



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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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	15G12EC023

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.

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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	M. Nihal
USN	15512EC052

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 you 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: Hands on sessions are required on Image processing.

Signature


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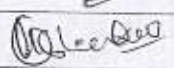
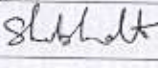
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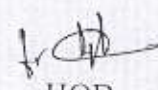
ELECTRONICS & COMMUNICATION ENGINEERING

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. Ravishankar M N	Associate Professor	
4	Prof. Shobha I Hugar	Assistant Professor	


HOD

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ELECTRONICS & COMMUNICATION ENGINEERING

Date: 22/05/2015

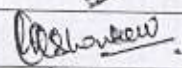
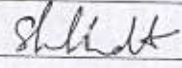
MINUTES OF MEETING

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

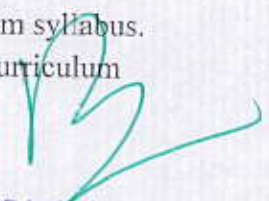
The following members were present at the meeting

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.



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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 7th Semester students in ODD semester and (ii) Electrical & Electronics Circuit Design using EDA tools for 4th 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.

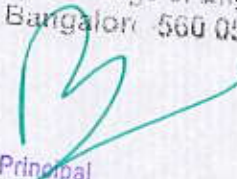
Thanking You,

Forwarded for the GC approval / certification



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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 27th July 2015 to 31st July 2015 and (ii) Electrical and Electronics Circuit Design using EDA tools from 18th January 2016 to 22nd 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]

[Signature]
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[Signature]
HOD

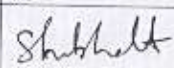
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Date: 16/07/2015

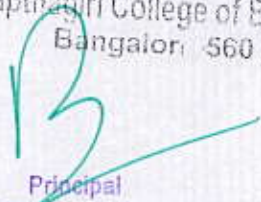
CIRCULAR

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	


HOD

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ELECTRONICS & COMMUNICATION ENGINEERING

Date:16/07/2015

To,

Prof. H C Sateesh Kumar,
Associate Professor,
Department of ECE,
Sai Vidya 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 7th 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.

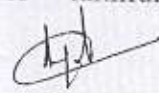
Thanking you for your kind acceptance to our request on phone. We request you to attend the meeting to discuss about the conduction of certification course on 17/07/2015 at 10:30 AM. We look forward to welcome you at SCE.

Thanking you,



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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 7th semester ECE students.

- **Course Title :** Image Processing using MATLAB
- **Resource Personnel :** (i) Prof. H C Sateesh Kumar, Assoc. Professor, Dept. of ECE, Sai Vidya 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

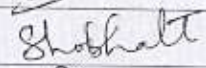
Date	Time	Topics
27.07.2015	08:30 am To 10:15 am	Image types, Importing and exporting images, Displaying images, Finding image characteristics, Converting image from one colour format to another colour formats.
	10:30 am To 12:30 pm	Applying Image Enhancement Techniques : Enhancing images using arithmetic 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

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	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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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 7th sem ECE students must attend the course compulsorily.



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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

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90.	15G12EC087	RONIT SINGH	VII B
91.	15G12EC088	ROOPA M	VII B
92.	15G12EC089	ROOPASHREE M	VII B
93.	15G12EC090	SACHIN TENDULKAR	VII B
94.	15G12EC091	SAKET KUMAR	VII B
95.	15G12EC092	SALIL KUMAR GUPTA	VII B
96.	15G12EC093	SANDHYA R	VII B
97.	15G12EC095	SANTHOSH MURTHY B K	VII B
98.	15G12EC096	SANTOSH KUMAR	VII B
99.	15G12EC097	SAURAV NIRALA	VII B
100.	15G12EC098	SMITHA IYENGAR	VII B
101.	15G12EC099	SMITHA K SABNIS	VII B
102.	15G12EC100	SRINIDHI M RAO	VII B
103.	15G12EC101	SRINIVASA B R	VII B
104.	15G12EC102	SUHAS V	VII B
105.	15G12EC103	SUMA C	VII B
106.	15G12EC104	SUNITHA Y	VII B
107.	15G12EC105	SUSHMITHA H N	VII B
108.	15G12EC106	SUSHMITHA T S	VII B
109.	15G12EC107	SUVARNA SUSHMITHA PADMANABHA	VII B
110.	15G12EC108	T R VIJAY	VII B
111.	15G12EC109	T V SWAROOP	VII B
112.	15G12EC110	THEERTHA C	VII B
113.	15G12EC111	TRILOK KUMAR	VII B
114.	15G12EC112	VASUDEV D	VII B
115.	15G12EC113	VIJAY A	VII B
116.	15G12EC114	VILAS RAJ V URS	VII B
117.	15G12EC115	VINOD PANDURANGA PATIL	VII B
118.	15G12EC116	VISHWAS V	VII B
119.	15G12EC117	VIVEK ANAND	VII B
120.	15G12EC118	VIVEK KUMAR	VII B
121.	15G12EC119	VIVEK KUMAR MANN	VII B
122.	15G12EC121	YESHASWINI L	VII B
123.	15G12EC123	YUVASHREE M	VII B
124.	15G12EC124	POOJA J	VII B
125.	15G12EC126	ANIKA SANJEEVAN	VII B
126.	15G12EC127	AISHWARYA P	VII B
127.	15G12EC128	SATEESH B R	VII B
128.	15G13EC413	LOKESHACHAR N E	VII B
129.	15G13EC414	NAVEEN KUMAR D M	VII B
130.	15G13EC415	NAYANA G S	VII B
131.	15G13EC419	RAVICHANDRAN M	VII B
132.	15G13EC420	SANDHYARANI C K	VII B
133.	15G13EC422	UDAY N V	VII B
134.	15G13EC423	VIDYA SREE R	VII B
135.	15G11EC041	MAHENDRA CHOUDARY	VII B

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Electronics and Communication Engineering

136.	1SG11EC032	KARTHIK M N	VI 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

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Bangalore - 560 057

Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hesaraghatta Main Road
Bengaluru - 560 057

Academic Year: 2015-16

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

Sl. No	USN	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	AJEET 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	ARBINTAJ 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	3	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	BAHAVANA H T	1	2	3	4	5	6	7	8	9	9
24.	1SG12EC027	EUDUR SIDDHARTHA FEDDY	1	2	3	4	5	6	7	8	9	10
25.	1SG12EC028	C N LAKSITH CHENGAPPA	1	2	3	4	5	6	7	8	9	9
26.	1SG12EC029	CHANDRESH WIKRAM	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 FONNAPPA HALLI	1	2	3	4	5	6	7	8	9	9
30.	1SG12EC034	CEEPA	1	2	3	4	5	6	7	8	9	9
31.	1SG12EC035	CHANYASHREE K V	1	2	3	4	5	6	7	8	9	10
32.	1SG12EC036	CIVYA LAKSHMI B	1	2	3	4	5	6	7	8	9	9
33.	1SG12EC037	C SRINIVAS	1	2	3	4	5	6	7	8	9	10
34.	1SG12EC039	CHANENDRA	1	2	3	4	5	6	7	8	9	10

