7	8	9	9
80.	1SG12EC076	PUSHPALATHA K	1	2	3	4	5	6	7	8	9	10
81.	1SG12EC077	R MANJUNATH	1	2	3	4	5	6	7	8	9	10
82.	1SG12EC078	RAHUL CHANDRA	1	2	3	4	5	6	7	8	9	9
83.	1SG12EC079	RAJEEV RANJAN MISHRA	1	2	3	4	5	6	7	8	9	9
84.	1SG12EC081	RAKSHITH B A	1	2	3	4	5	6	7	8	9	10
85.	1SG12EC082	RAKSHITH KUMAR G	1	2	3	4	5	6	7	8	9	10
86.	1SG12EC083	RAMYA R PAI	1	2	3	4	5	6	7	8	9	10
87.	1SG12EC084	RASHMI	1	2	3	4	4	5	6	7	8	9
88.	1SG12EC085	RAVIRAJ KAMATI	1	2	3	4	4	5	6	7	8	9
89.	1SG12EC086	RODRIGUES RYAN	1	2	3	4	4	5	6	7	8	9
90.	1SG12EC087	RONIT SINGH	1	2	3	4	5	6	7	8	9	10
91.	1SG12EC088	ROOPA M	1	2	3	4	5	6	7	8	9	10
92.	1SG12EC089	ROOPASHREE M	1	2	3	4	5	6	7	8	9	10
93.	1SG12EC090	SACHIN TENDULKAR	1	2	3	4	5	6	7	8	9	10
94.	1SG12EC091	SAKET KUMAR	1	2	3	4	5	6	7	8	9	10
95.	1SG12EC092	SALIL KUMAR GUPTA	1	2	3	4	5	6	7	8	9	10
96.	1SG12EC093	SANDHYA R	1	2	3	4	5	6	7	8	9	10
97.	1SG12EC095	SANTOSH MURTHY B K	1	2	3	4	5	6	7	8	9	10
98.	1SG12EC096	SANTOSH KUMAR	1	2	3	4	5	6	7	8	9	10
99.	1SG12EC097	SAURAV NIRALA	1	2	3	4	5	6	7	8	9	10
100.	1SG12EC098	SMITHA IYENGAR	1	2	3	4	5	6	7	8	9	10
101.	1SG12EC099	SMITHA K SABNIS	1	2	3	4	4	5	6	7	8	10
102.	1SG12EC100	SRINIDHI M RAO	1	2	3	4	4	5	6	7	8	9
103.	1SG12EC101	SRINIVASA B R	1	2	3	4	4	5	6	7	8	9
104.	1SG12EC102	SUHAS V	1	2	3	4	5	6	7	8	9	10
105.	1SG12EC103	SUMA C	1	2	3	4	5	6	7	8	9	10
106.	1SG12EC104	SUNITHA Y	1	2	3	4	4	5	6	7	8	9
107.	1SG12EC105	SUSHMITHA H N	1	2	3	4	4	5	6	7	8	9
108.	1SG12EC106	SUSHMITHA T S	1	2	3	4	4	5	6	7	8	9
109.	1SG12EC107	SUVARNA SUSHMITHA PADMANABHA	1	2	3	4	5	6	7	8	9	10
110.	1SG12EC108	T R VIJAY	1	2	3	4	5	6	7	8	9	10
111.	1SG12EC109	T V SWAROOP	1	2	3	4	5	6	7	8	9	10
112.	1SG12EC110	TREERATHA C	1	2	3	4	5	6	7	8	9	10
113.	1SG12EC111	TAMILK KUMAR	1	2	3	4	5	6	7	8	9	10
114.	1SG12EC112	VASUDEV D	1	2	3	4	5	6	7	8	9	10
115.	1SG12EC113	VIJAY A	1	2	3	4	4	5	6	7	8	9
116.	1SG12EC114	VILAS RAJ V URS	1	2	3	4	4	5	6	7	8	9
117.	1SG12EC115	VINOD PANDURANGA PATIL	1	2	3	4	4	5	6	7	8	9

