

### 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	2017-18
Branch	EEE
Name of the Student	ARCHANA S
USN	15914EE015

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			✓		

Suggestions: NO Suggesting, But if they conduct workshops/certification courses it will be helpful for us

Signature Archana S

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



### 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	2017-18
Branch	EEE
Name of the Student	Devaraja K
USN	15915EE4091

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		✓			

Suggestions:

Required Industrial visit / certificate  
course

Signature

Devaraja K

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



### 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	2017-18
Branch	EEE
Name of the Student	Vishwanath M
USN	15A15EE086

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	✓				

Suggestions: certificate course & EOP has to conduct once per year/semester

Signature Vishwanath M

  
Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hosaraghatta Main Road  
Berga uru - 560 057



### 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	2017-18
Branch	ECE
Name of the Student	Chandan Kumar Jaiswal
USN	15C17AE023

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		✓			

Suggestions: Good, Courses are required

Signature

*Chandan Kumar Jaiswal*

*[Signature]*  
Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hoosarghatta 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	2017-18
Branch	EEE
Name of the Faculty	Ramya M.
Designation	Assistant Professor
Subject/Sub. code	Microcontroller

Rate the curriculum/syllabus on the following Points

SL NO	Statements	Excellent 5	Very good 4	Good 3	Average 2	Below Average 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: Industries have to be visited for better understanding of knowledge.

Signature *R. M.*

Principal  
**Sapthagiri College of Engineering**  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bangalore - 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	2017-18
Branch	EE
Name of the Faculty	Nandani D.B.
Designation	Asst Prof.
Subject/Sub. code	15EE63

Rate the curriculum/syllabus on the following Points

SL NO	Statements	Excellent 5	Very good 4	Good 3	Average 2	Below Average 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: More practical oriented education is required.

Signature MPB

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	2017-18
Branch	EEE
Name of the Faculty	Acharya A. V.
Designation	Asst. Prof.
Subject/Sub. code	Renewable Energy Sources

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: If they conduct more industrial visit more practical knowledge they will get atleast 2 industrial visit done to be.  
Signature: Acharya A. V.

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	2017-18
Branch	ECE
Name of the Faculty	Ms. R. Rukmangada
Designation	Asst. Professor
Subject/Sub. code	op-amp and linear integrated ckt

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: Certification course has to be conducted it will be useful for students.

Signature *Rukmangada*

*[Signature]*  
Principal  
Sapthagiri College of Engineering  
14/E, Chikkasandra, Hosur Main Road  
Bengaluru - 560 057



### 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	2017
Branch	Electrical & Electronics Engineering
Name	Shanu
Status : Work/Study	Work
Phone no	7259506346

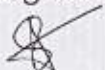
Rate the curriculum/syllabus on the following Points

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 learned in relation to your current job	✓				
8	Compatibility with industry standards	✓				

Suggestions:

More practicals & less theory

Signature



Principal  
Sapthagiri College of Engineering  
14/5, Chikkaandra, Hosanghatta 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)

### 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	2017
Branch	Electrical & Electronics Engineering
Name	Shan Ragi Jaya
Status : Work/Study	Work
Phone no	9066960223

Rate the curriculum/syllabus on the following Points

SL NO	Statements	Excel ent	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:

More practicals & less theory

Signature



### 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	2017
Branch	EEE
Name	Pallavi Magumdar
Status : Work/Study	ICIS Bank.
Phone no	7829712587

Rate the curriculum/syllabus on the following Points

SL NO	Statements	Excellent 5	Very good 4	Good 3	Average 2	Below Average 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: Syllabus has to be revised in upcoming year industrial visit/Internship has to be done

Signature: Pallavi





### 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	2017
Branch	EE
Name	Romya M
Status : Work/Study	INTER
Phone no	88 61530 703

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 Institutions 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: Entrepreneurship & Development cell has to be set up in each college made mandatory  
 Signature: R M be university

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





## Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372800/1/2

www.sapthagiri.edu.in




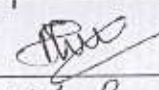
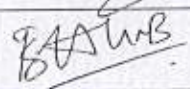
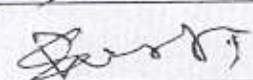
Fax: 080-28372797

### Department of Electrical & Electronics Engineering


25-05-2018

#### CIRCULAR

This is to inform that the following Curriculum Board members are requested to attend the meeting on 26/05/2018 at 10.30AM in the HODs chamber to discuss about the analyzing of curriculum syllabus of academic year 2018-19.

Sl No.	Faculty Name	Designation	Signature
1	Dr. K N Ravi	HOD	
2	Prof. Rekha S N	Associate Professor	
3	Prof. Dhamodaran A	Assistant Professor	
4	Prof. Mahavishnu K B P	Assistant Professor	
5	Prof. Bharath B N	Assistant Professor	
6	Prof. Shivaraj A	Assistant Professor	

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

  
HOD EEE  
PROF & HOD  
Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bengaluru - 560057.




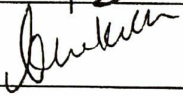
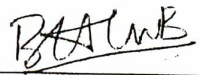
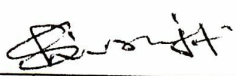


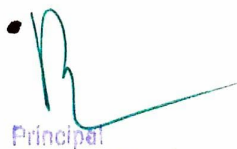
### Minutes of Meeting

With reference to above circular dated 25.05.2018 the curriculum board members assembled in HODs chamber for the following agenda.

#### AGENDA:

- Reviewing the department curriculum syllabus of academic year 2018-19.
- Reviewing the feedback analysis of various stakeholders for the academic year 2017-18.
- Identifying the gaps.
- Action to be taken for identifying the gaps.
- The following Curriculum board members were present

Sl No.	Faculty Name	Designation	Signature
1	Dr. K N Ravi	HOD	
2	Prof. Rekha SN	Associate Professor	
3	Prof. Dhamodaran A	Assistant Professor	
4	Prof. Mahavishnu K B P	Assistant Professor	
5	Prof. Bharath B N	Assistant Professor	
6	Prof. Shivaraj A	Assistant Professor	



Principal



# Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372800/1/2

www.sapthagiri.edu.in

Fax: 080-28372797

## Department of Electrical & Electronics Engineering


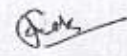

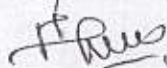
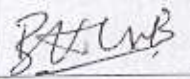
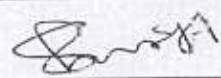
Sl No.	SEM	Course Title	Identified Gap
1	V	Switch gear and Protection	Lack of knowledge about protection of different network
2	VI	High Voltage Engineering	Lack of knowledge about high voltage insulation in power system equipment

### The following points are discussed in the meeting

- The committee members reviewed the department curriculum syllabus.
- The committee members discussed about the feedback of department curriculum syllabus.
- The members identified the gaps based on the syllabus.
- The following action were taken for identifying the gaps.

### ACTION TAKEN:

Based on the Feedback obtained from the students, faculties' alumni and analysis of syllabus by academic committee members it was decided to conduct certification course on "Protection of Electrical Network" and "Condition and assessment of High Voltage insulation in power system equipment" to overcome the gaps identified in the curriculum/syllabus.

Sl No.	Faculty Name	Designation	Signature
1	Dr. K N Ravi	HOD	
2	Prof. Rekha S N	Associate Professor	
3	Prof. Dhamodaran A	Assistant Professor	
4	Prof. Mahavishnu K B P	Assistant Professor	
5	Prof. Bharath B N	Assistant Professor	
6	Prof. Shivaraj A	Assistant Professor	

HOD,EEE

PROF & HOD

Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bengaluru - 560057.

Principal

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



## Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372300/1/2

www.sapthagiri.edu.in

Fax: 080-28372797

### Department of Electrical & Electronics Engineering

To,

IQAC Coordinator  
Sapthagiri College of Engineering  
Bangalore - 560057.

Respected Sir,

**Subject:** "Budget proposal for conduction of certification program Condition and assessment of High Voltage insulation in power system equipment"

With reference to above subject, I undersigned would like to bring the following for your kind information and consideration. As a part of programming skill development for EEE students, department of Electrical and Electronics Engineering would like to conduct 5 days Certification Course on "Protection of Electrical Network" from 23-Jul-2018 to 27-Jul-2018.

In this regard, I request you to kindly grant permission for the conduction of the course the above specified event for Please grant permission for the sanction of Rs.4420 for the conduction of the above mentioned program and oblige.

#### Estimated Budget

Sl. No.	Item	Quantity	Unit Cost in Rs.	Total cost in Rs.
1	Certificates	121	20	2420
2	Course Material			2000
<b>Grand Total</b>				<b>4420</b>

Thanking You,  
Respected Sir,  
HOD

Dr. S. S. Srinivasan  
HOD  
Dept of Electrical & Engg.  
Sapthagiri College of Engineering  
#14/5 Chikkasandra, Hesaraghatta Main Road  
BENGALURU - 560 057

*[Signature]*

HOD

**PROF & HOD**

Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bangalore - 560057.

*[Signature]*  
Principal

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





# Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372800/1/2

www.sapthagiri.edu.in

Fax: 080-28372797

## Department of Electrical & Electronics Engineering

To

Date: 29.05.2018

IQAC Coordinator  
Sapthagiri College of Engineering  
Bangalore-560057

Respected Sir

Subject: "Requestion for conduction of certification course and approval from governing council".

With respect to the academic committee members meeting was held for analyzing department curriculum/syllabus for the academic year 2018-19. The committee members identified few gaps

After analyzing the syllabus and feedback from the stake holders. To bridge the gaps identified in the curriculum the committee members decided to conduct a certification course "Protection of Electrical Network" for the academic year 2018-19. So I request you to forward and get the approval from governing council for the same.

Thanking you,

Enclosure: Budget Proposal.

*Forwarded for G.C. approval  
& need full*

*H.R. Ranganatha*  
Dr. H.R. Ranganatha  
Prof. & H.C.D

Dept. of Information Science & Engg.

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

Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bangalore - 560057

*K. Ravi*  
HOD, EEE

PROF & HOD  
Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bangalore - 560057



## Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372800/1/2

www.sapthagiri.edu.in


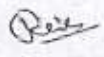


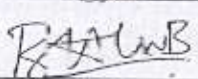

Fax: 080-28372797

### Department of Electrical & Electronics Engineering

Date: 05/07/2018

#### CIRCULAR

This is to inform that the following Curriculum Board members are requested to attend the meeting on 06/07/2018 at 2.30PM in the HODs chamber to discuss about the certification course.

Sl No.	Faculty Name	Designation	Signature
1	Dr. K N Ravi	HOD	
2	Prof. Rekha S N	Associate Professor	
3	Prof. Dhamodaran A	Assistant Professor	
4	Prof. Mahavishnu K B P	Assistant Professor	
5	Prof. Bharath B N	Assistant Professor	
6	Prof. Shivaraj A	Assistant Professor	

Principal

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

HOD EEE

PROF & HOD

Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bengaluru - 560057.





# Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)  
#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru - 560057  
Phone: 080-28372800/1/2      www.sapthagiri.edu.in      Fax: 080-28372797

## Department of Electrical & Electronics Engineering

Date: 05-07-2018

To,

Prof. Leela AM  
Associate Professor,  
Department of EEE,  
Acharaya Institute of technology  
Bangalore - 560057.

Respected Sir,

Subject: Invitation as a "Guest Speaker" in certification program and to attend meeting to discuss about the certification program

Department of Electrical & Electronics Engineering have planned to conduct a certification program titled "Protection of Electrical Network" for the EEE students from 23-07-2018 to 27-07-2018. In this connection, 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 06/07/2018, 2.30 PM. We look forward to welcome you at SCE.

Thanking you

Principal

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

Yours faithfully

HOD EEE

**PROF & HOD**

Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bangalore - 560057.



### Minutes of Meeting

A meeting was conducted on 06-Jul-2018 in EEE HOD's Chamber to discuss and approve the following about the 5 days Certification Course for EEE Students.

- **Course Title :** "Protection Of Electrical Network"
- **Resource Personnel :** Prof. Leela AM, Assoc Professor, Dept of EEE, Amrita Institute of technology, Bengaluru.
- **Course Duration & Date:** 5 Days from 23-Jul-2018 to 27-Jul-2018.
- **Course Content :**

Dates	SESSION 1 (9.00am-10.30am)	SESSION 2 (11.00am-12.30pm)	SESSION 3 Hands-on Session (1.30pm-4.30pm)
23-7-2018 Monday	<ul style="list-style-type: none"> <li>• Network Structures</li> <li>• General structure of the private distribution network</li> <li>• The supply source</li> </ul>	<ul style="list-style-type: none"> <li>• MV power supply</li> <li>• Different MV service connections</li> <li>• supply modes</li> <li>• HV consumer substations</li> </ul>	<ul style="list-style-type: none"> <li>• Hands on Network Structures examples</li> </ul>
24-7-2018 Tuesday	<ul style="list-style-type: none"> <li>• MV consumer substations</li> <li>• MV networks inside the site</li> <li>• MV switchboard power supply modes</li> </ul>	<ul style="list-style-type: none"> <li>• MV network structures.</li> <li>• LV networks inside the site</li> <li>• LV switchboard</li> </ul>	<ul style="list-style-type: none"> <li>• Hands on Collections at MV and LV switch board</li> </ul>
25-7-2018 Wednesday	<ul style="list-style-type: none"> <li>• <b>Earthing Systems</b> Earthing systems at low voltage.</li> <li>• Different earthing systems definition and arrangements</li> <li>• Uncarried or impedance-earthed neutral</li> </ul>	<ul style="list-style-type: none"> <li>• Directly earthed neutral (TT system)</li> <li>• Connecting the exposed conductive parts to the neutral</li> </ul>	<ul style="list-style-type: none"> <li>• Hands on Earthing handling and Connections</li> </ul>
26-7-2018 Thursday	<ul style="list-style-type: none"> <li>• <b>Protection of Network Elements</b></li> <li>• Network protection</li> <li>• Earth fault requirements for networks earthed via a limiting</li> <li>• Protection against earth faults</li> </ul>	<ul style="list-style-type: none"> <li>• Network with two parallel incoming feeders</li> <li>• Protection against earth faults Network with two looped incoming feeders</li> </ul>	<ul style="list-style-type: none"> <li>• Hands-on Protection of Network Elements</li> </ul>
27-7-2018 Friday	<ul style="list-style-type: none"> <li>• Examples of motor protection. Motor protection setting indications</li> <li>• Protection of low voltage asynchronous motors</li> <li>• AC generator protection</li> </ul>	<ul style="list-style-type: none"> <li>• Specific protection against earth faults</li> <li>• Switch-fuse protection</li> <li>• Circuit-breaker protection</li> <li>• Examples of transformer protection</li> </ul>	<ul style="list-style-type: none"> <li>• Hands on Switch-fuse protection</li> <li>• Circuit-breaker protection.</li> <li>• Test Conduction</li> </ul>

Principal

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



## Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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


Phone: 080-28372800/1/2

www.sapthagiri.edu.in

Fax: 080-28372797

### Department of Electrical & Electronics Engineering

The following Curriculum board members were present

Sl No.	Faculty Name	Designation	Signature
1	Dr. K N Ravi	HOD	
2	Prof. Rexha S N	Associate Professor	
3	Prof. Dhamodaran A	Assistant Professor	
4	Prof. Mahavishnu KBP	Assistant Professor	
5	Prof. Bharath B N	Assistant Professor	
6	Prof. Shivaraj A	Assistant Professor	
7	Prof. Leela AM	Guest Speaker	

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

  
HOD, EEE

PROF & HOD  
Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bangalore - 560057.





## Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372800/1/2

www.sapthagiri.edu.in

Fax: 080-28372797

### Department of Electrical & Electronics Engineering

#### NOTICE

As a part of programming skill development Department of Electrical and Electronics Engineering is conducting Five days Certification Course on "Protection of Electrical Network" from 23-July-2018 to 27-July-2018

All the EEE students must attend the course compulsorily.

Signature of HOD

PROF & HOD

Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bengaluru - 560057.

Principal

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



## Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372800/1/2

www.sapthagiri.edu.in

Fax: 080-28372797

### Department of Electrical & Electronics Engineering

Certification Program: Protection of Electrical Networks

#### Lesson Plan

Dates	SESSION 1 (9.00am-10.30am)	SESSION 2 (11.00am-12.30pm)	SESSION 3 Hands-on Session (1.30pm-4.30pm)	No. of Hours
23-7-2018 Monday	<ul style="list-style-type: none"> <li>Network Structures</li> <li>General structure of the private distribution network</li> <li>The supply source</li> </ul>	<ul style="list-style-type: none"> <li>MV power supply</li> <li>Different MV service connections</li> <li>supply modes</li> <li>HV consumer substations</li> </ul>	<ul style="list-style-type: none"> <li>Hands on Network Structures Examples</li> </ul>	6
24-7-2018 Tuesday	<ul style="list-style-type: none"> <li>MV consumer substations</li> <li>MV networks inside the site</li> <li>MV switchboard power supply modes</li> </ul>	<ul style="list-style-type: none"> <li>MV network structures.</li> <li>LV networks inside the site</li> <li>LV switchboard</li> </ul>	<ul style="list-style-type: none"> <li>Hands on Collections at MV and LV switch board</li> </ul>	6
25-7-2018 Wednesday	<ul style="list-style-type: none"> <li>Earthing Systems Earthing systems at low voltage.</li> <li>Different earthing systems - definition and arrangements</li> <li>Unearthed</li> </ul>	<ul style="list-style-type: none"> <li>Directly earthed neutral (TT system)</li> <li>Connecting the exposed conductive parts to the neutral</li> </ul>	<ul style="list-style-type: none"> <li>Hands on Earthing handling and Connections</li> </ul>	6
26-7-2018 Thursday	<ul style="list-style-type: none"> <li>Protection of Network Elements</li> <li>Network protection</li> <li>Earth fault requirements for networks earthed via a limiting</li> <li>Protection against earth faults</li> </ul>	<ul style="list-style-type: none"> <li>Network with two parallel incoming feeders</li> <li>Protection against earth faults Network with two looped incoming feeders</li> </ul>	<ul style="list-style-type: none"> <li>Hands on Protection of Network Elements</li> </ul>	6
27-7-2018 Friday	<ul style="list-style-type: none"> <li>Examples of motor protection. Motor protection setting indications</li> <li>Protection of low voltage asynchronous motors AC generator protection</li> </ul>	<ul style="list-style-type: none"> <li>Specific protection against earth faults</li> <li>Switch-fuse protection</li> <li>Circuit breaker protection Examples of transformer protection</li> </ul>	<ul style="list-style-type: none"> <li>Hands on Switch-fuse protection</li> <li>Circuit-breaker protection.</li> <li>Test Conduction</li> </ul>	6
Total				30

*[Signature]*  
PROF & HOD

Department of Electrical & Electronics Engineering,  
Sapthagiri College of Engineering  
Bengaluru - 560057.

*[Signature]*  
GUEST SPEAKER

*[Signature]*  
Principal

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



**Sapthagiri College of Engineering**  
14<sup>th</sup>, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560057  
**Department of Electrical and Electronics Engineering**

**5 days Certification Program on "Protection of Electrical Network"**

**Students Enrollment      Academic Year (2018-19 Odd)**

SL.No	USN	Student Name
1	1SG16EE001	A.R GOUTAM
2	1SG16EE004	ABHISHEK S
3	1SG16EE005	ADARSH K
4	1SG16EE006	AISHWARYA RAVI
5	1SG16EE007	AISHWARYA S
6	1SG16EE008	AMITH SURAJ
7	1SG16EE009	ANANYA V
8	1SG16EE010	ANJUL P
9	1SG16EE011	ANUSHA M S
10	1SG16EE012	ARPITHA G
11	1SG16EE013	ARPITHA P
12	1SG16EE014	ASHEAQUE AHMED
13	1SG16EE015	ASHWINI N
14	1SG16EE016	BHANU PRATAP YADAV
15	1SG16EE017	BHAVYA M
16	1SG16EE018	BHOOMIKA VASANTH
17	1SG16EE019	BI BLAYESHA S
18	1SG16EE020	CHANDAN S R
19	1SG16EE022	CHIDANANDA C
20	1SG16EE023	CHIRAG S
21	1SG16EE024	DEEPA T S
22	1SG16EE025	DHANUSH S
23	1SG16EE026	DIXITH R
24	1SG16EE027	FAIZA FATHIMA A
25	1SG16EE029	GAGAN H J
26	1SG16EE030	GAGAN KUMAR GANDHI K
27	1SG16EE031	GAGANA R
28	1SG16EE032	GANAVI C A
29	1SG16EE033	GOUTHAMI K
30	1SG16EE034	HARSHITHA C GCWDA
31	1SG16EE035	HARSHITHA N
32	1SG16EE036	HEMA S
33	1SG16EE037	JEEVAN KUMAR F
34	1SG16EE038	JYOTHI GADED
35	1SG16EE039	K KARTHIK DUREY
36	1SG16EE040	KALAN
37	1SG16EE042	KAVYA R P
38	1SG16EE043	KAVYA SHREE R
39	1SG16EE044	KAVYASHREE S
40	1SG16EE047	KUSUMA H
41	1SG16EE048	M MONICA

  
Principal



**Sapthagiri College of Engineering**  
14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560057  
**Department of Electrical and Electronics Engineering**