Principal

		SINGH										
35.	1SG12EC043	GRISHM KHURANA	1	2	3	4	5	6	7	8	9	10
36.	1SG12EC041	GURUPRASAD G	1	2	3	4	5	6	7	8	9	10
37.	1SG12EC042	HARSH 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	6	7	8	9	10
40.	1SG12EC045	KARTHIK HEGDE H A	1	2	3	4	5	6	7	8	9	10
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	10
45.	1SG12EC050	LAVANYA K	1	2	3	4	5	6	7	8	9	10
46.	1SG12EC051	LIKITHA 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	6	7	8	9	10
50.	1SG12EC056	MOHIT G	1	2	3	4	5	6	7	8	9	10
51.	1SG12EC057	NANDINI N P	1	2	3	4	5	6	7	8	9	10
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	6	7	8	9	10
57.	1SG13EC402	AMRUTHRAJ S	1	2	3	4	5	6	7	8	9	10
58.	1SG13EC403	ANJALI	1	2	3	4	5	6	7	8	9	10
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.	1SG13EC017	CHAITHRA P	1	2	3	4	5	6	7	8	9	10
66.	1SG05EC009	ASHWINI D	1	2	3	4	5	6	7	8	9	10
67.	1SG05EC044	NISHANT KHANNA	1	2	3	4	5	6	7	8	9	10
68.	1SG12EC403	DHANUSH P	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.	1SG12EC019	CHANDRASHEKAR	1	2	3	4	5	6	7	8	9	10
71.	1SG12EC063	NIRANJAN SINGH	1	2	3	4	5	6	7	8	9	10
72.	1SG12EC065	NITHIN 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

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	5	6	7	8	9	10
88.	1SG12EC085	RAVIRAJ KAMATI	1	2	3	4	5	6	7	8	9	10
89.	1SG12EC086	RODRIGUES RYAN	1	2	3	4	5	6	7	8	9	10
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	SANTHOSH 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	5	6	7	8	9	10
102.	1SG12EC100	SRINIDHI M RAO	1	2	3	4	5	6	7	8	9	10
103.	1SG12EC101	SRINIVASA B R	1	2	3	4	5	6	7	8	9	10
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	5	6	7	8	9	10
107.	1SG12EC105	SUSHMITHA H N	1	2	3	4	5	6	7	8	9	10
108.	1SG12EC106	SUSHMITHA T S	1	2	3	4	5	6	7	8	9	10
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	TV SWAROOP	1	2	3	4	5	6	7	8	9	10
112.	1SG12EC110	THEERTHA C	1	2	3	4	5	6	7	8	9	10
113.	1SG12EC111	TRILOK 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	5	6	7	8	9	10
116.	1SG12EC114	VILAS RAJ V URS	1	2	3	4	5	6	7	8	9	10
117.	1SG12EC115	VINOD PANDURANGA PATIL	1	2	3	4	5	6	7	8	9	10

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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	YLVASHREE M	1	1	2	3	4	5	6	7	8	9
124.	1SG12EC124	PQOJA J	1	1	2	3	4	5	6	7	8	9
125.	1SG12EC126	ANIKA SANJEEVAN	1	2	2	3	4	5	6	7	8	9
126.	1SG12EC127	AISHWARYA P	1	2	3	4	5	6	7	8	9	
127.	1SG12EC128	SATEESH B R	1	2	2	4	5	6	7	8	9	
128.	1SG13EC413	LOKESHACHAR N E	1	2	3	4	5	6	7	8	9	10
129.	1SG13EC414	NAVEEN KUMAR C M	1	2	3	4	5	6	7	8	9	10
130.	1SG13EC415	NAYANA G S	1	2	3	4	5	6	7	8	9	10
131.	1SG13EC419	RAVICHANDRAN M	1	2	3	4	5	6	7	8	9	10
132.	1SG13EC420	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	VICYA SREE R	1	2	3	4	5	6	7	8	9	10
135.	1SG11EC041	MAHENDRA CHAUDARY	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.	1SG11EC049	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

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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-4.30PM


HOD

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ELECTRONICS & COMMUNICATION ENGINEERING

5 days Certification Course on "Image Processing using MATLAB"

Question Paper

Duration :60Mins

Maximum marks :50

Date: 07.08.2015

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 ($L=2k$, 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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- 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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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. Homogenous

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.

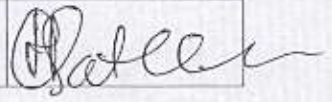
22. Write the matlab code for different edge detection methods and verify on a grayscale image.



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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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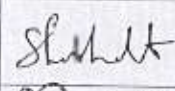
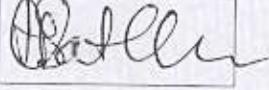
ELECTRONICS & COMMUNICATION ENGINEERING

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

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 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:

Ajeel Kumar
Student Name

[Signature]
Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hasaraghatta Main Road
Bengaluru - 560 057

[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

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:

Aarthy D Bhat
Student Name


Principal


Student Signature

Sapthagiri College of Engineering
14/5, Chikkasandra, Hesaraghatta Main Road
Bengaluru - 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:

Charans
Student Name

[Signature]
Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hesaraghatta Main Road
Bengaluru – 560 057

[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

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:

Shrinivas G
Student Name

[Signature]
Student Signature

Principal

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]
Student Signature

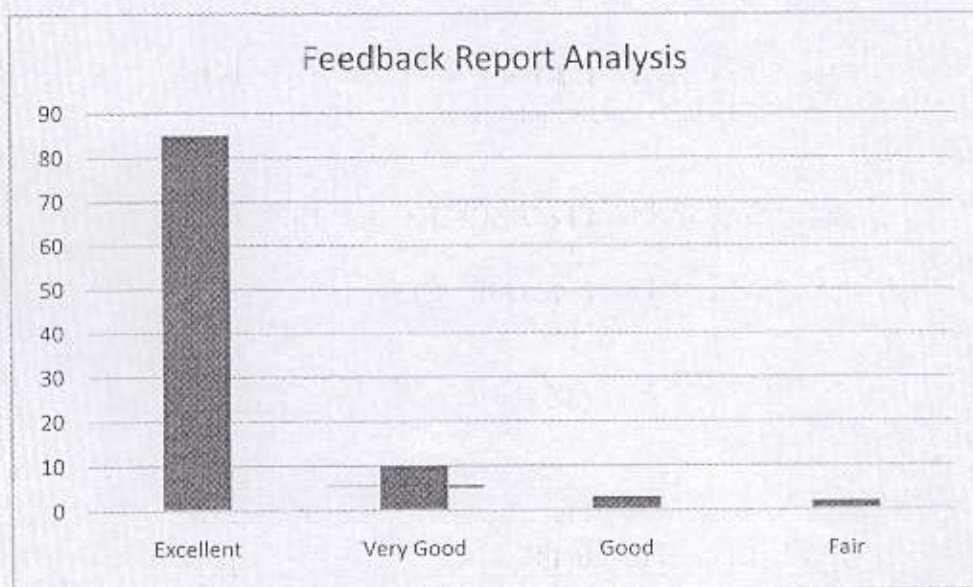
[Signature]
Principal
Sapthagiri College of Engineering
#14/5, Chikkasandra, Hesaraghatta Main Road
Bengaluru - 560 057

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.

[Signature]
CO-ORDINATOR

[Signature]
Principal
Sapthagiri College of Engineering
14/5 Chikkasandra, Hesaraghatta Main Road
Bengaluru - 560 057
Head of the Department
Electronics & Communication
Sapthagiri College of Engineering

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, Sai Vidya 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

Principal

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.


CO-ORDINATOR


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-57

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

Five days certification course on

"IMAGE PROCESSING USING MATLAB"

CERTIFICATE

This is to certify that Mr/Mshas
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 27th July to 31st July 2015.

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

Principal
S.C.E., Bengaluru



SAPTHAGIRI COLLEGE OF ENGINEERING
#14/5, CHIKKASANDRA, HESARAGIATTA MAIN ROAD, BENGALURU-57
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 27th July to 31st July 2015.