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**Electronics and Communication Engineering**

118.	1SG12EC116	VISHWAS V	1	1	2	3	4	5	6	7	8	9
119.	1SG12EC117	VIVEK ANAND	1	2	2	3	4	5	6	7	8	9
120.	1SG12EC118	VIVEK KUMAR	1	2	2	3	4	5	6	7	8	9
121.	1SG12EC119	VIVEK KUMAR MANN	1	2	2	3	4	5	6	7	8	9
122.	1SG12EC121	YESHASWINI L	1	1	2	3	4	5	6	7	8	9
123.	1SG12EC123	YUVASHREE M	1	1	2	3	4	5	6	7	8	9
124.	1SG12EC124	POOJA J	1	1	2	3	4	5	6	7	8	9
125.	1SG12EC126	ANIKS SANJEEVAN	1	2	2	3	4	5	6	7	8	9
126.	1SG12EC127	AISHWARYA P	1	2	3	4	5	6	6	7	8	9
127.	1SG12EC128	SATEESH B R	1	2	2	4	5	6	7	8	9	10
128.	1SG13EC413	LOKESHACHAR N E	1	2	3	4	5	6	7	8	9	10
129.	1SG13EC414	NAVEEN KUMAR D M	1	2	3	4	5	6	7	8	9	10
130.	1SG13EC415	NAYANA S S	1	2	3	4	5	6	7	8	9	10
131.	1SG13EC416	RAVICHANDRAN M	1	2	3	4	5	6	7	8	9	10
132.	1SG13EC419	SANDHYARANI C K	1	2	3	4	5	6	7	8	9	10
133.	1SG13EC422	UDAY N V	1	2	3	4	5	6	7	8	9	10
134.	1SG13EC423	VINITA SREE R	1	2	3	4	5	6	7	8	9	10
135.	1SG11EC041	MAHENDRA CHOUDARY	1	2	3	4	5	6	7	8	9	10
136.	1SG11EC032	KARTHIK M N	1	2	3	4	5	6	7	8	9	10
137.	1SG11EC019	PAVAN P	1	2	3	4	5	6	7	8	9	10
138.	1SG13EC424	KAVITHA HS(COC)	1	2	3	4	5	6	7	8	9	10
139.	1SG11EC057	PRINCE NITHIN	1	2	3	4	5	6	7	8	9	10
140.		VARUN S	1	2	3	4	5	6	7	8	9	10
141.		RAGHU	1	2	3	4	5	6	7	8	9	10

Coordinator

HOD

Principal

Head of the Department  
 Electronics & Communication  
 Sapthagiri College of Engineering  
 Bangalore - 560 057

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**ELECTRONICS & COMMUNICATION ENGINEERING**

**5 days Certification Course on "Image Processing"**

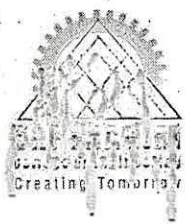
**Test Time Table**

Sl. No.	DATE	DAY	TIMINGS
1	07-08-2015	Saturday	3.00PM-4.00PM

  
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Bangalore- 560 057

  
**HOD**  
Head of the Department  
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Sapthagiri College of Engineering  
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**ELECTRONICS & COMMUNICATION ENGINEERING**