SL.No	USN	Student Name
42	1SG16EE049	MADHUKAR K
43	1SG16EE051	MALATHI R
44	1SG16EE053	MANJUNATH T
45	1SG16EE054	MONIKA N
46	1SG16EE055	MOUNA M
47	1SG16EE057	NANDA KUMAR J
48	1SG16EE111	GEETHA B N
49	1SG15EE446	THYAGARAJU H F
50	1SG16EE416	SRIKANTH K
51	1SG17EE400	ANIL KUMAR G
52	1SG17EE402	CHAITHRA T
53	1SG17EE405	DILIPGOWDA R N
54	1SG17EE406	DILIP CHAKRAVARTHI V
55	1SG17EE407	H K ANIL
56	1SG17EE409	KISHORE KUMAR B G
57	1SG17EE411	MANOJ
58	1SG16EE402	ABHISHEK GOWDA DN
59	1SG16EE406	ANIL KUMAR
60	1SG16EE433	NIRANJAN K
61	1SG16EE440	RAKSHATH C U
62	1SG16EE441	RIJU H
63	1SG16EE452	YASHWANTH
64	1SG16EE058	NEHA TOMAR
65	1SG16EE059	NIKHIL NINGOUDA PATIL
66	1SG16EE060	NIKHIL TOMAR
67	1SG16EE061	NIKITHA K
68	1SG16EE062	NIRANJAN K B
69	1SG16EE063	NIROSHA H V
70	1SG16EE064	NISHANTH M G
71	1SG16EE065	PAVITHRA G
72	1SG16EE066	PAVITHRA R
73	1SG16EE067	POOVAIAH M K
74	1SG16EE068	PRAJWAL S
75	1SG16EE069	PRAKRUTHI JAIN Y S
76	1SG16EE070	PRASHANTH NAYAKA T
77	1SG16EE071	PRAVEEN J
78	1SG16EE072	PUNEETH N
79	1SG16EE073	RAJESH YADAV
80	1SG16EE074	RAKESH G
81	1SG16EE075	REVAN KUMAR G K
82	1SG16EE078	S MANISH
83	1SG16EE079	SANGMESH
84	1SG16EE081	SANTOSH KUMAR K S
85	1SG16EE083	SATYENDRA KUMAR YADAV




**Sapthagiri College of Engineering**  
14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560057  
**Department of Electrical and Electronics Engineering**

SL.No	USN	Student Name
86	1SG16EE084	SHETTY CHIPAGARJUN
87	1SG16EE085	SHIVAKUMARA G M
88	1SG16EE087	SHIVA PRASAD G
89	1SG16EE088	SHIVARAJ H
90	1SG16EE089	SHUBHA S
91	1SG16EE091	SHWETA S HIREKUMBI
92	1SG16EE093	SOWMYA S
93	1SG16EE095	SRINIVAS N
94	1SG16EE096	SRUSHTI B R
95	1SG16EE097	SRUSHTI K
96	1SG16EE098	SUSHMA G R
97	1SG16EE099	SWATHI B
98	1SG16EE100	VANDANA M
99	1SG16EE101	VANDANA RAO J
100	1SG16EE102	VANI V N
101	1SG16EE104	VJESH V
102	1SG16EE105	VIKHYAT S DESAI
103	1SG16EE106	VINAY U C
104	1SG16EE107	YASHAS B
105	1SG16EE108	YASHASWINI S
106	1SG16EE110	YESHAS C V SWAMY
107	1SG17EE413	NARENDRA B
108	1SG17EE416	NITESH ANIL KOTHAKAR
109	1SG17EE417	POOJA C
110	1SG17EE419	PRAVEEN S
111	1SG17EE420	SHARATH KUMAR R
112	1SG17EE421	SHIVAMANI M
113	1SG17EE422	TEJASWINI R
114	1SG17EE424	THYAGARAJU K H
115	1SG16EE437	RAKESH
116	1SG15EE447	SUPRITH
117	1SG15EE074	RAMYA P
118	1SG15EE048	MANJULA S
119	1SG15EE052	MEGHANA N
120	1SG16EE410	DAKSHINAMURTHY
121	1SG16EE425	MANJUNATH GOWDA

  
Co-ordinator

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

  
HOD  
PROF & HOD  
Department of Electrical & Electronic  
Sapthagiri College of Engineering  
Bengaluru - 560057



**5 days Certification Program on "Protection of Electrical Network"**

**Attendance**

Sl. No	USN	Student Name	23-07-2018		24-07-2018		25-07-2018		26-07-2018		27-07-2018		Test
			MS	AS	MS	AS	MS	AS	MS	AS	MS	AS	
1	1SG16EE001	A R GOUTAM	1	2	3	4	5	6	7	8	9	10	11
2	1SG16EE004	ABHISEK S	1	2	3	4	5	6	7	8	9	10	11
3	1SG16EE005	ADARSH	1	2	3	4	5	6	7	8	9	10	11
4	1SG16EE006	AISHWARYA RAVI	1	2	3	4	5	6	7	8	9	10	11
5	1SG16EE007	AISHWARYA S	1	2	3	4	5	6	7	8	9	10	11
6	1SG16EE008	AMITH S RAI	1	2	3	4	5	6	7	8	9	10	11
7	1SG16EE009	ANANYA	1	2	3	4	5	6	7	8	9	10	11
8	1SG16EE010	ANJUL P	1	2	3	4	5	6	7	8	9	10	11
9	1SG16EE011	ANUSHAMA S	1	2	3	4	5	6	7	8	9	10	11
10	1SG16EE012	ARPITHA G	1	2	3	4	5	6	7	8	9	10	11
11	1SG16EE013	ARPITHA F	1	2	3	4	5	6	7	8	9	10	11
12	1SG16EE014	ASHFACUE AHMED	1	2	3	4	5	6	7	8	9	10	11
13	1SG16EE015	ASHWIN M	1	2	3	4	5	6	7	8	9	10	11
14	1SG16EE016	BHANU PRATAP YADAV	1	2	3	4	5	6	7	8	9	10	11
15	1SG16EE017	BHAVYA V	1	2	3	4	5	6	7	8	9	10	11
16	1SG16EE018	BHOOMIKA VASANTH	1	2	3	4	5	6	7	8	9	10	11
17	1SG16EE019	BIJAYESHA S	1	2	3	4	5	6	7	8	9	10	11
18	1SG16EE020	CHANDAN S R	1	2	3	4	5	6	7	8	9	10	11
19	1SG16EE022	CHIDANANDA C	1	2	3	4	5	6	7	8	9	10	11
20	1SG16EE023	CHIRAG S	1	2	3	4	5	6	7	8	9	10	11
21	1SG16EE024	DEEPA T S	1	2	3	4	5	6	7	8	9	10	11
22	1SG16EE025	DHANUS S	1	2	3	4	5	6	7	8	9	10	11
23	1SG16EE026	DIXITH R	1	2	3	4	5	6	7	8	9	10	11
24	1SG16EE027	FAIZA FATHIMA A	1	2	3	4	5	6	7	8	9	10	11
25	1SG16EE029	GAGAN F J	1	2	3	4	5	6	7	8	9	10	11
26	1SG16EE030	GAGAN KUMAR GANDHI K	1	2	3	4	5	6	7	8	9	10	11
27	1SG16EE031	GAGANA R	1	2	3	4	5	6	7	8	9	10	11
28	1SG16EE032	GANAVI C A	1	2	3	4	5	6	7	8	9	10	11
29	1SG16EE033	GOUTHAMI K	1	2	3	4	5	6	7	8	9	10	11
30	1SG16EE034	HARSHITHA C Gowda	1	2	3	4	5	6	7	8	9	10	11
31	1SG16EE035	HARSHITHA H	1	2	3	4	5	6	7	8	9	10	11
32	1SG16EE036	HEMA S	1	2	3	4	5	6	7	8	9	10	11
33	1SG16EE037	JEEVAN KUMAR R	1	2	3	4	5	6	7	8	9	10	11
34	1SG16EE038	JYOTHI GATEC	1	2	3	4	5	6	7	8	9	10	11
35	1SG16EE039	K KARTHIK DUBEY	1	2	3	4	5	6	7	8	9	10	11
36	1SG16EE040	KALAN	1	2	3	4	5	6	7	8	9	10	11
37	1SG16EE042	KAVYA B P	1	2	3	4	5	6	7	8	9	10	11
38	1SG16EE043	KAVYA SHREE R	1	2	3	4	5	6	7	8	9	10	11
39	1SG16EE044	KAVYASHREE S	1	2	3	4	5	6	7	8	9	10	11
40	1SG16EE047	KUSUMA H	1	2	3	4	5	6	7	8	9	10	11
41	1SG16EE048	M MONICA	1	2	3	4	5	6	7	8	9	10	11
42	1SG16EE049	MADHUKAR C	1	2	3	4	5	6	7	8	9	10	11
43	1SG16EE051	MALATHI R	1	2	3	4	5	6	7	8	9	10	11

Principal



Sl. No	USN	Student Name	23-07-2018		24-07-2018		25-07-2018		26-07-2018		27-07-2018		Test
			MS	AS	MS	AS	MS	AS	MS	AS	MS	AS	
44	1SG16EE053	MANJUNATH	1	2	3	4	5	6	7	8	9	10	11
45	1SG16EE054	MCNIKAV	1	2	3	4	5	6	7	8	9	10	11
46	1SG16EE055	MCLINAM	A	1	2	3	4	5	A	6	7	8	9
47	1SG16EE057	NANDA KUMAR J	1	2	3	4	5	6	7	8	9	10	11
48	1SG16EE111	GEETHA R N	1	2	3	4	5	6	7	8	9	10	11
49	1SG15EE446	THYAGARAJU H R	1	2	3	4	5	6	7	8	9	10	11
50	1SG16EE416	SR KANTH K	1	2	3	4	5	6	7	8	9	10	11
51	1SG17EE400	ANIL KUMAR G	1	2	3	4	5	6	7	A	8	9	10
52	1SG17EE402	CHATHA T	1	A	2	3	A	4	5	6	7	8	9
53	1SG17EE405	DILIPGOWDA R N	1	2	3	4	5	6	7	8	9	10	11
54	1SG17EE406	DILIP CHAKRAVARTHY	1	2	3	4	5	6	7	8	9	10	11
55	1SG17EE407	H K ANIL	1	2	3	4	5	6	7	8	9	10	11
56	1SG17EE409	KISHORE KUMAR B G	1	2	3	4	5	6	7	8	9	10	11
57	1SG17EE411	MANOJ	1	2	3	4	5	6	A	7	8	9	10
58	1SG16EE402	ABHISHEK GOWDA DN	1	2	3	4	5	6	7	8	9	10	11
59	1SG16EE406	ANIL KUMAR	1	A	2	3	4	5	6	7	8	9	10
60	1SG16EE433	NIRANJAN K	1	2	3	4	5	6	7	8	9	10	11
61	1SG16EE440	RAKESHAT C U	1	A	2	3	4	5	6	7	8	9	10
62	1SG16EE441	RIJUL H	1	2	3	4	5	6	7	A	8	9	10
63	1SG16EE452	YASHWANTH	1	2	3	4	5	6	7	8	9	10	11
64	1SG16EE058	NEHA TOMAR	1	2	3	4	A	5	6	7	8	9	10
65	1SG16EE059	NIKHIL VINGOUDA PATIL	1	2	3	4	5	6	7	8	9	10	11
66	1SG16EE060	NIKHIL TOMAR	A	1	2	3	4	5	6	7	8	9	10
67	1SG16EE061	NIKITHA K	1	2	3	4	5	6	7	8	9	10	11
68	1SG16EE062	NIRANJAN K B	1	2	3	4	5	6	7	8	9	10	11
69	1SG16EE063	NIRANJAN H V	1	2	3	4	5	6	7	8	9	10	11
70	1SG16EE064	NISHANTH N G	1	2	3	4	5	6	7	A	8	9	10
71	1SG16EE065	PAVITHRA G	1	A	2	3	4	5	6	7	8	9	10
72	1SG16EE066	PAVITHRA F	1	2	3	4	5	6	7	8	9	10	11
73	1SG16EE067	POOJAIA M K	1	2	3	4	5	6	7	8	9	10	11
74	1SG16EE068	PRAJWAL S	1	2	3	4	5	6	7	8	9	10	11
75	1SG16EE069	PRAKRUTHI JAIN Y S	1	A	2	3	4	A	5	6	7	8	9
76	1SG16EE070	PRAKASHANTH NAYAKA T	1	2	3	4	5	6	7	8	9	10	11
77	1SG16EE071	PRAVEEN J	1	2	3	4	5	6	7	8	9	10	11
78	1SG16EE072	PUNEETH N	1	2	3	4	5	6	7	8	9	10	11
79	1SG16EE073	RAJESWARAY	1	2	A	3	4	5	6	7	8	9	10
80	1SG16EE074	RAKESH G	1	2	3	4	5	6	7	8	9	10	11
81	1SG16EE075	REYAN KUMAR G K	1	2	3	4	5	6	7	A	8	9	10
82	1SG16EE078	S MANISH	1	2	3	4	5	6	7	8	9	10	11
83	1SG16EE079	SANMESH	1	2	3	4	5	6	7	8	9	10	11
84	1SG16EE081	SANTOSH KUMAR K S	1	2	A	3	4	5	6	7	8	9	10
85	1SG16EE083	SATYENDRA KUMAR YADAV	1	2	3	4	5	6	7	8	9	10	11
86	1SG16EE084	SHETTY CHIRAG ARUN	1	2	3	4	5	6	7	8	A	9	10
87	1SG16EE085	SHIVAKUMAR A G M	1	A	2	3	4	5	6	7	8	9	10
88	1SG16EE087	SHIVA PRASAD G	1	2	3	4	5	6	7	8	9	10	11
89	1SG16EE088	SHIVASALH	1	2	3	4	5	6	7	8	9	A	10