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

[Signature]
Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hesarghatta Main Road
Bengaluru - 560 057

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



SAPTHAGIRI COLLEGE OF ENGINEERING
#14/5, CHIKKASANDRA, HESARAGHATTA MAIN ROAD, BENGALURU-57
DEPARTMENT OF ELECTRONICS AND COMMUNICATION

Five days certification course on

"IMAGE PROCESSING USING MATLAB"

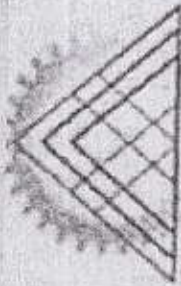
CERTIFICATE

This is to certify that Mr/Ms *M. 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 27th July to 31st July 2015.

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

[Signature]
Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hesarahatta Main Road
Bengaluru - 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*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 27th July to 31st July 2015.

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

Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hesaraghatta Main Road
Bengaluru - 560 057

Principal
S.C.E., Bengaluru



SAPTHAGIRI COLLEGE OF ENGINEERING
#14/5, CHIKKASANDRA, HESARAGHATTA MAIN ROAD, BENGALURU-57
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 27th July to 31st July 2015.

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

[Signature]
Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hesarghatta Main Road
Bengaluru - 560 057

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



SAPTHAGIRI COLLEGE OF ENGINEERING

#14/5, CHIKKASANDRA, HESARAGHATTA MAIN ROAD, BENGALURU-57

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

Five days certification course on

"IMAGE PROCESSING USING MATLAB"

CERTIFICATE

This is to certify that Mr/Ms*Ad.p.saras*..... 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 27th July to 31st July 2015.

Dr. S.

II.O.D., Dept. of ECE

S.C.E., Bengaluru

[Signature]
Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hesaraghatta Main Road
Bengaluru - 560 067

[Signature]
Principal

S.C.E., Bengaluru



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	Harsha MN
USN	15G14EC036

Rate the curriculum/syllabus on the following Points

SL NO	Statements	Excellent 5	Very good 4	Good 3	Average 2	Below Average 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: Designing the circuits using simulation tool course is required to conduct in the department.

Signature

Harsha MN

Principal

Sapthagiri College of Engineering
14/5, Chikkasandra, Hesarghatta Main Road
Bengaluru - 560 057



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	BHAVANA H.T
USN	1SG12EC026

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:

Bhavana H.T
Signature

we need some courses on Digital image processing ie practical sessions

Principal

Sapthagiri College of Engineering
14/5, Chikkasandra, Hesarghatta Main Road
Bengaluru - 560 057



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	2014-15
Branch	ECE
Name of the Faculty	RAVI SHANKAR M N
Designation	ASSOCIATE PROFESSOR
Subject/Sub. code	FIELD THEORY / BASIC ELECTRONICS

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: Simulation of Electronic circuit using EDA tools like Multisim, PSpice etc enable the students to understand the practical

Signature

(Signature)

Implications & circuit operations clearly before implementing the same on a bread board or PCB.



ALUMNI FEEDBACK ON CURRICULUM

We are glad that you have spent valuable years pursuing courses of your choice at SCE. We shall be thankful if you can spare some of your valuable time to fill up this feedback form and give us valuable suggestions for further improvement of the College. Your valuable inputs will be of great use to improve the quality of our academic programs and enhance the credibility of our Institution. Rate the adequacy of following as they were during your tenure as a student

Year of Passing	2015
Branch	ECB
Name	Shreya chittappa
Status : Work/Study	working in wipro
Phone no.	9141199768

Rate the curriculum/syllabus on the following Points

SL NO	Statements	Excellent	Very good	Good	Average	Below Average
		5	4	3	2	1
1	When you compare yourself with other counterparts from other Institution, you feel that you got most of all the facilities which is not available in other Institution		✓			
2	Learning value (in terms of skills, concepts, knowledge, analytical abilities or broadening perspectives)		✓			
3	Curriculum is sufficient to make you analyze the engineering problems and its suitable solution			✓		
4	How do you rate the learning experience in terms of their relevance to the real life application			✓		
5	Ability to work in teams		✓	✓		
6	Ability to link theory to practice			✓		
7	How do you rate the course/curriculum content that you have learnt in relation to your current job			✓		
8	Compatibility with industry standards			✓		

Suggestions: Hands on ^{with CAD} tools to be included in the curriculum for design & analysis of circuits.

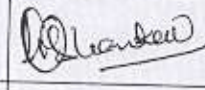
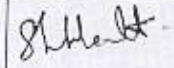
Signature Shreya

Principal
 Sapthagiri College of Engineering
 14/5, Ghikkasandra, Hesaraghatta Main Road
 Bengaluru - 560 057

Date: 07/01/2016

CIRCULAR

This is to inform that the Academic Committee members are requested to attend the meeting on 08/01/2016 at 10:30AM in the HOD's office to decide the syllabus and the lesson plan for the certification program on "Electrical and Electronics Circuit design using EDA tools".

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	



Principal

Sapthagiri College of Engineering
14/5, Chikkasandra, Hesaraghatta Main Road
Bangalore - 560 057



HOD

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

Sapthagiri College of Engineering
14/5, Chikkasandra, Hesaraghatta Main Road
Bangalore - 560 057

08.01.16

Minutes of Meeting

A meeting was held on 08/01/2016 at 10:30 AM in the ECE HOD's office to discuss and approve the following about the 5 days Certification Course for 4th semester ECE Students. In the meeting it is decided to conduct the certification course by the in house department faculties Prof. Ravishankara M.N. & Prof. Karthik N C. Syllabus and schedule of the course is finalised.

- **Course Title :** Electrical and Electronics Circuit design and analysis using EDA tools.
- **Resource Personnel :** Prof. Ravi Shankar, Assoc. Professor, & Prof. Karthik N C, Lecturer, Dept. of ECE, Sapthagiri College of Engineering, Bangalore.
- **Course Duration & Date:** 5 Days from 18-01-2016 to 22-01-2016

Syllabus :

Introduction to EDA tools, Advantages of EDA tools, Basics of Electronics circuits & its design, Basics of Electrical circuits & its design, Introduction to Pspice, Installment, building and Analysis of circuits using Pspice, Introduction to Multi SIM, Installation, circuit building & analysis, Case Studies.

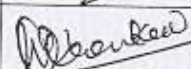
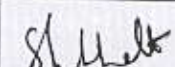
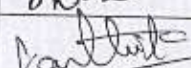
Syllabus & Schedule of the certification course

Date	Time	Topics	Hours
18.01.2016	08:30 am - 10:15 am	Introduction to EDA tools, Advantages of EDA tools	6.15hrs.
	10:30 am - 12:30 pm	Basics of Electrical and Electronics circuits	
	01:30 pm - 04:00 pm	Hands on session on EDA tools	
19.01.2016	08:30 am - 10:15 am	Basics of Electronics circuits	6.15hrs.
	10:30 am - 12:30 pm	Basics of Electronics circuit design	
	01:30 pm - 04:00 pm	Installation of PSPICE & Analysis of Circuits using PSPICE	
20.01.2016	08:30 am - 10:15 am	Basics of Electrical circuits	6.15hrs.
	10:30 am - 12:30 pm	Basics of Electrical circuits design	
	01:30 pm - 04:00 pm	Analysis of Electrical Circuits using PSPICE	
21.01.2016	08:30 am - 10:15 am	Introduction to MultiSim, Installing the MultiSim.	6.15hrs.
	10:30 am - 12:30 pm	Circuit analysis using MultiSim	
	01:30 pm - 4pm	Hands on session on different Electronics circuit	
22.01.2016	08:30 am - 10:15 am	Hands on session on different Electronics circuit	6.15hrs.
	10:30 am - 12:30 pm	Hands on session on different Electrical circuit	
	01:30 pm - 04:00 pm	Analysis and case studies	

Principal

Sapthagiri College of Engineering
14/5, Chikkasandra, Hesaraghatta Main Road
Bangalore - 560 057

The following members were present in the meeting 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. Ravishankar M N	Associate Professor	
4.	Prof. Shobha I Hugar	Assistant Professor	
5.	Karthik N C	Lecturer	


Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hesaraghatta Main Road
Bangalore - 560 057


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

11.01.2016

NOTICE

As a part of skill development Department of Electronics and Communication Engineering is conducting Five days Certification Course on “Electrical and Electronics Circuit design using EDA tools” from 18-01-2016 to 22-01-2016

All the 4th sem ECE students must attend the course compulsorily.



Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hesaraghatta Main Road
Bangalore - 560 057



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

Academic Year: 2015-16

List of Students enrolled for the certification course on “Electrical & Electronics Circuit Design using EDA Tools”

Sl. No	USN	Name of the Students	Semester & Sec
1.	ISG1-EC001	ABHILASH K S	IV A
2.	ISG1-EC003	ABHISHEK H R	IV A
3.	ISG1-EC004	ABHISHEK KUMAR SINGH	IV A
4.	ISG1-EC005	ABHISHEK PANDEY	IV A
5.	ISG1-EC006	ADITYA G PATIL	IV A
6.	ISG1-EC007	AKSHATHA K	IV A
7.	ISG1-EC008	AKSHAY V	IV A
8.	ISG1-EC010	AMRUTH PRAKASH	IV A
9.	ISG1-EC011	ANAGHA H K	IV A
10.	ISG1-EC012	ANIRUDHSINGH CHAUHAN	IV A
11.	ISG1-EC013	APOORVA S	IV A
12.	ISG1-EC014	ARAVIND VALSALAN	IV A
13.	ISG1-EC016	ASHITHA B N	IV A
14.	ISG1-EC017	ATUL E	IV A
15.	ISG1-EC018	AYUSH MISHRA	IV A
16.	ISG1-EC019	BHARATH K A	IV A
17.	ISG1-EC020	BHAVANA M	IV A
18.	ISG1-EC021	CHAITHRA K	IV A
19.	ISG1-EC022	CHAITRA R	IV A
20.	ISG1-EC023	CHANDAN S	IV A
21.	ISG1-EC024	CHANDANA G	IV A
22.	ISG1-EC025	CHARISHMA B	IV A
23.	ISG1-EC027	DEEPAK KUMAR	IV A
24.	ISG1-EC028	DEEPIKA BATTULA	IV A
25.	ISG1-EC029	DIVYA VIDAYA	IV A
26.	ISG1-EC030	FIRDOSE AAFREEN I	IV A
27.	ISG1-EC031	GAGAN REDDY A	IV A
28.	ISG1-EC032	GAURAV KUMAR	IV A
29.	ISG1-EC033	GIRISH H	IV A
30.	ISG1-EC034	SAHITHI G	IV A
31.	ISG1-EC036	HARSHA M N	IV A
32.	ISG1-EC038	HEMANTH RAJU T	IV A
33.	ISG1-EC039	HIMESH HIMANSHU	IV A
34.	ISG1-EC040	JAGSHANBIR SINGH	IV A
35.	ISG1-EC041	JISHNU S	IV A
36.	ISG1-EC042	KAVYA J	IV A
37.	ISG1-EC043	KAVYA K M	IV A
38.	ISG1-EC044	KEERTHANA K	IV A
39.	ISG1-EC046	KOWSALYA H V	IV A
40.	ISG1-EC047	KUMARI MANJARI	IV A
41.	ISG1-EC048	LOKESH N	IV A
	ISG1-EC049	MANISH KUMAR VERMA	

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Bangalore- 560 057

			IV A
43.	ISG14EC050	MANU B S	IV A
44.	ISG14EC051	MEDISETTI ANUDEEP	IV A
45.	ISG14EC052	MOHD SALEEM KHAN	IV A
46.	ISG14EC054	MONISHA NATESH	IV A
47.	ISG14EC055	MONISHA S	IV A
48.	ISG14EC056	NAGESH K L	IV A
49.	ISG14EC057	NETHRAVATHI	IV A
50.	ISG14EC058	NITESH GOWDA C R	IV A
51.	ISG14EC059	NITHIN N	IV A
52.	ISG14EC061	PAVITHRA R KOTIAN	IV A
53.	ISG14EC115	DIYA YADAV(COB)	IV A
54.	ISG15EC400	ANIL KUMAR R	IV A
55.	ISG15EC403	ARUN KUMAR R	IV A
56.	ISG15EC405	BHOJANNA K T	IV A
57.	ISG15EC408	CHETHAN M K	IV A
58.	ISG15EC409	KAVYASHREE S G	IV A
59.	ISG15EC411	KUMAR K	IV A
60.	ISG15EC412	MAHANTESH S HIREMATH	IV A
61.	ISG15EC415	POOJA M S	IV A
62.	ISG15EC419	RAGHAVENDRA R	IV A
63.	ISG15EC422	RAMESH N	IV A
64.	ISG15EC424	REKHA S G	IV A
65.	ISG15EC425	S NITHIN KUMAR	IV A
66.	ISG15EC427	SANJAY S JOSHI	IV A
67.	ISG15EC431	SUJITH KUMAR R	IV A
68.	ISG15EC435	VINAY MALLESH H M	IV A
69.	ISG14EC062	POOJA B C	IV B
70.	ISG14EC063	PRABITH	IV B
71.	ISG14EC064	PRAJWAL J	IV B
72.	ISG14EC065	PRANEETH GANESH YAJI	IV B
73.	ISG14EC066	PRITIKA	IV B
74.	ISG14EC067	PRIYANKA S RAO	IV B
75.	ISG14EC068	PURUSHOTHAM V	IV B
76.	ISG14EC069	RAGHAVENDRA SHANKAR BHAGWAT	IV B
77.	ISG14EC070	RAHUL KUMAR SINGH	IV B
78.	ISG14EC071	RAHUL S	IV B
79.	ISG14EC073	RAMESH R	IV B
80.	ISG14EC075	RANJITH SHASTRY M	IV B
81.	ISG14EC076	RASHMI	IV B
82.	ISG14EC078	RASHMIN	IV B
83.	ISG14EC079	RASHMI S	IV B
84.	ISG14EC080	RESHMA M	IV B
85.	ISG14EC081	RISHEK A BHARADWAJ	IV B
86.	ISG14EC083	RUDRANEIL CHATTTERJEE	IV B
87.	ISG14EC084	SAGAR B V	IV B
88.	ISG14EC085	SAILESH S	IV B