**5 days Certification Course on “Image Processing using MATLAB”**

**Question Paper**

**Duration :60Mins**

**Maximum marks :50**

**Date: 07.03.2015**

**Question No. 1-20 ( Each carry 1Mark)**

**Question No. 21 & 22 ( Each carry 15Marks)**

**Answer all the Questions:**

1. The principal factor to determine the spatial resolution of an image is \_\_\_\_\_
  - a. Quantization
  - b. Sampling
  - c. Contrast
  - d. Dynamic range
2. What causes the effect, imperceptible set of very fine ridge like structures in areas of smooth gray levels?
  - a. Caused by the use of an insufficient number of gray levels in smooth areas of a digital image
  - b. Caused by the use of huge number of gray levels in smooth areas of a digital image
  - c. All of the mentioned
  - d. None of the mentioned
3. What is the name of the effect caused by the use of an insufficient number of gray levels in smooth areas of a digital image?
  - a. Dynamic range
  - b. Ridging
  - c. Graininess
  - d. False contouring
4. Using rough rule of thumb, and assuming powers of 2 for convenience, what image size are about the smallest images that can be expected to be reasonably free of objectionable sampling checkerboards and false contouring?
  - a. 512\*512pixels and 16 gray levels
  - b. 256\*256pixels and 64 gray levels
  - c. 64\*64pixels and 16 gray levels
  - d. 32\*32pixels and 32 gray levels
5. What does a shift up and right in the curves of iso preference curve simply means? Verify in terms of N (number of pixels) and k ( $L=2^k$ , L is the gray level) values.
  - a. Smaller values for N and k, implies a better picture quality
  - b. Larger values for N and k, implies low picture quality
  - c. Larger values for N and k, implies better picture quality
  - d. Smaller values for N and k, implies low picture quality
6. How does the curves behave to the detail in the image in iso preference curve?
  - a. Curves tend to become more vertical as the detail in the image decreases



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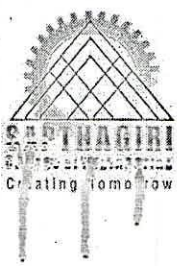
## ELECTRONICS & COMMUNICATION ENGINEERING

- b. Curves tend to become less vertical as the detail in the image increases
  - c. Curves tend to become less vertical as the detail in the image decreases
  - d. Curves tend to become more vertical as the detail in the image increases
7. For an image with a large amount of detail, if the value of  $N$  (number of pixels) is fixed then what is the gray level dependency in the perceived quality of this type of image?
- a. Totally independent of the number of gray levels used
  - b. Nearly independent of the number of gray levels used
  - c. Highly dependent of the number of gray levels used
  - d. None of the mentioned
8. What is a band-limited function?
- a. A function of limited duration whose highest frequency is finite
  - b. A function of limited duration whose highest frequency is infinite
  - c. All of the mentioned
  - d. None of the mentioned
9. For a band-limited function, which Theorem says that "if the function is sampled at a rate equal to or greater than twice its highest frequency, the original function can be recovered from its samples"?
- a. Band-limitation theorem
  - b. Aliasing frequency theorem
  - c. Shannon sampling theorem
  - d. None of the mentioned
10. What is the name of the phenomenon that corrupts the sampled image, and how does it happen?
- a. Shannon sampling, if the band-limited functions are under sampled
  - b. Shannon sampling, if the band-limited functions are oversampled
  - c. Aliasing, if the band-limited functions are under sampled
  - d. Aliasing, if the band-limited functions are oversampled
11. Gaussian noise is referred to as
- a. Red noise
  - b. Black noise
  - c. White noise
  - d. Normal noise
12. Convolution in spatial domain is multiplication in
- a. Frequency domain
  - b. Time domain
  - c. Spatial domain
  - d. Plane
13. Linear functions possesses the property of
- a. Additivity
  - b. Homogeneity

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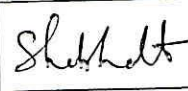