Principal



Sl. No	USN	Student Name	23-07-2018		24-07-2018		25-07-2018		26-07-2018		27-07-2018		Test
			MS	AS	MS	AS	MS	AS	MS	AS	MS	AS	
90	1SG16EE089	SHUBHA S	1	2	3	4	5	6	7	8	9	10	11
91	1SG16EE091	SHWETA S.HIREKUMBI	1	2	3	4	5	6	7	8	9	10	10
92	1SG16EE093	SOWMYA S	1	2	3	4	5	6	7	8	9	10	10
93	1SG16EE095	SRINIVAS N	1	2	3	4	5	6	7	8	9	10	10
94	1SG16EE096	SRUSHTI B R	1	2	3	4	5	6	7	8	9	10	10
95	1SG16EE097	SRUSHTI K	1	2	3	4	5	6	7	8	9	10	10
96	1SG16EE098	SUSHMA G R	1	A	2	3	4	5	6	7	8	9	10
97	1SG16EE099	SWATHI B	1	2	3	4	5	6	7	8	9	10	11
98	1SG16EE100	VANDANA M	1	2	A	3	4	5	6	7	8	9	10
99	1SG16EE101	VANDANA RAO J	1	2	3	4	5	6	7	A	8	9	A
100	1SG16EE102	VANI V N	1	2	3	4	5	6	7	8	9	10	11
101	1SG16EE104	VIJESH V	1	2	3	4	5	6	7	8	9	10	10
102	1SG16EE105	VIKHYAT S DESAI	1	A	2	3	4	5	6	7	A	8	9
103	1SG16EE106	VINAY U C	1	2	3	4	5	6	7	8	9	10	11
104	1SG16EE107	YASHAS B	1	2	3	4	A	5	6	7	8	9	10
105	1SG16EE108	YASHASWINI S	1	2	3	4	5	6	7	8	9	10	11
106	1SG16EE110	YESHAS C V SWAMY	1	2	3	4	5	6	A	7	8	9	10
107	1SG17EE413	NARENDRA B	1	2	A	3	4	5	6	A	7	8	9
108	1SG17EE416	NITESH ANIL KOTHAKAR	1	2	3	4	5	6	7	8	9	10	11
109	1SG17EE417	POOJA C	1	2	3	4	5	6	7	8	9	10	11
110	1SG17EE419	PRAVEEN S	1	2	A	3	4	5	6	A	7	8	9
111	1SG17EE420	SHARATH KUMAR R	1	2	3	4	5	6	7	8	9	10	11
112	1SG17EE421	SHIVAMANI M	1	2	3	4	5	A	6	7	8	9	10
113	1SG17EE422	TEJASWINI R	1	2	A	3	4	5	6	7	A	8	9
114	1SG17EE424	THYAGARAJU K H	1	2	3	4	5	6	7	8	9	10	11
115	1SG16EE437	RAKESH	1	2	3	4	5	6	7	8	9	10	A
116	1SG15EE447	SUPRITH	1	2	3	4	5	A	6	7	8	9	10
117	1SG15EE074	RAMYA P	1	A	2	3	4	5	6	7	8	A	9
118	1SG15EE048	MANJULA S	1	2	3	4	5	6	7	A	8	9	10
119	1SG15EE052	MEGHANA N	1	2	3	4	5	A	6	7	8	9	10
120	1SG16EE410	DAKSHINAMURTHY	1	2	3	4	5	6	7	8	A	9	10
121	1SG16EE425	MANJUNATH GOWDA	1	2	3	4	5	6	A	7	8	9	10
Signature			(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)

*[Signature]*  
Program Co-ordinator

**HOD**  
**PROF & HOD**  
Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bengaluru - 560057.

*[Signature]*  
**Principal**  
**Sapthagiri College of Engineering**  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bengaluru - 560057



## Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New De hi)

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

Phone: 080-28372800/1,2

www.sapthagiri.edu.in


Fax: 080-28372797

### Department of Electrical & Electronics Engineering

#### 5 days Certification Course on "Protection of Electrical Network"

##### Test Time Table

Sl. No.	DATE	DAY	TIMINGS
1	27-07-2018	Friday	4.30PM-5.30PM

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



HOD-EEE

PROF & HOD  
Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bengaluru - 560057.



## Department of Electrical & Electronics Engineering

### 5 days Certification Course on

### "Protection of Electrical Network"

### Question Paper

Duration : 1hr

Maximum marks : 30

Note: Question number 1-18 (1M each)

Question number 19-22 (3M each)

### Answer all the Questions:

1. What is the value of charging current in short transmission lines?
  - a) Less than medium transmission lines
  - b) Equal to medium transmission lines
  - c) More than medium transmission lines
  - d) More than long transmission lines
2. What is the value of Inductive reactance in short transmission lines?
  - a) More at receiving end
  - b) more at sending end
  - c) Uniformly distributed over entire length
  - d) more in middle of sending end and receiving end
3. Regulation of short transmission lines depends:
  - a) Only on line resistance
  - b) Only on line inductance
  - c) Only on line capacitance
  - d) On line inductance and Line resistance
4. What is the percentage voltage regulation of short transmission line if its sending end and receiving end voltages are 160 KV and 132 KV respectively?
  - a) 30 %
  - b) 21.21 %
  - c) 12.12 %
  - d) 38.22 %
5. A single phase transmission line is transmitting 1,100 KW power at 11 KV and at unity power factor. If it has a total resistance of 5  $\Omega$ , what is the efficiency of the transmission line?
  - a) 80 %
  - b) 89.65 %
  - c) 97.24 %
  - d) 99.54 %

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



6. Voltage regulation of a transmission line should be \_\_\_\_\_
- Minimum
  - Maximum
  - Greater than 50 %
  - Less than 50 %
7. Which of the following is like equivalent circuit of short transmission line?
- Series RLC circuit
  - Parallel RLC circuit
  - Series RL circuit
  - Parallel RL circuit
8. In single phase transmission lines resistance and inductance are considered only up to neutral.
- True
  - False
9. In a circuit breaker, arc is initiated by the process of
- Thermal emission
  - Alternators
  - Field emission
  - Transmission lines
10. Bulk oil circuit breaker is suitable for voltages upto
- 4 kV
  - 25 kV
  - 10 kV
  - 36 kV
11. Circuit breakers are essentially
- Current carrying contacts called electrodes
  - Arc extinguishers
  - Transformers to isolate two systems
  - Circuits to break the system
12. The voltage across the circuit breaker pole after final current zero is
- Restriking voltage
  - Supply voltage
  - Recovery voltage
  - None of these



### Department of Electrical & Electronics Engineering

13. Which of the following circuit breakers takes minimum time installation?
- Bulk oil circuit breaker
  - Minimum oil circuit breaker
  - Air blast circuit breaker
  - SF<sub>6</sub> circuit breaker
14. In a power system, the rate of rise of restriking voltage depends upon
- Circuit power factor only
  - Switching condition only
  - Both (a) and (b) above
  - None of these
15. In a circuit breaker, the arcing contacts are made of
- Aluminium
  - Electrolytic
  - Copper tungsten alloy
  - Tungsten
16. Fault diverters are basically
- Circuit breakers
  - Fast switches
  - Relays
  - Fuses
17. The following medium is employed for extinction of arc in air break circuit breakers?
- Air
  - Oil
  - Water
  - None of these
18. The following circuit breaker does not use pneumatic operating mechanism
- Air break circuit breaker
  - Air blast circuit breaker
  - Bulk oil circuit breaker
  - SF<sub>6</sub> circuit breaker
19. How the electrical power system protection is divided?
20. What is fault clearance time?
21. What are the fundamental elements of relay?
22. What is Reach?





## Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372800/1/2

www.sapthagiri.edu.in

Fax: 080-28372797

### Department of Electrical & Electronics Engineering

Approved by Academic Committee Members & HOD

Sl No.	Faculty Name	Designation	Signature
1	Dr. K N Ravi	HOD	
2	Prof. Rekha S N	Associate Professor	
3	Prof. Dhamodaran A	Assistant Professor	
4	Prof. Mahavishnu K B P	Assistant Professor	
5	Prof. Bharath B N	Assistant Professor	
6	Prof. Shivaraj A	Assistant Professor	
7	Prof. Leela AM	Guest Speaker	

HOD,EEE

PROF & HOD

Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bangalore - 560057.

Principal

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



# Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

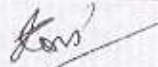

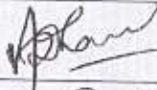
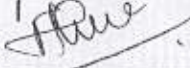


Phone: 080-28372800/1/2

www.sapthagiri.edu.in

Fax: 080-28372797

## Department of Electrical & Electronics Engineering

Approved by Academic Committee Members & HOD

Sl No.	Faculty Name	Designation	Signature
1	Dr. K N Eavi	HOD	
2	Prof. Rekha S N	Associate Professor	
3	Prof. Dharmodaran A	Assistant Professor	
4	Prof. Mahavishnu KBP	Assistant Professor	
5	Prof. Bharath B N	Assistant Professor	
6	Prof. Shivaraj A	Assistant Professor	



HOD, EEE

PROF & HOD

Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bengaluru - 560057.