	ISG14EC088	SHALU THAKUR	IV B
90.	ISG14EC089	SHARANYA G	IV B
91.	ISG14EC090	SHILPA KUMARI A	IV B
92.	ISG14EC091	SHIVARAJ MASALI	IV B
93.	ISG14EC092	SHREE RAKSHA V	IV B
94.	ISG14EC094	SHUBHAM KUMAR	IV B
95.	ISG14EC095	SOMYA SINGH	IV B
96.	ISG14EC096	SOUNDARYA M	IV B
97.	ISG14EC097	SUDHARSHAN PATIL G S	IV B
98.	ISG14EC098	SUHAS K R	IV B
99.	ISG14EC099	SUNIL KUMAR	IV B
100.	ISG14EC101	SUSHMITHA P	IV B
101.	ISG14EC102	TEJAS RAO M	IV B
102.	ISG14EC103	THANU SHREE K B	IV B
103.	ISG14EC104	THEJA SHREE T	IV B
104.	ISG14EC105	UDIT KUMAR	IV B
105.	ISG14EC106	UJJWAL S	IV B
106.	ISG14EC107	V NIHARIKA	IV B
107.	ISG14EC108	V PRAVALIKA	IV B
108.	ISG14EC109	VARSHA H	IV B
109.	ISG14EC110	VARSHA K	IV B
110.	ISG14EC111	VIPUL P	IV B
111.	ISG14EC112	VISHWAS H	IV B
112.	ISG14EC114	VIVEKA NANDA B K	IV B
113.	ISG14EC116	PUNEETH N K(COB)	IV B
114.	ISG15EC401	APOORVA L C	IV B
115.	ISG15EC402	ARUN K	IV B
116.	ISG15EC404	BHAVYA S	IV B
117.	ISG15EC406	CHANDRASHEKAR B	IV B
118.	ISG15EC410	KIRAN KUMAR K M	IV B

119.	ISG1SEC413	NOORULLA SHARIEF	IV B
120.	ISG1SEC414	PAVAN N	IV B
121.	ISG1SEC416	PRADEEP M	IV B
122.	ISG1SEC417	PRAMUKH H M	IV B
123.	ISG1SEC418	PRIYANKA B	IV B
124.	ISG1SEC421	RAKSHITHA M R	IV B
125.	ISG1SEC423	RAMYA K	IV B
126.	ISG1SEC426	SACHIN M V	V B
127.	ISG1SEC428	SHASHIDHAR G	IV B
128.	ISG1SEC429	SHUSHRUTHA B	IV B
129.	ISG1SEC430	SOMYA Y B	IV B
130.	ISG1SEC432	SUKESHINI	IV B
131.	ISG1SEC434	UDAYA KUMAR	IV B


Coordinator


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Head of the Department
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Sapthagiri College of Engineering
Bangalore - 560 057

Academic Year: 2015-16

List of Students enrolled for the certification course on "Electrical & Electronics circuit Design using EDA Tools"

Sl. No	USN	Name of the Students	18.01.2016		19.01.2016		20.01.2016		21.01.2016		22.01.2016	
			MS	AS	MS	AS	MS	AS	MS	AS	MS	AS
1	ISG14EC001	ABHILASHES	P	2	3	4	5	6	7	7	8	9
2	ISG14EC003	ABHISHEK H R	1	2	3	4	5	6	7	8	9	10
3	ISG14EC004	ABHISHEK ELMAR SINGH	1	2	2	3	4	5	6	7	8	9
4	ISG14EC005	ABHISHEK PANDEY	1	2	3	4	5	6	7	8	9	10
5	ISG14EC006	ADITYA G PATIL	1	2	3	4	5	6	7	8	9	10
6	ISG14EC007	AKSHATHA K	1	1	2	3	4	5	6	7	8	9
7	ISG14EC008	AKSHAY V	1	2	3	4	5	6	7	8	9	10
8	ISG14EC009	AMRUTH PRAKASH	1	2	3	4	5	6	7	8	9	10
9	ISG14EC011	ANAGHA H K	1	1	2	3	4	5	6	7	7	8
10	ISG14EC012	ANIRUDHSINGH CHAUHAN	1	2	3	4	5	6	7	8	9	10
11	ISG14EC013	APOORVA S	1	2	3	4	5	6	7	8	9	10
12	ISG14EC014	ARAVIND VALSALAN	1	2	2	3	4	5	6	7	8	9
13	ISG14EC015	ASHITHA B N	1	2	3	4	5	6	7	8	9	10
14	ISG14EC017	ATUL E	1	2	3	4	5	5	6	7	8	9
15	ISG14EC018	AYUSE MISHRA	1	2	3	4	5	6	7	8	9	10
16	ISG14EC019	BHARATH K A	1	2	3	4	5	6	7	8	9	10
17	ISG14EC020	BHAVANA M	1	2	3	4	5	6	7	8	9	10
18	ISG14EC021	CHAITHRA K	1	2	3	4	5	6	7	7	8	9
19	ISG14EC022	CHAITHAN R	1	2	3	4	5	6	7	8	9	10
20	ISG14EC023	CHANDAN S	1	2	3	3	4	5	6	7	7	8
21	ISG14EC024	CHANDANA G	1	2	3	4	5	6	7	8	8	9
22	ISG14EC025	CHARISHMA E	1	1	2	3	4	5	5	6	7	8
			1	2	3	4	5	6	7	8	9	10

1	ISG14EC027	DEEPAK KUMAR	1	1	2	3	4	5	6	7	8	9
24	ISG14EC028	DEEPIKA BATTULA	1	2	3	4	5	6	7	8	8	9
25	ISG14EC029	DIVYA VIDAYA	1	2	3	4	5	6	7	8	9	10
26	ISG14EC030	ABDUL SEAA FREENI	1	2	3	4	5	6	7	8	9	10
27	ISG14EC031	GAGAN PEDIYA	1	2	3	4	5	6	7	8	9	10
28	ISG14EC032	GAURAV KUMAR	1	2	3	3	4	5	6	6	7	8
29	ISG14EC033	CHIRISH H	1	2	3	4	5	6	7	8	9	10
30	ISG14EC034	SAHITHI G	1	2	3	4	4	5	6	7	8	9
31	ISG14EC035	HAESHAM N	1	2	2	3	4	5	5	6	7	8
32	ISG14EC036	FEVAATHIRAJUT	1	2	3	4	5	6	7	8	9	10
33	ISG14EC037	HIMANSHU	1	2	3	4	5	6	7	8	9	10
34	ISG14EC040	LAGSHANBIR SINGH	1	2	3	4	5	6	7	8	9	10
35	ISG14EC041	ISHNUL S	1	2	3	4	4	5	6	7	7	8
36	ISG14EC042	KAPYA I	1	2	3	4	5	6	7	8	9	9
37	ISG14EC043	KAPYA K M	1	1	2	3	4	5	6	7	8	9
38	ISG14EC044	KESETHANAK	1	2	3	4	5	6	7	8	9	10
39	ISG14EC046	KOWSALYA H V	1	2	3	4	5	6	7	8	9	10
40	ISG14EC047	KUMARI MANJARI	1	2	2	3	4	5	5	6	7	8
41	ISG14EC048	LCKESH N	1	2	3	4	5	6	7	8	9	10
42	ISG14EC049	MAMISH KUMAR VERMA	1	2	3	4	5	6	7	8	9	10
43	ISG14EC050	MANU B E	1	1	2	3	4	5	6	7	7	8
44	ISG14EC051	MED SEIT ANUDEEP	1	2	3	4	5	6	7	8	9	10
45	ISG14EC052	MOHD SALEEM KHAN	1	2	3	4	5	6	7	8	9	10
46	ISG14EC054	MONISHA NATESH	1	1	2	3	4	5	6	7	7	8
47	ISG14EC055	MOPISA S	1	2	3	4	5	6	7	8	9	10
48	ISG14EC056	NAGESH K L	1	2	3	4	5	6	7	8	9	10
49	ISG14EC057	NETHA VATHI	1	2	3	4	5	6	6	7	8	9