**ELECTRONICS & COMMUNICATION ENGINEERING**

- c. multiplication
- d. Both a and b
- 14. PDF in image processing is called
  - a. Probability degraded function
  - b. Probability density function
  - c. Probabilistic degraded function
  - d. Probabilistic density function
- 15. Filter that replaces the pixel value with the medians of intensity levels is
  - a. Arithmetic mean filter
  - b. Geometric mean filter
  - c. Median filter
  - d. Sequence mean filter
- 16. In geometric mean filters when alpha is equal to 1 then it works as
  - a. Notch filter
  - b. Band pass filter
  - c. Wiener filter
  - d. Inverse filter
- 17. In wiener filtering it is assumed that noise and image are
  - a. Different
  - b. Homogeneous
  - c. Correlated
  - d. Uncorrelated
- 18. EBCT scanners stands for
  - a. Electrical beam computed tomography
  - b. Electric beam computed tomography
  - c. Electronic beam computed tomography
  - d. Electron beam computed tomography
- 19. PSF stands for
  - a. Probability spread function
  - b. Point spread function
  - c. Probability spike function
  - d. Point spike function
- 20. Filter that performs opposite to band rejected filter is called
  - a. Low pass filter
  - b. Band pass filter
  - c. High pass filter
  - d. Max filter
- 21. Read an Image and show the efficiency of different noise removal techniques with the metrics PSNR & MSE.
- 22. Write the matlab code for different edge detection methods and verify on a grayscale image.

*[Signature]*  
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**ELECTRONICS & COMMUNICATION ENGINEERING**

**Approved by Academic Committee Members & Guest Speaker**

Sl No.	Faculty Name	Designation	Signature
1	Prof. Agalya P	Associate Professor	
2	Prof. Shobha S	Associate Professor	
3	Prof. Ravishankara M N	Associate Professor	
4	Prof. Shobha I Hugar	Assistant Professor	
5	Prof. H C Sateesh Kumar	Guest Speaker	



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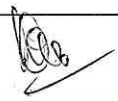
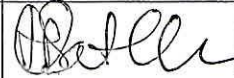
**ELECTRONICS & COMMUNICATION ENGINEERING**

**5 days Certification Course on "Image Processing using MATLAB"**

**Solutions**

1. b
2. a
3. d
4. b
5. c
6. d
7. b
8. a
9. c
10. c
11. d
12. a
13. d
14. b
15. c
16. d
17. d
18. d
19. b
20. b

**Approved by Academic Committee Members & Guest Speaker**

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**HOD**

**Head of the Department**  
**Electronics & Communication**  
Sapthagiri College of Engineering  
Bangalore- 560 057

# Sapthagiri College of Engineering

#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru - 560057

ELECTRONICS AND COMMUNICATION ENGINEERING

5 days Certification Course on "Image Processing using Matlab"

## Participant Feedback

1. How was the overall organization of the Certification Course ?  
a) Poor b) Satisfactory c) Good d) Excellent
2. How appropriate were the facilities provided ?  
a) Poor b) Satisfactory c) Good d) Excellent
3. Opportunity to ask questions for clarification and interaction with presenters  
a) Poor b) Satisfactory c) Good d) Excellent
4. Effectiveness of the Hands-on Sessions  
a) Poor b) Satisfactory c) Good d) Excellent
5. Topic and contents of the Certification Course  
a) Poor b) Satisfactory c) Good d) Excellent
6. How do you rate the Certification Course compared to other workshops that you have attended ?  
a) Poor b) Satisfactory c) Good d) Excellent
7. Generally how was your overall experience during the Certification Course  
a) Poor b) Satisfactory c) Good d) Excellent
8. Any Suggestions:

Asha S  
Student Name

[Signature]  
Principal

Sapthagiri College of Engineering  
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Bangalore-560057

[Signature]  
Student Signature



# Sapthagiri College of Engineering

#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru - 560057

ELECTRONICS AND COMMUNICATION ENGINEERING

5 Days Certification Course on "Image Processing using Matlab"

## Participant Feedback

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a) Poor b) Satisfactory c) Good ☒ d) Excellent
8. Any Suggestions:

*Ajeel Kumar*  
Student Name

*[Signature]*  
Principal

*[Signature]*  
Student Signature

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# Sapthagiri College of Engineering

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ELECTRONICS AND COMMUNICATION ENGINEERING

## 5 days Certification Course on "Image Processing using Matlab"

### Participant Feedback

1. How was the overall organization of the Certification Course ?  
a) Poor b) Satisfactory c) Good d) Excellent
2. How appropriate were the facilities provided ?  
a) Poor b) Satisfactory c) Good d) Excellent
3. Opportunity to ask questions for clarification and interaction with presenters  
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a) Poor b) Satisfactory c) Good d) Excellent
7. Generally how was your overall experience during the Certification Course  
a) Poor b) Satisfactory c) Good d) Excellent
8. Any Suggestions:

Aarth D Bhat

Student Name

[Signature]  
Principal

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[Signature]  
Student Signature





# Sapthagiri College of Engineering

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ELECTRONICS AND COMMUNICATION ENGINEERING

5 days Certification Course on "Image Processing using Matlab"

## Participant Feedback

1. How was the overall organization of the Certification Course ?

a) Poor b) Satisfactory c) Good d) ~~Excellent~~

2. How appropriate were the facilities provided ?

a) Poor b) Satisfactory c) ~~Good~~ d) Excellent

3. Opportunity to ask questions for clarification and interaction with presenters

a) Poor b) Satisfactory c) ~~Good~~ d) Excellent

4. Effectiveness of the Hands-on Sessions

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7. Generally how was your overall experience during the Certification Course

a) Poor b) Satisfactory c) ~~Good~~ d) Excellent

8. Any Suggestions:

Charan S

Student Name

Principal

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Student Signature

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#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru - 560057

ELECTRONICS AND COMMUNICATION ENGINEERING

5 days Certification Course on "Image Processing using Matlab"

## Participant Feedback

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6. How do you rate the Certification Course compared to other workshops that you have attended ?  
a) Poor b) Satisfactory c) Good d) ~~Excellent~~
7. Generally how was your overall experience during the Certification Course  
a) Poor b) Satisfactory c) Good d) ~~Excellent~~
8. Any Suggestions:

*Shrinivas G*  
Student Name

*[Signature]*  
Principal

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*[Signature]*  
Student Signature





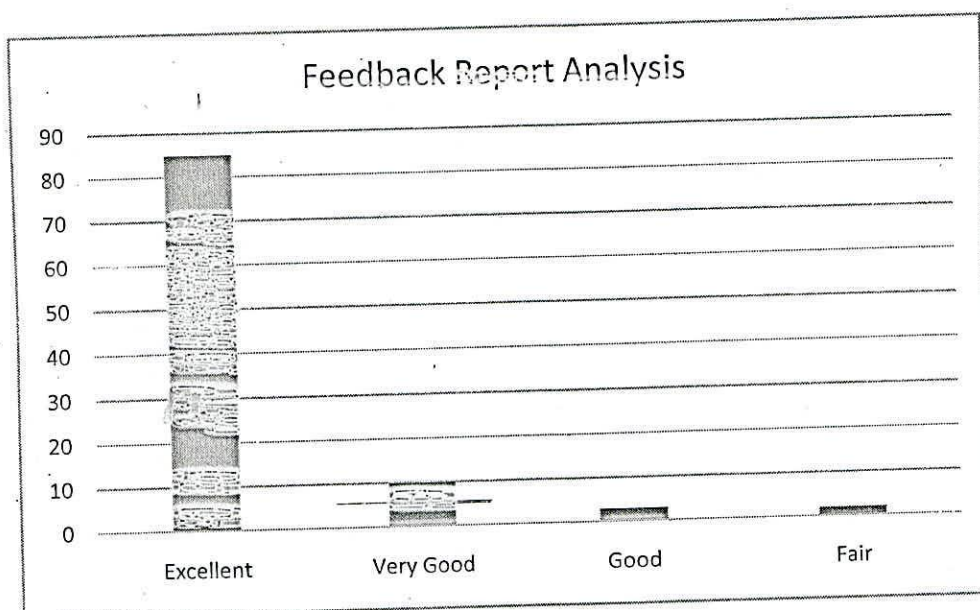
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**ELECTRONICS & COMMUNICATION ENGINEERING**

**FEEDBACK ANALYSIS**

Certification Programme: “Image Processing using MATLAB”

No. of students	Student Feedback( in %)			
	Excellent	Very Good	Good	Fair
78	88	9	2	1




**Action Report:**

88 % of students were completely happy with the certification program and 9 % of students felt it was a good program and remaining 3% students were satisfied with the program.