Principal

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



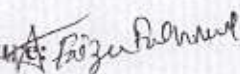
**5 days Certification Course on "Protection of Electrical Network"**

**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:

This program was good, I understood well.  
Test conduction was excellent.

Student Name : Faiza Fathma A

Student Signature: 

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



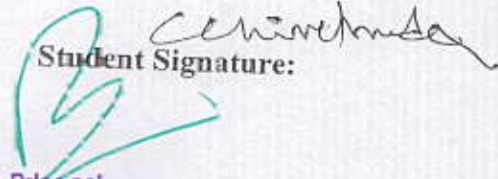
**5 days Certification Course on "Protection of Electrical Network"**

**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:

It was good, Topics explained  
with concept. Thank you

Student Name : Chidhananda C

Student Signature: 

Principal



**5 days Certification Course on "Protection of Electrical Network"**

**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:

I am happy with the course, expert  
taught well, topics with concept, Thank you

Student Name : Madhukar K

Student Signature: Madhukar K



**5 days Certification Course on "Protection of Electrical Network"**

**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:

I Understand the topics taught by experts  
well, Test conduction was nice.

Student Name : Gowthami - K .

Student Signature: Gowthami - K .



Principal



**5 days Certification Course on "Protection of Electrical Network"**  
**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:

Program was excellent, I need such  
programs in every semester.

Student Name : Jeevan Kumar R

Student Signature: Jeevan Kumar

B  
Principal



## Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372800/1/2

www.sapthagiri.edu.in

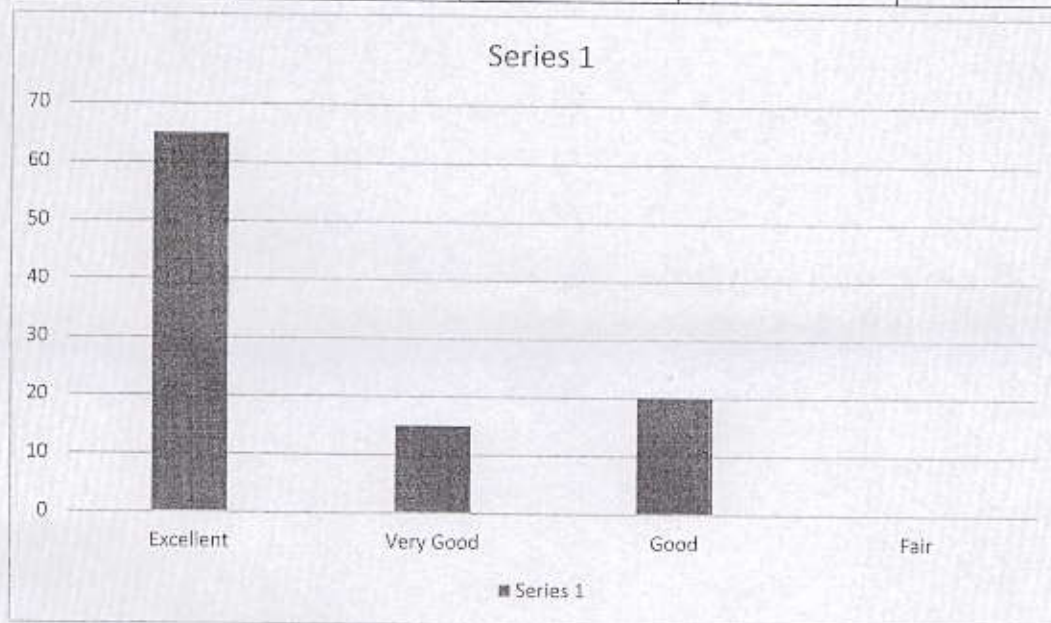
Fax: 080-28372797

### Department of Electrical & Electronics Engineering

#### FEEDBACK ANALYSIS

Certification Programme: **"Protection of Electrical Network"**

No. of students participated	Student Feedback			
	Excellent	Very Good	Good	Fair
121	65	15	20	0



#### Action Report:

65 % of students were completely happy with the certification program and 15 % of students felt it was a good program and remaining 20 % 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.

Program Coordinator




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



HOD  
PROF & HOD

Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bengaluru - 560057.





# *Sapthagiri College of Engineering*

*Bangalore-560057*

## *Certificate*

This is to Certify that Mr./Ms. \_\_\_\_\_

Of \_\_\_\_\_ has participated and successfully completed Five days Certification Course on “**Protection of Electrical Network**” from 23rd July, 2018 to 27th July, 2018 organized by the Department of Electrical & Electronics Engineering, Sapthagiri College of Engineering.

Principal

*HOD, Dept. of EEE*

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

*Principal*






# Sapthagiri College of Engineering

Bangalore-560057

## Certificate

This is to Certify that Mr./Ms. A R GOUTAM - 15B16EE001  
Of EEE has participated and  
successfully completed Five days Certification Course on "Protection of Electrical  
Network" from 23rd July, 2018 to 27th July, 2018 organized by the Department of  
Electrical & Electronics Engineering, Sapthagiri College of Engineering.

  
HOD, Dept. of EEE

  
Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hosur Road  
Bangalore - 560

  
Principal






# Sapthagiri College of Engineering


Bangalore-560057

## Certificate

This is to Certify that Mr./Ms. CHIRAG S - 15816EE023  
Of EEE has participated and  
successfully completed Five days Certification Course on "Protection of Electrical  
Network" from 23rd July, 2018 to 27th July, 2018 organized by the Department of  
Electrical & Electronics Engineering, Sapthagiri College of Engineering.

  
HOD, Dept. of EEE

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

  
Principal



### Certificate Course Report

Department of EEE conducted Certificate Course on "Protection of Electrical Network.

**Guest Speaker:** Prof. Leela AM, Associate Professor, Department of EEE, Acharya Institute of Technology, Bengaluru.

**Duration of the course :** five days from July 23rd 2018 to July 27 2018

Course detail:

**Objective of the Course:** The five day course made the students to be familiar with the Protection of Electrical Networks Ring main units (RMU) are normally connected to form an MV ring main or loop. This arrangement provides the user with a two-source supply, thereby considerably reducing any interruption of service due to system faults or operational maneuvers by the supply authority. The main application for RMUs is in utility MV Underground cable networks in urban areas.

Certificate course made them comfortable with the Protection of Electrical Networks. 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

#### Schedule of Certification Course

Dates	SESSION 1 (9.00am-10.30am)	SESSION 2 (11.00am-12.30pm)	SESSION 3 Hands-on Session (1.30pm-4.30pm)
23-7-2018 Monday	Network Structures General structure of the private distribution network The supply source	MV power supply Different MV service connections supply modes HV consumer substations	Hands on Network Structures examples
24-7-2018 Tuesday	MV consumer substations MV networks inside the site MV switchboard power supply modes	MV network structures. LV networks inside the site LV switchboard	Hands on Collections at MV and LV switch board
25-7-2018 Wednesday	Earthing Systems Earthing systems at low voltage. Different earthing systems - definition and arrangements Unearthed or impedance-earthed	Directly earthed neutral (IT system) Connecting the exposed conductive parts to the neutral	Hands on Earthing handling and Connections

Principal



## Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)  
#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru - 560057

Phone: 080-28372800/1/2

www.sapthagiri.edu.in

Fax: 080-28372797

### Department of Electrical & Electronics Engineering

Dates	SESSION 1 (9.00am-10.30am)	SESSION 2 (11.00am-12.30pm)	SESSION 3 Hands-on Session (1.30pm-4.30pm)
26-7-2018 Thursday	Protection of Network Elements Network protection Earth fault requirements for networks earthed via a limiting Protection against earth faults	Network with two parallel incoming feeders Protection against earth faults Network with two looped incoming feeders	Hands on Protection of Network Elements
27-7-2018 Friday	Examples of motor protection. Motor protection setting indications Protection of low voltage asynchronous motors AC generator protection	Specific protection against earth faults Switch-fuse protection Circuit-breaker protection. Examples of transformer protection	Hands on Switch-fuse protection Circuit-breaker protection. Test Conduction

**Conclusion:** Certificate course made them comfortable with practical knowledge. 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.

It is a practice of the department to take care of any issues pertaining to the academics. In this connection department of EEE has conveyed meeting with Faculty members to discuss about any lapses with academic activities and felt the need to conduct a certificate Course. As part of Certificate course 4 faculty members were identified and assigned duties and responsibilities to carry out the Certificate course.

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



# Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372800/-/2

www.sapthagiri.edu.in

Fax: 080-28372797

## Department of Electrical & Electronics Engineering



HOD - EEE  
*[Signature]*

**PROF & HOD**

Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bangalore - 560057.

*[Signature]*

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





## Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372800/1/2

www.sapthagiri.edu.in

Fax: 080-28372797

### Department of Electrical & Electronics Engineering

To,

IQAC Coordinator  
Sapthagiri College of Engineering  
Bangalore - 560057.

Respected Sir,

**Subject:** Budget proposal for conduction of certification program "Condition and assessment of High Voltage insulation in power system equipment"

With reference to above subject, I undersigned would like to bring the following for your kind information and consideration. As a part of programming skill development for EEE students, department of Electrical and Electronics Engineering would like to conduct 5 days Certification Course on "Condition and assessment of High Voltage insulation in power system equipment" from 25-Jan-2019 to 31-Jan-2019.

In this regard, I request you to kindly grant permission for the conduction of the course the above specified event for Please grant permission for the sanction of Rs.4140 for the conduction of the above mentioned program and oblige.

#### Estimated Budget

Sl. No.	Item	Quantity	Unit Cost in Rs.	Total cost in Rs.
1	Certificates	107	20	2140
2	Course Material			2000
Grand Total				4140

Thanking You,

*(Signature)*  
HOD

**PROF & HOD**

Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bangalore - 560057.

*Forwarded for C.C. approval & need bill*  
*H.R. Rang*  
**Dr. H.R. Rangana**  
Prof. & H.O.D

Dept. of Information Science & Engg.  
Sapthagiri College of Engineering  
#14/5 Chikkasandra, Hesaraghatta Main Road  
BANGALURU-560057

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





# Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372800/1/2

www.sapthagiri.edu.in

Fax: 080-28372797


## Department of Electrical & Electronics Engineering

03-01-2019

### CIRCULAR

This is to inform that the following Curriculum Board members are requested to attend the meeting on 04/01/2019 at 11.30AM in the HODs chamber to discuss about the certification course.

Sl No.	Faculty Name	Designation	Signature
1	Dr. K N Ravi	HOD	
2	Prof. Rekha S N	Associate Professor	
3	Prof. Dhamodaran A	Assistant Professor	
4	Prof. Mahavishnu K B P	Assistant Professor	
5	Prof. Bharath B N	Assistant Professor	
6	Prof. Shivaraj A	Assistant Professor	

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

  
HOD EEE

PROF & HOD  
Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bengaluru - 560057.





## Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)  
#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru - 560057  
Phone: 080-28372800/1/2 www.sapthagiri.edu.in Fax: 080-28372797

### Department of Electrical & Electronics Engineering

Date: 03-01-2019

To,

Prof. Aruna M  
Associate Professor,  
Department of EEE,  
Acharaya Institute of Technology  
Bangalore - 560090.

Respected Sir,

Subject: Invitation as a "Guest Speaker" in certification program and to attend meeting to discuss about the certification program


Department of Electrical & Electronics Engineering have planned to conduct a certification program titled "Condition and assessment of High Voltage insulation in power system equipment" for EEE students from 25-01-2019 to 31-01-2019. In this connection, 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 04-01-2019 11.30AM. We look forward to welcome you at SCE.

Thanking you

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

Yours faithfully

  
HOD  
PRCF & HOD  
Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bangalore - 560057.



### Minutes of Meeting

A meeting was conducted on 4/01/2019 in EEE HOD's Chamber to discuss and approve the following about the 5 days Certification Course for EEE Students.

- **Course Title :** "Condition and assessment of High Voltage insulation in power system equipment"
- **Resource Personnel :** Prof. Aruna M, Assoc Professor, Dept of EEE, Acharaya Institute of technology, Bengaluru.
- **Course Duration & Date:** 5 Days from 25-Jan-2019 to 31-Jan-2019.
- **Course Content**

Dates	SESSION 1 (9.00am-10.30am)	SESSION 2 (11.00am-12.30pm)	SESSION 3 Hands-on Session (1.00pm-4.00pm)
25-1-2019 Friday	Interconnection of HV power system components Alternating voltage systems	Direct-voltage systems Insulation coordination High-voltage test levels	Hands on failure of practical insulating materials
28-1-2019 Monday	Lightning-impulse voltages Switching surges Very fast transient tests (VFTT)	Direct-voltage tests Power system developments	Hands-on Collections at Power-frequency voltages examples
29-1-2019 Tuesday	High-voltage machines Possible insulation failure mechanisms in rotating machines	CIGRE summary of expected machine insulation degradation Future of machine insulation Transformers	Hands on Earthing, handling and Connections
30-1-2019 Wednesday	Basic methods for insulation assessment Generation and measurement of test high voltages	Power-frequency voltages Very-low-frequency voltages (VLF)	Hands-on Ultrasonic method for detection of partial discharges
31-1-2019 Thursday	Insulation resistance (IR) measurements Measurements of the dielectric dissipation factor(DDF)	Measurement of partial discharges by electrical methods Dielectric response measurements	Hands-on Water treeing in XLPE Test Conduction



## Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)  
#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru - 560057

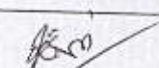





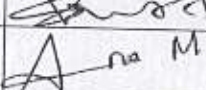
Phone: 080-28372800/1/2

www.sapthagiri.edu.in


Fax: 080-28372797

### Department of Electrical & Electronics Engineering

- The following Curriculum board members were present

Sl No.	Faculty Name	Designation	Signature
1	Dr. K N Ravi	HOD	
2	Prof. Rekha S N	Associate Professor	
3	Prof. Dhamodaran A	Assistant Professor	
4	Prof. Mahavishnu KBP	Assistant Professor	
5	Prof. Bharath B N	Assistant Professor	
6	Prof. Shivaraj A	Assistant Professor	
7	Prof. Aruna M	Guest Speaker	

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

  
HOD, EEE

PROF & HOD

Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bengaluru - 560057.





## Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE New Delhi)

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

Phone: 080-28372800/1/2

www.sapthagiri.edu.in

Fax: 080-28372797


### Department of Electrical & Electronics Engineering

#### NOTICE

As a part of programming skill development Department of Electrical and Electronics Engineering is conducting Five days Certification Course on **"Condition and assessment of High Voltage insulation in power system equipment"** from 25-Jan-2019 to 31-Jan-2019

All the EEE students must attend the course compulsorily.

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

  
Signature of HOD

PROF & HOD  
Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bangalore - 560057.





# Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372800/1/2

www.sapthagiri.edu.in

Fax: 080-28372797

## Department of Electrical & Electronics Engineering

Certification Program: "Condition and Assessment of High Voltage insulation in power system equipment"

### Lesson Plan

Dates	SESSION 1 (9.00am-10.30am)	SESSION 2 (11.00am-12.30pm)	SESSION 3 Hands-on Session (1.00pm-4.00pm)	No. of Hours
25-1-2019 Friday	Interconnection of HV power system components Alternating voltage systems	Direct-voltage systems Insulation coordination High-voltage test levels	Hands-on failure of practical insulating materials	6
28-1-2019 Monday	Lightning-impulse voltages Switching surges Very fast transient tests (VFTT)	Direct-voltage tests Power system developments	Hands-on Collections at Power-frequency voltages examples	6
29-1-2019 Tuesday	High-voltage machines Possible insulation failure mechanisms in rotating machines	CIGRE summary of expected machine insulation degradation Future of machine insulation Transformers	Hands-on Earthing, handling and Connections	6
30-1-2019 Wednesday	Basic methods for insulation assessment Generation and measurement of test high voltages	Power-frequency voltages Very-low-frequency voltages (VLF)	Hands-on Ultrasonic method for detection of partial discharges	6
31-1-2019 Thursday	Insulation resistance (IR) measurements Measurements of the dielectric dissipation factor(DDF)	Measurement of partial discharges by electrical methods Dielectric response measurements	Hands-on Water treeing in XLPE Test Conduction	6
Total				30

**PROF & HOD**

Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bengaluru - 560057.

**Principal**

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

**GUEST SPEAKER**



**5 days Certification Program on**

**“Condition and Assessment of High Voltage Insulation in Power System Equipment”**

**Students Enrollment      Academic Year(2018-19 Even)**

SL.No	USN	Student Name
1	1SG16EE002	AAKASH N MURTHY
2	1SG16EE045	KIRAN KUMAR
3	1SG17EE001	AISHWARYA GUPTA
4	1SG17EE002	AJAY S PAI
5	1SG17EE003	AKASH GALI
6	1SG17EE004	AKSHATA ASKI
7	1SG17EE005	AKSHATA SHENOY
8	1SG17EE006	AKSHATHA B KULKARNI
9	1SG17EE007	ANU H N
10	1SG17EE008	ARASUKUMARI M S
11	1SG17EE009	ARCHANA D
12	1SG17EE010	ARCHITHA N BHAT
13	1SG17EE011	BHOOMIKA M C
14	1SG17EE012	BINDU SHREE S
15	1SG17EE013	BYRESH H
16	1SG17EE014	CHAITANYA D R
17	1SG17EE015	CHAITHRA N
18	1SG17EE016	CHANDAN KUMAR R
19	1SG17EE017	CHANDAN R
20	1SG17EE018	CHANDANA N
21	1SG17EE019	CHETHAN R
22	1SG17EE020	DASHARATH R
23	1SG17EE022	DILIP R
24	1SG17EE023	DIVYA LAKSHM P
25	1SG17EE024	GURU PRASAD G
26	1SG17EE025	HARISH T
27	1SG17EE027	JASHWANTH G M
28	1SG17EE028	JENNIFER C
29	1SG17EE029	JNANAMURTHY R
30	1SG17EE031	KAVYASHREE G
31	1SG17EE032	KEERTHI S K
32	1SG17EE033	KOUSALAYA D
33	1SG17EE034	KRITHI BIDDAPPA K
34	1SG17EE035	KUSHAL D
35	1SG17EE036	LIKITHA N
36	1SG17EE038	MAHADEV M
37	1SG17EE039	MANASA R
38	1SG17EE040	MANDARA C K



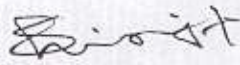
**Sapthagiri College of Engineering**  
14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560057  
**Department of Electrical and Electronics Engineering**

SL.No	USN	Student Name
39	1SG17EE041	MANJUEFTH KUMAR
40	1SG17EE042	MEGHANA B
41	1SG17EE043	MEGHANA R
42	1SG17EE044	MOHAN RAJ D
43	1SG17EE045	MONISHA C
44	1SG17EE046	NAGASHREE T
45	1SG17EE047	NANDU P R
46	1SG17EE048	NEHA S
47	1SG17EE049	NEHA T R
48	1SG17EE050	NINADA A ASHOK
49	1SG17EE051	NIRANJAN B A
50	1SG17EE052	NISHITHA R
51	1SG17EE053	NITIN PUJAR
52	1SG17EE054	POOJA K
53	1SG17EE055	POORVIKA R
54	1SG17EE056	PRAJWAL S
55	1SG17EE057	PRASHANTH Y I
56	1SG17EE058	PREKSHA S
57	1SG17EE059	PRUTHVIL S
58	1SG17EE060	R LOKESH
59	1SG17EE061	RAGHUVFEER B J
60	1SG17EE062	RAKSHITH S
61	1SG17EE063	RAKSHITHA G M
62	1SG17EE064	RAKSHITHA M
63	1SG17EE065	RAMYA P V S
64	1SG17EE066	RANJITHA B R
65	1SG17EE068	SAHANA G R
66	1SG17EE070	SHANI PRADEEP
67	1SG17EE071	SHANTNU YADAV
68	1SG17EE072	SHILPA S
69	1SG17EE073	SHIVARAJ N P
70	1SG17EE075	SINCHANA R
71	1SG17EE076	SPOORTHY D K
72	1SG17EE077	SRINIVASA R
73	1SG17EE078	SUBRAMANYA M V
74	1SG17EE079	SWATHI C
75	1SG17EE080	TEJU M K
76	1SG17EE081	THANUJA N
77	1SG17EE082	THILAK B T
78	1SG17EE083	UDAY J
79	1SG17EE084	VARSHA KUMARI
80	1SG17EE085	VIDYA INAMDAR
81	1SG17EE086	VIJAYALAKSHMI G
82	1SG17EE087	VIKAS I

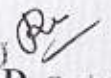


**Sapthagiri College of Engineering**  
14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560057  
**Department of Electrical and Electronics Engineering**

SL.No	USN	Student Name
83	1SG17FE088	VINODA M O
84	1SG17FE089	VISHRUTH B R
85	1SG17FE090	VISHWAS SHARADI
86	1SG17FE091	WASFFM PASHA M
87	1SG17FE092	YASHASWINI S
88	1SG17FE093	YESHWANTH S
89	1SG18FE400	HARISH REDDY
90	1SG18FE401	HARSHITH GOWDA K
91	1SG18FE402	IRABASAPPA KUMBAR
92	1SG18FE403	KIRAN K R
93	1SG18FE404	LOKESH RAJU R
94	1SG18FE405	MANOHARA B
95	1SG18FE406	MANOJ C
96	1SG18FE407	MANOJ R
97	1SG18FE408	NAVEEN G R
98	1SG18FE409	NAVEEN KUMAR H S
99	1SG18FE410	NIKELESH N
100	1SG18FE411	NIKHIL GOWDA J S
101	1SG18FE412	NIKHIL GOWDA V
102	1SG18FE413	POOJA
103	1SG18FE414	RAKESH R
104	1SG18FE415	SAL TEJA
105	1SG18FE416	SIDDAIAH
106	1SG18FE417	SUDHEEP R
107	1SG18FE418	YOGESH S

  
Co-ordinator

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

  
PROF & HOD  
**HOD** Engineer  
Department of Electrical and Electronics Engineering  
Sapthagiri College of Engineering  
Bengaluru - 560057.