50	ISG14EC058	NITESH GOWDA C R	1	2	3	4	5	6	7	8	9	10
51	ISG14EC059	NITHIN N	1	1	2	3	4	4	5	6	7	8
52	ISG14EC061	PAVITHRA R KOTIAN	1	2	3	4	5	6	7	8	9	10
53	ISG14EC115	DIYA ADARSH (COB)	1	1	2	3	4	5	6	7	7	8
54	ISG15EC400	ANIL KUMAR R	1	2	3	4	5	6	6	7	8	9
55	ISG15EC403	ARUN KUMAR R	1	2	3	4	5	6	7	8	9	10
56	ISG15EC405	BHOJANNA K T	1	2	3	4	5	6	7	8	9	10
57	ISG15EC408	CHETHAN M E	1	2	3	4	5	6	7	8	9	10
58	ISG15EC409	KAVYASHREE S G	1	2	3	4	5	6	7	8	9	10
59	ISG15EC411	KUMAR K	1	2	3	4	5	6	7	8	9	10
60	ISG15EC412	MAHANTESH S HIREMATH	1	2	3	3	4	5	6	6	7	8
61	ISG15EC415	POOJA M S	1	2	3	4	5	6	6	7	8	9
62	ISG15EC419	RAGHAVENDRA R	1	2	3	4	5	6	7	8	9	10
63	ISG15EC422	RAMESH N	1	2	3	4	5	6	7	7	8	9
64	ISG15EC424	REKHA S G	1	2	3	4	4	5	6	7	8	9
65	ISG15EC425	S NITHIN KUMAR	1	1	2	3	4	5	6	7	8	9
66	ISG15EC427	SANJAY S JOSHI	1	2	3	4	5	6	7	8	9	10
67	ISG15EC431	SUJITH KUMAR R	1	2	3	4	5	6	7	8	9	10
68	ISG15EC435	VINAY MALLESH H M	1	2	3	3	4	5	6	6	7	8
69	ISG14EC062	POOJA B C	1	2	3	4	5	6	7	8	9	10
70	ISG14EC063	PRABITH	1	2	3	3	4	5	6	6	7	8
71	ISG14EC064	PRAJWAL	1	2	3	4	5	5	6	7	8	9
72	ISG14EC065	PRANEETH GANESH YAJI	1	1	2	3	4	5	6	7	7	8
73	ISG14EC066	PRITIKA	1	2	3	4	5	5	6	7	8	9
74	ISG14EC067	PRIYANKA S RAO	1	2	3	4	5	6	7	8	9	10
75	ISG14EC068	PURUSHOTHAM V	1	2	3	4	5	6	7	8	9	10

	ISG14EC069	RAGHAVENDRA SHANKAR BHAGWAT	1	2	3	4	5	6	7	8	9	10
77	ISG14EC070	RAHUL KUMAR SINGH	1	1	2	3	4	5	6	7	8	9
78	ISG14EC071	RAHUL S	1	2	2	3	4	5	5	6	7	8
79	ISG14EC073	RAMESH R	1	2	3	4	5	6	7	8	9	10
80	ISG14EC075	RANJITH SHASTRY M	1	2	3	3	4	5	6	7	7	8
81	ISG14EC076	RASHMI	1	2	3	4	5	6	7	8	9	10
82	ISG14EC078	RASHMI N	1	2	3	3	4	5	6	7	8	9
83	ISG14EC079	RASHMI S	1	2	3	4	5	5	6	7	8	9
84	ISG14EC080	RESHMA M	1	2	3	4	5	6	7	8	9	10
85	ISG14EC081	RISHIK A BHARADWAJ	1	2	3	4	4	5	5	6	7	8
86	ISG14EC083	RUDRANEIL CHATTTERJEE	1	2	3	4	5	6	7	8	8	9
87	ISG14EC084	SAGAR B V	1	2	3	4	5	6	7	8	9	10
88	ISG14EC085	SAILESH S	1	2	3	4	5	6	6	7	8	9
89	ISG14EC088	SHALU THAKUR	1	2	3	4	5	6	7	8	8	9
90	ISG14EC089	SHARANYA G	1	2	3	4	4	5	6	7	7	8
91	ISG14EC090	SHILPA KUMARI A	1	2	3	4	5	6	7	8	9	10
92	ISG14EC091	SHIVARAJ MASALI	1	1	2	3	4	4	5	6	6	7
93	ISG14EC092	SHREE RAKSHA V	1	2	3	4	5	6	7	8	9	10
94	ISG14EC094	SHUBHAM KUMAR	1	2	3	4	5	6	7	8	9	10
95	ISG14EC095	SOMYA SINGH	1	1	2	3	3	4	5	6	7	8
96	ISG14EC096	SOUNDARYA M	1	2	2	2	3	4	5	5	6	7
97	ISG14EC097	SUDHARSHAN PATIL G S	1	2	3	4	5	6	7	8	9	10
98	ISG14EC098	SUHAS K R	1	2	3	4	5	6	7	8	8	9
99	ISG14EC099	SUNIL KUMAR	1	2	3	4	5	6	7	7	8	9
100	ISG14EC101	SUSHMITHA P	1	2	3	4	5	6	6	7	8	9
101	ISG14EC102	TEJAS RAO M	1	2	3	4	5	6	7	8	9	10
	ISG14EC103	THANU SHREE K B	2	3	4	5	6	7	8	9	10	10

103SG14EC104	THEJA SURET	1	2	3	4	5	6	7	8	9	10
104SG14EC105	UDIT KUMAR	1	1	2	3	4	5	6	7	8	8
105SG14EC106	UJJWAL S	1	2	3	3	4	5	6	6	7	8
106SG14EC107	V NIHARIKA	1	2	3	4	5	6	7	8	9	10
107SG14EC108	V PRAVALIKA	1	2	3	4	5	6	7	8	8	9
108SG14EC109	VARSHA A	1	1	2	3	4	4	5	6	7	8
109SG14EC110	VARSHA K	1	2	3	4	5	6	7	8	9	10
110SG14EC111	VIPUL P	1	2	3	4	4	5	6	7	8	8
111SG14EC112	VISHWA A	1	2	3	4	5	6	7	8	8	9
112SG14EC114	VIVEKA NANDA B K	1	2	3	3	4	5	5	6	7	8
113SG14EC116	PUNEETH N E(COB)	1	2	3	4	5	6	7	8	9	10
114SG15EC401	APOORVA L C	1	1	2	3	4	5	6	7	8	9
115SG15EC402	ARUN K	1	2	3	4	5	6	7	7	8	9
116SG15EC404	BHAVYA S	1	2	3	4	5	6	7	7	8	9
117SG15EC406	CHANDRASHEKAR B	1	2	3	4	5	6	7	8	9	10
118SG15EC410	KIRAN KUMAR K M	1	2	3	3	4	5	6	7	8	8
119SG15EC413	NOORULLA SHARIEF	1	2	3	4	4	4	5	6	7	8
120SG15EC414	PAVAN N	1	2	3	4	5	6	7	7	8	9
121SG15EC416	PRADEEP M	1	2	3	4	5	6	7	8	9	10
122SG15EC417	PRAMUKH F M	1	2	3	4	5	6	7	8	9	10
123SG15EC418	PRIYANKA E	1	2	3	4	4	5	6	7	7	8
124SG15EC421	RAKSHITHA M R	1	2	3	4	5	6	7	8	9	10
125SG15EC423	RAMYA K	1	2	3	4	5	6	7	8	9	10
126SG15EC426	SACHIN M V	1	2	3	4	4	5	6	7	7	8
127SG15EC428	SHASHIDHAR C	1	2	3	4	5	6	7	8	8	9
128SG15EC429	SHUSHRUTHA E	1	2	3	4	5	6	7	8	9	10
		1	2	3	4	5	6	7	8	8	9

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Electronics and Communication Engineering

129SG15EC430	SOUMYA Y B	1	2	3	4	5	6	7	8	9	10
130SG15EC432	SUKESHINI	1	2	3	3	4	5	6	7	8	8
131SG15EC434	UDAYA KUMAR	1	2	3	4	5	5	6	7	8	9

✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓


Coordinator


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**5 days Certification Course on “Electrical and Electronics Circuit design
and analysis using EDA tools”**

Test Time Table

Sl. No.	DATE	DAY	TIMINGS
1	29-01-2016	Friday	3.00PM-4.00PM



HOD

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



Principal
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Bangalore - 560 057

5 days Certification Course on “Electrical And Electronics Circuit Design and Analysis Using EDA Tools.