**Action Taken:**

The Feedback report which was collected from the students were sent to the principal and he would take necessary actions based on the comments and conduct more programs for the benefit of students.

  
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**HOD**  
Head of the Department  
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION

Five days certification course on


"IMAGE PROCESSING USING MATLAB"

# CERTIFICATE

This is to certify that Mr/Ms Apoorva S has  
attended the five days certification course on "IMAGE PROCESSING USING MATLAB"  
organized by the Department of Electronics and Communication Engineering,  
Sapthagiri college of Engineering, Bengaluru from 27<sup>th</sup> July to 31<sup>st</sup> July 2015.

  
H.O.D., Dept. of ECE  
S.C.E., Bengaluru

  
Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore- 560 057

  
Principal  
S.C.E., Bengaluru





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DEPARTMENT OF ELECTRONICS AND COMMUNICATION

Five days certification course on

"IMAGE PROCESSING USING MATLAB"

# CERTIFICATE

This is to certify that Mr/Ms ..... *G. Srinivas* ..... has  
attended the five days certification course on "IMAGE PROCESSING USING MATLAB"  
organized by the Department of Electronics and Communication Engineering ,  
Sapthagiri college of Engineering, Bengaluru from 27<sup>th</sup> July to 31<sup>st</sup> July 2015.

*[Signature]*  
H.O.D., Dept. of ECE  
S.C.E., Bengaluru

*[Signature]*  
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Sapthagiri College of Engineering  
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*[Signature]*  
Principal  
S.C.E., Bengaluru






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DEPARTMENT OF ELECTRONICS AND COMMUNICATION

Five days certification course on


IMAGE PROCESSING USING MATLAB

# CERTIFICATE

This is to certify that Mr/Ms Mr. Nihal has  
attended the five days certification course on "IMAGE PROCESSING USING MATLAB"  
organized by the Department of Electronics and Communication Engineering,  
Sapthagiri college of Engineering, Bengaluru from 27<sup>th</sup> July to 31<sup>st</sup> July 2015.

  
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION

Five days certification course on

"IMAGE PROCESSING USING MATLAB"

# CERTIFICATE

This is to certify that Mr/Ms Asha S ..... has  
attended the five days certification course on "IMAGE PROCESSING USING MATLAB"  
organized by the Department of Electronics and Communication Engineering ,  
Sapthagiri college of Engineering, Bengaluru from 27<sup>th</sup> July to 31<sup>st</sup> July 2015.

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Principal  
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION

Five days certification course on

"IMAGE PROCESSING USING MATLAB"

## CERTIFICATE

This is to certify that Mr/Ms Mohit G. has  
attended the five days certification course on "IMAGE PROCESSING USING MATLAB"  
organized by the Department of Electronics and Communication Engineering,  
Sapthagiri college of Engineering, Bengaluru from 27<sup>th</sup> July to 31<sup>st</sup> July 2015.

*for S*  
H.O.D., Dept. of ECE  
S.C.E., Bengaluru

*B*  
Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore- 560 057

*[Signature]*  
Principal  
S.C.E., Bengaluru





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DEPARTMENT OF ELECTRONICS AND COMMUNICATION

Five days certification course on

**“IMAGE PROCESSING USING MATLAB”**

# **CERTIFICATE**

This is to certify that Mr/Ms .....has  
attended the five days certification course on “IMAGE PROCESSING USING MATLAB”  
organized by the Department of Electronics and Communication Engineering  
Sapthagiri college of Engineering, Bengaluru from 27<sup>th</sup> July to 31<sup>st</sup> July 2015.

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**ELECTRONICS & COMMUNICATION ENGINEERING**

**Certification Course Report**

Department of ECE conducted Certificate Course on Image Processing using MATLAB.

- **Guest Speaker:** (i) Prof. H C Sateesh Kumar, Associate Professor, Department of ECE, SaiVidya Institute of Technology, Bengaluru.  
(ii) Shobha S., Assoc. professor, Dept. of ECE, SCE, Bengaluru
- **Duration of the course :** Five days from 27-07-2015 to 31-07-2015
- **Course details :** Image Processing using MATLAB

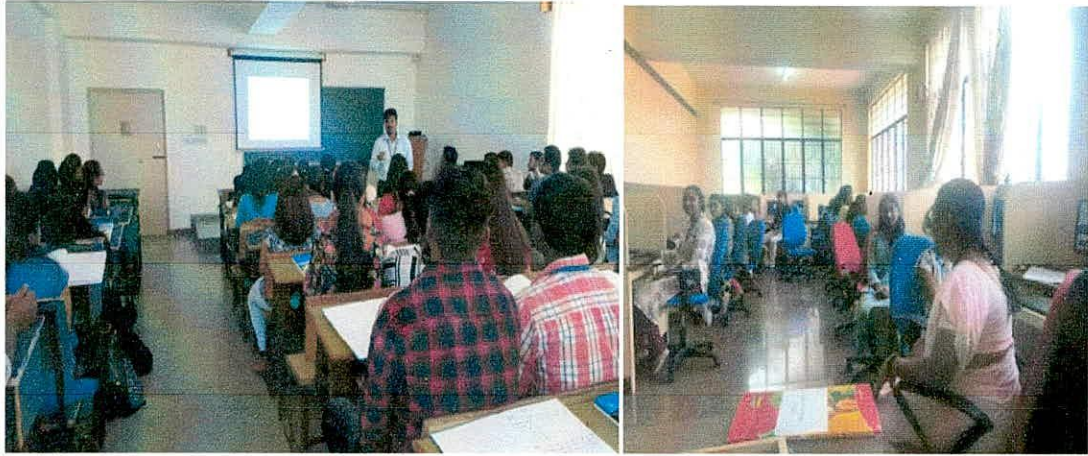
**Objective of the Course:** The five day course made the students to be familiar with the concepts of Image Processing. Certification Course became the vital step to improve the knowledge of students

**Certification Course session wise report**

Dates	SESSION 1 (8.30am-10.15am)	SESSION 2 (10.30am-12.30pm)	SESSION 3 Hands-on Session (1.30pm-4.00pm)
27-07-2015	Speaker delivered lecture on Image Types & Converting image from one-color format to another color formats	Speaker delivered talk on Different Image Enhancement	Hands on session on Reading a gray scale and color images & image enhancement techniques
28-07-2015	Speaker delivered lecture on different spatial and frequency domain Filtering techniques.	Students learnt about applying morphological operations to images	Hands on session on spatial filtering
29-07-2015	Students were introduced to different Image Restoration Techniques	Speaker delivered lecture on Feature Extraction methods for Segmentation and Edge Detection	Hands on session on Restoration techniques
30-07-2015	Students learnt Image Registration and Image Reconstruction methods	Students learnt different morphological operations	Hands on session on morphological operations
31-07-2015	Students were introduced with Case Studies & Hands on session	Students were introduced with Case Studies & Hands on session	Students were introduced with Case Studies & Hands on session



**ELECTRONICS & COMMUNICATION ENGINEERING**



**Students attending the course with the speaker**

**Conclusion:**

Certification course made the students comfortable with using MATLAB for Image Processing. Learning style adopted by students, which eventually is developed into a skill of their forte. Through this course, an ecstatic learning background paved way to a positive learning environment in the class where active participation was seen from every end. Faculty took the onus of interacting with the students personally to navigate them for the academic transition by becoming the guides by their side. Faculty members were also equally benefited with the course. They felt more expedient while delivering the lectures as the margin was erased between these students and others. A structured environment was created. This Course helped the student to improve their knowledge in Image Processing.



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HOD

Head of the Department  
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Bangalore- 560 057.