Duration : 60 Minutes

Maximum marks : 50

Date: 29.01.2016

Question No. 1-20 (1M each)

Question No 21 & 22 (15 M each)

Answer all the Questions:

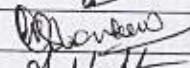
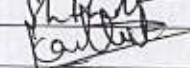
1. A small signal analysis in frequency domain is termed as
 - A. DC analysis
 - B. AC analysis
 - C. DC transfer curve analysis
 - D. Noise analysis
2. General purpose, open source analog electronic simulator is known as
 - A. MATLAB
 - B. SPICE
 - C. PROTEUS
 - D. C++
3. In SPICE, a sequence of nonlinear operating points calculated while sweeping an input voltage or current, or a circuit parameter is termed as
 - A. DC analysis
 - B. AC analysis
 - C. DC transfer curve analysis
 - D. Noise analysis
4. SPICE ver.3 written in C language uses
 - A. no list syntax
 - B. single list syntax
 - C. net list syntax
 - D. branch list syntax
5. In SPICE, non linear quiescent point calculation is termed as
 - A. DC analysis
 - B. AC analysis
 - C. DC transfer curve analysis
 - D. Noise analysis
6. Collector region of BJT is always
 - A. lightly doped
 - B. moderately doped

- C. heavily doped
D. not doped
7. Process of linearly increasing amplitude of an electrical signal is called
A. switching
B. amplification
C. multiplexing
D. fabrication
8. $\beta_{DC} =$
A. $\alpha_{DC}/1+\alpha_{DC}$
B. $1-\alpha_{DC}/1+\alpha_{DC}$
C. $\alpha_{DC}/1-\alpha_{DC}$
D. $1+\alpha_{DC}/1-\alpha_{DC}$
9. Switch is open when transistor is in
A. cutoff region
B. linear region
C. saturation region
D. breakdown region
10. If collector current is 2mA and base current is 0.5mA then emitter current will be
A. 10mA
B. 2.5mA
C. 1.5mA
D. 4mA
11. Multivibrators belong to a family of oscillators commonly called
A. Relaxation oscillators
B. Dynamic oscillators
C. Stretched oscillators
D. Static oscillators
12. Multivibrator in which circuit is stable in either state and can be flipped from one state to other by an external trigger pulse is termed as
A. Astable multivibrator
B. Monostable multivibrator
C. Bistable multivibrator
D. Tristable multivibrator
13. In astable circuit, finite output resistance of CMOS will be
A. neglected

- B. 10 ohms
 - C. $-\infty$
 - D. ∞
14. Circuit which consist of a quasi-stable state is called
- A. bistable circuit
 - B. monostable circuit
 - C. tri stable circuits
 - D. tristate circuit
15. Capacitor discharge interval in monostable circuits is known as
- A. refresh time
 - B. recovery time
 - C. dynamic time
 - D. static time
16. D flip flop tracks the
- A. input
 - B. output
 - C. source
 - D. ground
17. In SR flip-flop, input labeled 'S' stands for
- A. Systematic
 - B. Static
 - C. Set
 - D. Stable
18. In CMOS SR flip flops, set-reset circuitry is made up of
- A. NMOS
 - B. PMOS
 - C. CMOS
 - D. BiCMOS
19. In master slave circuit, to maintain most of circuit charge we relay on
- A. bypass capacitor
 - B. node capacitor
 - C. input capacitor
 - D. load capacitor
20. Latches consist of

- A. inductors
 - B. inverters
 - C. timing generators
 - D. frequency generators
21. Design and Simulate Radio frequency Oscillator (Colpitts oscillator with $f_0 = 100\text{KHz}$ and above.
22. Design and simulate lowpass and high pass filter of second order using 741 opamp for $F_c = 5\text{KHz}$.

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. Karthik N C	Lecturer	


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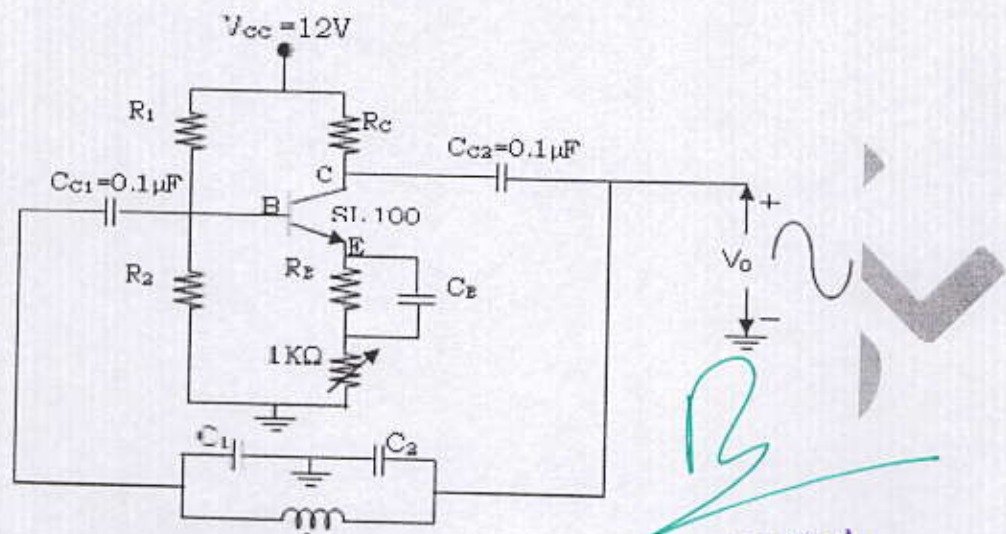
5 days Certification Course on “Electrical And Electronics Circuit Design and Analysis using EDA Tools”

Solutions

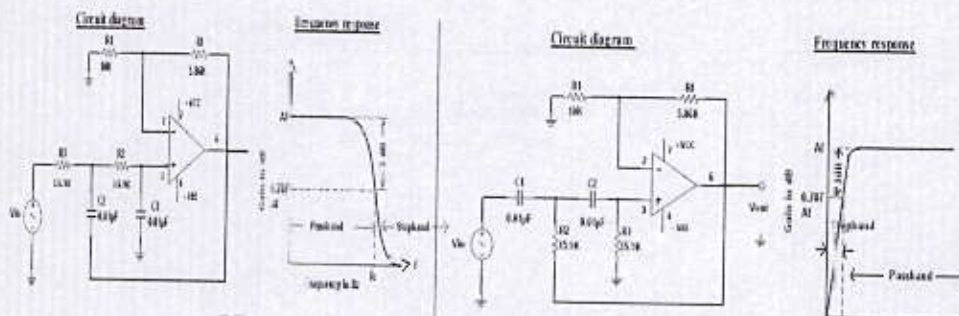
1. B
2. B
3. C
4. C
5. A
6. B
7. B
8. C
9. A
10. B
11. A
12. C
13. A
14. B
15. B
16. A
17. C
18. A
19. B
20. B

21. Colpitts Oscillator

Circuit Diagram:



22. Low pass filter



Approved by Academic Committee Members & Guest Speaker

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ELECTRONICS AND COMMUNICATION ENGINEERING

5 days Certification Course on "Electrical & Electronics Circuit Design using EDA tools"

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

No comments -

Akshay V
Student Name


Student Signature

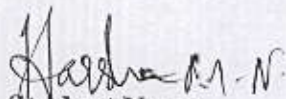

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8. Any Suggestions:


Student Name


Student Signature

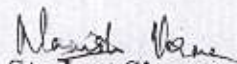
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8. Any Suggestions:

MANISH KUMAR VERMA
Student Name


Student Signature

**5 days Certification Course on "Electrical & Electronics Circuit Design
using EDA tools"**

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8. Any Suggestions:

Lokesh M
Student Name

Lokesh
Student Signature

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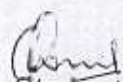
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8. Any Suggestions:

Chandana G
Student Name

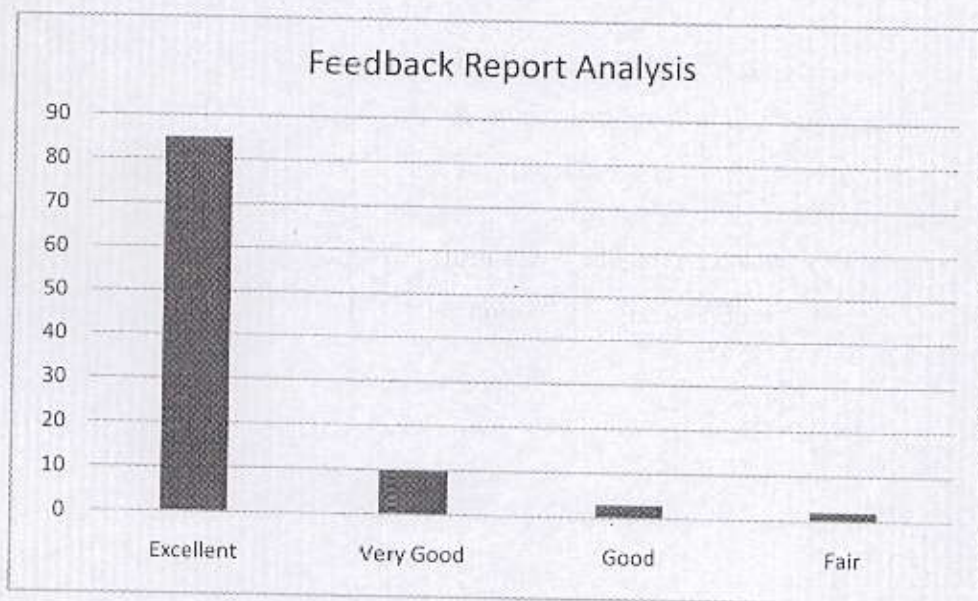

Student Signature


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FEEDBACK ANALYSIS

Certification Programme: “Electrical and Electronics Circuit design and analysis using EDA tools”

No. of students	Student Feedback (%)			
	Excellent	Very Good	Good	Fair
40	90	7	2	1



Action Report:

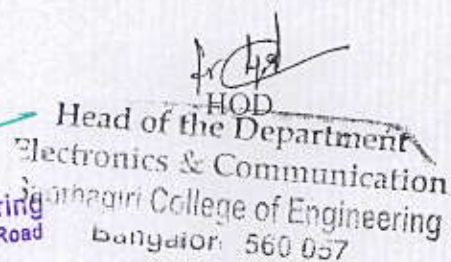
90 % of students were completely happy with the certification program and 7 % of students felt it was a good program and remaining 3 % students were satisfied with the program.

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.


CO-ORDINATOR


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Certification Course Report on “Electrical and Electronics Circuit design using EDA tools”

Department of ECE conducted Certificate Course on Electrical and Electronics Circuit design and analysis using EDA tools.

- **Speaker:** Prof. Ravishankara M N, Associate Professor & Karthik N C, Lecturer, Department of ECE, Sapthagiri college of Engineering, Bangalore.
- **Duration of the course:** Five days from 18-01-2016 to 22-01-2016
- **Course details :** Electrical and Electronics Circuit design using EDA tools

Objective of the Course: The five days course is to make the students to be familiar with the EDA tool Pspice and Multisim.

Certification Course session wise report

Dates	SESSION 1 (8.30am-10.15am)	SESSION 2 (10.30am-12.30pm)	SESSION 3 (1.30pm-4.00pm)
18-01-2016 Monday	Speaker delivered lecture on Introduction to EDA tools, Advantages of EDA tools	Lecture delivered on Basics of Electronics & electrical circuits	Students had Hands on session
19-01-2016 Tuesday	Delivered lecture on basics of Electronics circuits	Delivered lecture on basics of Electronics circuits and its design	Students were taught about Introduction to pspice and its installation procedure
20-01-2016 Wednesday	Students learnt the basics of Electrical circuit elements and its application	Students learnt the basics of Electrical circuit design	Students learnt analyzing the circuits using Pspice
21-01-2016 Thursday	Speaker delivered lecture on Introduction to Multisim and the Installation procedure for Multisim.	Students learnt analyzing the circuits using Multisim.	Students had Hands on session.
22-01-2016 Friday	Hands on session on different Electronics circuit	Hands on session on different Electronics circuit	Hands on session on different Electronics circuit



Principal

Students attending the course with Resource persons



Conclusion:

Certification course made the students comfortable with using Pspice and Multisim for circuit design. 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. The optimistic learning environment prompted motivation in the learning of the students. A sense of satisfaction was also seen among students. This Course helped the students to improve their knowledge in the design and analysis of Electrical and Electronics circuits using the EDA tools Pspice and Multisim.


CO-ORDINATOR


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DEPARTMENT OF ELECTRONICS AND COMMUNICATION

Five days certification course on

"ELECTRICAL and ELECTRONICS CIRCUIT DESIGN using EDA TOOLS"

CERTIFICATE

This is to certify that Mr/Mshas attended
five days certification course on "ELECTRICAL and ELECTRONICS CIRCUIT DESIGN
using EDA TOOLS" organized by the Department of Electronics and Communication
Engineering, Sapthagiri college of Engineering, Bengaluru from 18th January to 22nd
January 2016.

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


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B.

Principal
S.C.E., Bengaluru



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DEPARTMENT OF ELECTRONICS AND COMMUNICATION

Five days certification course on

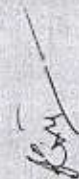
"ELECTRICAL and ELECTRONICS CIRCUIT DESIGN using EDA TOOLS"

CERTIFICATE

This is to certify that Mr/Ms ANAGH.A. H.K. has attended
five days certification course on "ELECTRICAL and ELECTRONICS CIRCUIT DESIGN
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This is to certify that Mr/Ms HANDAN.S has attended
five days certification course on "ELECTRICAL and ELECTRONICS CIRCUIT DESIGN
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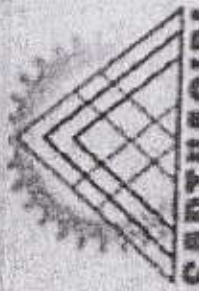
This is to certify that Mr/Ms S. RISHA H.....has attended
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CERTIFICATE

This is to certify that Mr/Ms KAVYA J has attended
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Engineering, Sapthagiri college of Engineering, Bengaluru from 18th January to 22nd
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION

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This is to certify that Mr/Ms LOKESH N has attended five days certification course on "ELECTRICAL and ELECTRONICS CIRCUIT DESIGN using EDA TOOLS" organized by the Department of Electronics and Communication Engineering, Sapthagiri college of Engineering, Bengaluru from 18th January to 22nd January 2016.


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