**5 days Certification Program on**

**"Condition and Assessment of High Voltage Insulation in Power System Equipment"**

**Attendance**












**Academic Year : (2018-19 Even)**

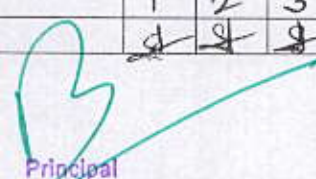
Sl. No	USN	Student Name	25-01-2019		28-01-2019		29-01-2019		30-01-2019		31-01-2019		Test
			MS	AS	MS	AS	MS	AS	MS	AS	MS	AS	
1	1SG16EE002	AAKASH N MURTHY	1	2	3	4	5	6	7	8	9	10	
2	1SG16EE045	KIRAN KUMAR	1	2	3	4	5	6	7	8	9	10	11
3	1SG17EE001	AISHWARYA GUPTA	1	2	3	4	5	6	7	8	9	10	11
4	1SG17EE002	AJAY S PAI	1	2	3	4	5	6	7	8	9	10	11
5	1SG17EE003	AKASH GALI	1	2	3	4	5	6	7	8	9	10	
6	1SG17EE004	AKSHATA ASKI	1	2	3	4	5	6	7	8	9	10	
7	1SG17EE005	AKASHATA SHENCY	1	2	3	4	5	6	7	8	9	10	
8	1SG17EE006	AKSHATHA B KULKARNI	1	2	3	4	5	6	7	8	9	10	11
9	1SG17EE007	ANU H N	1	2	3	4	5	6	7	8	9	10	
10	1SG17EE008	ARASUKUMARI M S	1	2	3	4	5	6	7	8	9	10	
11	1SG17EE009	ARCHANA D	1	2	3	4	5	6	7	8	9	10	
12	1SG17EE010	ARCHITHA N BHAT	1	2	3	4	5	6	7	8	9	10	11
13	1SG17EE011	BHOOMIKA M C	1	2	3	4	5	6	7	8	9	10	
14	1SG17EE012	BINDU SHREE S	1	2	3	4	5	6	7	8	9	10	
15	1SG17EE013	BYRESH H	1	2	3	4	5	6	7	8	9	10	
16	1SG17EE014	CHAITANYA D F	1	2	3	4	5	6	7	8	9	10	
17	1SG17EE015	CHAITHRA N	1	2	3	4	5	6	7	8	9	10	
18	1SG17EE016	CHANDAN KUMAR E	1	2	3	4	5	6	7	8	9	10	
19	1SG17EE017	CHANDAN R	1	2	3	4	5	6	7	8	9	10	
20	1SG17EE018	CHANDANA N	1	2	3	4	5	6	7	8	9	10	
21	1SG17EE019	CHETHAN R	1	2	3	4	5	6	7	8	9	10	11
22	1SG17EE020	DASHARATH R	1	2	3	4	5	6	7	8	9	10	11
23	1SG17EE022	DILIP R	1	2	3	4	5	6	7	8	9	10	
24	1SG17EE023	DIVYA LAKSHMI P	1	2	3	4	5	6	7	8	9	10	11
25	1SG17EE024	GURU PRASAD G	1	2	3	4	5	6	7	8	9	10	11
26	1SG17EE025	HARISH T	1	2	3	4	5	6	7	8	9	10	11
27	1SG17EE027	JASHWANTH G M	1	2	3	4	5	6	7	8	9	10	
28	1SG17EE028	JENNIFER C	1	2	3	4	5	6	7	8	9	10	11
29	1SG17EE029	JNANAMURTHY R	1	2	3	4	5	6	7	8	9	10	11
30	1SG17EE031	KAVYASHREE G	1	2	3	4	5	6	7	8	9	10	11
31	1SG17EE032	KEERTHI S K	1	2	3	4	5	6	7	8	9	10	
32	1SG17EE033	KOUSALAYA D	1	2	3	4	5	6	7	8	9	10	11
33	1SG17EE034	KRITHI BIDDAPPA K	1	2	3	4	5	6	7	8	9	10	11
34	1SG17EE035	KUSHAL D	1	2	3	4	5	6	7	8	9	10	11
35	1SG17EE036	LIKITHA N	1	2	3	4	5	6	7	8	9	10	
36	1SG17EE038	MAHADEV M	1	2	3	4	5	6	7	8	9	10	
37	1SG17EE039	MANASA R	1	2	3	4	5	6	7	8	9	10	
38	1SG17EE040	MANDARA C K	1	2	3	4	5	6	7	8	9	10	
39	1SG17EE041	MANJUEETH KUMAR	1	2	3	4	5	6	7	8	9	10	
40	1SG17EE042	MEGHANA B	1	2	3	4	5	6	7	8	9	10	

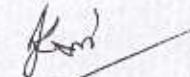


Sl. No	USN	Student Name	25-01-2019		28-01-2019		29-01-2019		30-01-2019		31-01-2019		Test
			MS	AS	MS	AS	MS	AS	MS	AS	MS	AS	
41	1SG17EE043	MEGHANA R	1	2	3	4	5	6	7	8	9	10	11
42	1SG17EE044	MOHAN RAJ D	1	2	3	4	5	6	7	8	9	10	11
43	1SG17EE045	MONISHA C	1	2	3	4	5	6	7	8	9	10	11
44	1SG17EE046	NAGASHREE T	1	2	3	4	5	6	7	8	9	10	11
45	1SG17EE047	NANDU P R	1	2	3	4	5	6	7	8	9	10	11
46	1SG17EE048	NEHA S	1	2	3	4	5	6	7	8	9	10	11
47	1SG17EE049	NEHA T R	1	2	3	4	5	6	7	8	9	10	11
48	1SG17EE050	NINADA AASHOK	1	2	3	4	5	6	7	8	9	10	11
49	1SG17EE051	NIRANJAN B A	1	2	3	4	5	6	7	8	9	10	11
50	1SG17EE052	NISHITHA R	1	2	3	4	5	6	7	8	9	10	11
51	1SG17EE053	NITIN PUJAR	1	2	3	4	5	6	7	8	9	10	11
52	1SG17EE054	POOJA K	1	2	3	4	5	6	7	8	9	10	11
53	1SG17EE055	POORVIKA R	1	2	3	4	5	6	7	8	9	10	11
54	1SG17EE056	PRAJWAL S	1	2	3	4	5	6	7	8	9	10	11
55	1SG17EE057	PRASHANTH Y I	1	2	3	4	5	6	7	8	9	10	11
56	1SG17EE058	PREKSHA S	1	2	3	4	5	6	7	8	9	10	11
57	1SG17EE059	PRUTHVI S	1	2	3	4	5	6	7	8	9	10	11
58	1SG17EE060	R LOKESH	1	2	3	4	5	6	7	8	9	10	11
59	1SG17EE061	RAGHUVeer B J	1	2	3	4	5	6	7	8	9	10	11
60	1SG17EE062	RAKSHITH S	1	2	3	4	5	6	7	8	9	10	11
61	1SG17EE063	RAKSHITHA G M	1	2	3	4	5	6	7	8	9	10	11
62	1SG17EE064	RAKSHITHA M	1	2	3	4	5	6	7	8	9	10	11
63	1SG17EE065	RAMYA P V S	1	2	3	4	5	6	7	8	9	10	11
64	1SG17EE066	RANJITHA B R	1	2	3	4	5	6	7	8	9	10	11
65	1SG17EE068	SAHANA G R	1	2	3	4	5	6	7	8	9	10	11
66	1SG17EE070	SHANI PRADEEP	1	2	3	4	5	6	7	8	9	10	11
67	1SG17EE071	SHANTNU YADAV	1	2	3	4	5	6	7	8	9	10	11
68	1SG17EE072	SHILPA S	1	2	3	4	5	6	7	8	9	10	11
69	1SG17EE073	SHIVARAJ N P	1	2	3	4	5	6	7	8	9	10	11
70	1SG17EE075	SINCHANA R	1	2	3	4	5	6	7	8	9	10	11
71	1SG17EE076	SPOORTHY D K	1	2	3	4	5	6	7	8	9	10	11
72	1SG17EE077	SRINIVASA R	1	2	3	4	5	6	7	8	9	10	11
73	1SG17EE078	SUBRAMANYA M V	1	2	3	4	5	6	7	8	9	10	11
74	1SG17EE079	SWATHI C	1	2	3	4	5	6	7	8	9	10	11
75	1SG17EE080	TEJU M K	1	2	3	4	5	6	7	8	9	10	11
76	1SG17EE081	THANUJA N	1	2	3	4	5	6	7	8	9	10	11
77	1SG17EE082	THILAK B T	1	2	3	4	5	6	7	8	9	10	11
78	1SG17EE083	UDAY J	1	2	3	4	5	6	7	8	9	10	11
79	1SG17EE084	VARSHA KUMARI	1	2	3	4	5	6	7	8	9	10	11
80	1SG17EE085	VIDYA INAMDAR	1	2	3	4	5	6	7	8	9	10	11
81	1SG17EE086	VIJAYALAKSHMI G	1	2	3	4	5	6	7	8	9	10	11
82	1SG17EE087	VIKAS I	1	2	3	4	5	6	7	8	9	10	11
83	1SG17EE088	VINODA M O	1	2	3	4	5	6	7	8	9	10	11
84	1SG17EE089	VISHRUTH B R	1	2	3	4	5	6	7	8	9	10	11
85	1SG17EE090	VISHWAS SHABADI	1	2	3	4	5	6	7	8	9	10	11
86	1SG17EE091	WASEEM PASHA M	1	2	3	4	5	6	7	8	9	10	11



Sl. No	USN	Student Name	25-01-2019		28-01-2019		29-01-2019		30-01-2019		31-01-2019		Test
			MS	AS	MS	AS	MS	AS	MS	AS	MS	AS	
87	1SG17FE092	YASHASWINI S	1	2	3	4	5	6	7	8	9	10	11
88	1SG17FE093	YESHWANTH S	1	2	3	4	5	6	7	8	9	10	11
89	1SG18FE400	HARISH REDDY	1	2	3	4	5	6	7	8	9	10	11
90	1SG18FE401	HARSHITH GOWDA K	1	2	4	3	4	5	6	7	8	9	10
91	1SG18FE402	IRABASAPPA KUMBAR	1	2	3	4	4	5	6	7	8	9	10
92	1SG18FE403	KIRAN K R	1	2	3	4	4	5	6	7	8	9	10
93	1SG18FE404	LOKESH RAJU R	1	2	4	3	4	4	5	6	7	8	9
94	1SG18FE405	MANOHARA B	1	2	3	4	5	6	7	8	9	10	11
95	1SG18FE406	MANOJ C	1	2	4	3	4	5	6	7	8	9	10
96	1SG18FE407	MANOJ R	1	2	3	4	5	6	4	7	8	9	10
97	1SG18FE408	NAVEEN G B	1	2	3	4	5	6	7	8	9	10	11
98	1SG18FE409	NAVEEN KUMAR H S	1	2	3	4	5	6	7	8	4	9	10
99	1SG18FE410	NIKELESH N	1	2	3	4	5	6	7	8	9	10	11
00	1SG18FE411	NIKHIL GOWDA J S	1	2	3	4	5	6	7	8	4	9	10
101	1SG18FE412	NIKHIL GOWDA V	1	2	3	4	5	6	7	8	9	10	11
102	1SG18FE413	POOJA	1	4	2	3	4	5	6	7	8	9	10
103	1SG18FE414	RAKESH R	1	2	3	4	4	5	6	7	8	9	10
104	1SG18FE415	SAI TEJA	1	2	3	4	5	6	7	8	9	10	11
105	1SG18FE416	SIDDIAH	1	2	3	4	5	6	7	8	9	10	11
106	1SG18FE417	SUDHEEP R	1	2	3	4	5	6	7	4	8	9	10
107	1SG18FE418	YOGESH S	1	2	3	4	5	6	7	8	4	9	10
Signature													

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

  
HOD  
PROF & HOD  
Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bengaluru - 560057.





# Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)  
#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru - 560057  
Phone: 080-28372800/1/2 www.sapthagiri.edu.in Fax: 080-28372797

## Department of Electrical & Electronics Engineering

### 5 days Certification Course on "Condition and Assessment of High Voltage insulation in power system equipment"

#### Test Time Table

Sl. No.	DATE	DAY	TIMINGS
1	31-1-2019	Thursday	4.00PM-5.00PM

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

HOD-EEE  
PROF & HOD

Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bangalore - 560057.



### 5 days Certification Course on

### "Condition and Assessment of High Voltage insulation in power system equipment"

### Question Paper

Duration : 1hr

Maximum marks : 30

Note: Question number 1-30 (1M each)

#### Answer all the Questions:

- 1) For the measurement of radio interference voltages, the detector circuit is provided with a measuring device to measure
  - a. Average value
  - b. Peak value
  - c. Quasi-peak value
  - d. All of these.
- 2) For operating power frequency voltages, a surge arrester has to be a
  - a. Conductor
  - b. Non-conductor
  - c. Semiconductor
  - d. None of these
- 3) Failure during switching impulse tests are can be determined by
  - a. Visible in oscillograms
  - b. Loud noise produced
  - c. External flashovers
  - d. All of these
- 4) Impulse testing of transformers is done using
  - a. Full wave standard impulse
  - b. Chopped wave standard impulse
  - c. Half wave standard impulse
  - d. Only (a) and (b)
  - e. None of these
- 5) The expected life at the rated stress can be determined by conducting long duration life tests at increased
  - a. Less than 1 hr
  - b. 1 hr to about 1000 hr
  - c. More than 1000 hr



Principal

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



### Department of Electrical & Electronics Engineering

d. None of these

6) The sparkover voltage

- a. Increases with humidity
- b. decreases with the partial pressure of water vapour in air
- c. Humidity effect decreases with the size of spheres
- d. Humidity is minimum for uniform field gaps

7) For voltage measurements, the gap which gives highest accuracy is

- a. Sphere gaps
- b. Field gaps
- c. Rod gaps
- d. None of these

8) The series capacitor peak voltmeter is suitable for

- a. Positive half cycle
- b. Negative half cycle
- c. Sinusoidal waveform
- d. All of these

9) The attractive force between the electrodes of a parallel plate capacitor is

- a. Directly proportional to the square of the applied voltage between plates
- b. Directly proportional to the capacitance between the plates
- c. Inversely proportional to the square of the separation between the plates
- d. All of these

10) A Capacitance Voltage Transformer can be connected to a

- a. High impedance device
- b. Low impedance device
- c. Relay coil
- d. Only (b) and (c)

11) In large impulse generators, the spark gaps are generally

- a. Sphere gaps
- b. Hemispherical gaps
- c. Square gaps
- d. Either (a) or (b)

12) For producing large values of impulse currents, a number of capacitors are charged in

- a. Parallel and discharged in series
- b. parallel and discharged in parallel

Principal

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



c. series and discharged in series

d. Series and discharged in parallel

13) In a multistage impulse generator, for producing very high voltages, a bank of capacitors is

a. Charged in parallel and then discharged in series

b. Charged in series and then discharged in parallel

c. Charged in parallel and then discharged in parallel only

d. Charged in series and then discharged in series only

14) In a series RLC circuit, the wave front and wave tail times are controlled by changing the value

a. R only

b. R and L simultaneously

c. R and C simultaneously

d. L and C simultaneously

15) The disadvantages of resonant transformers is

a. Pure sine wave output

b. No high power arcing

c. No repeated flashovers

d. Additional variable chokes

16) The commonly used materials for HV insulation is

a. Paper-oil insulation

b. Polyester resin

c. Ceramic

d. PVC

17) Resins and varnishes are commonly used in

a. Generators and motors

b. Cables

c. Transformers

d. Circuit breakers

18) The resin bonded paper bushings are designed to operate at a maximum radial stress of

a. 5 kV/cm

b. 10 kV/cm

c. 15 kV/cm

d. 20 kV/cm

Principal

Sapthagiri College of Engineering

14/5, Chikkasandra, Hesaraghatta Main Road  
Bengaluru - 560 057



### Department of Electrical & Electronics Engineering

- 19) In paper based laminated construction, the typical value of dielectric constant and dielectric loss factor is
- 3.5, 0.0015
  - 2.5, 0.0020
  - 3.5, 0.0025
  - 2.5, 0.0035
- 20) The most commonly used insulating materials for low and medium voltage cables is
- Polyethylene
  - Porcelain
  - PVC
  - Vulcanized rubber
21. The example of artificial fibre is
- Rayon
  - Cotton
  - Flax
  - Silk
- 22) Which among the following is not an example of impregnants?
- Mineral oil
  - Chlorinated diphenyl
  - Vegetable oils
  - None of these
- 23) For very small cavities, discharge inception voltage
- Decreases as the cavity depth increases
  - Increases as the cavity depth increases
  - Remains unaffected as the cavity depth increases
  - None of these
- 24) The liquid dielectrics contain voids or cavities within the medium or at the boundaries between the dielectric and the electrodes. The electric field strength in the voids is
- Lower than that across the dielectric
  - Higher than that across the dielectric
  - Equal to that across the dielectric
  - None of these



### Department of Electrical & Electronics Engineering

- 25) Treeing phenomenon is observed in
- Capacitors
  - Cables
  - Insulators
  - Only (a) and (b)
- 26) According to the Stressed Oil Volume theory, the breakdown strength is
- Directly proportional to the stressed oil volume
  - Directly proportional to the square of the stressed oil volume
  - Inversely proportional to the stressed oil volume
  - None of these
- 27) According to the Bubble theory, once a bubble is formed, it will elongate in the direction of electric field under the influence of electrostatic forces. During elongation the volume of bubbles
- Increases
  - Decreases
  - Remains constant
  - None of these
- 28) In case of solid particles present in the liquid and in case of presence of only gas bubbles in liquids, the direction of force is towards
- Areas of maximum stress, areas of minimum stress
  - Areas of maximum stress, areas of maximum stress
  - Areas of minimum stress, areas of maximum stress
  - Areas of minimum stress, areas of minimum stress
- 29) The increase in liquid hydrostatic pressure
- Increases the breakdown strength
  - Decreases the breakdown strength
  - Does not affect the breakdown strength
  - None of these
- 30) In Breakdown tests, the test voltages required for these tests are usually of the order of
- 0 - 10 kV
  - 20 - 50 kV
  - 50 - 100 kV
  - 100 - 200 kV




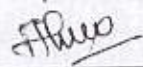
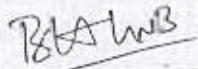




## Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)  
#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru - 560057  
Phone: 080-28372800/1/2 www.sapthagiri.edu.in Fax: 080-28372797

### Department of Electrical & Electronics Engineering

Approved by Academic Committee Members & HOD

Sl No.	Faculty Name	Designation	Signature
1	Dr. K N Ravi	HOD	
2	Prof. Rekha S N	Associate Professor	
3	Prof. Dharmodaran A	Assistant Professor	
4	Prof. Mahavishnu K B P	Assistant Professor	
5	Prof. Bharath B N	Assistant Professor	
6	Prof. Shivaraj A	Assistant Professor	
7	Prof. Aruna M	Guest Speaker	

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

  
HOD, EEE  
PROF & HOD  
Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bangalore - 560057.





# Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372800/1/2

www.sapthagiri.edu.in

Fax: 080-28372797

## Department of Electrical & Electronics Engineering

### 5 days Certification Course on "Condition and assessment of High Voltage insulation in power system equipment"

#### Solutions for the Questions

Duration : 1hr

Maximum marks : 30

Note: Question number 1-30 (1M each)

1 d	2 b	3 c	4 d	5 b	6 a	7 a	8 d	9 d	10 d
11 b	12 a	13 d	14 c	15 c	16 b	17 d	18 c	19 a	20 b
21 b	22 c	23 d	24 a	25 b	26 c	27 d	28 a	29 b	30 a

Approved by Academic Committee Members & HOD

Sl No.	Faculty Name	Designation	Signature
1	Dr. K N Ravi	HOD	
2	Prof. Rekha S N	Associate Professor	
3	Prof. Dhamodaran A	Assistant Professor	
4	Prof. Mahavishnu KBP	Assistant Professor	
5	Prof. Bharath B N	Assistant Professor	
6	Prof. Shivaraj A	Assistant Professor	

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

HOD, EEE  
PROF & HOD  
Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bangalore - 560057.



**5 days Certification Course on**


**"Condition and assessment of High Voltage insulation in power system equipment"**

**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:

it was good certification course. They  
explained the topics well [Approach was practical way].

Student Name : Sai Teja

Student Signature: 

Principal



**5 days Certification Course on**

**"Condition and assessment of High Voltage insulation in power system equipment"**

**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:

Overall program is good. I understand concepts of High voltage Insulation Assessment w.r.t equipment

Student Name : Aishwarya Gupta

Student Signature: 



**5 days Certification Course on**

**"Condition and assessment of High Voltage insulation in power system equipment"**

**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:

It was nice course, Thanking dept-EEE  
for bringing super experts.

Student Name : Dhanushu

Student Signature: [Signature]



**5 days Certification Course on**

**"Condition and assessment of High Voltage insulation in power system equipment"**

**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:

It was good course, experts taught well.  
Hands-on sessions was very good

Student Name : Mandara CK

Student Signature: 



**5 days Certification Course on**

**"Condition and assessment of High Voltage insulation in power system equipment"**

**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:

CONCEPTS EXPLAINED WELL, HAND-ON SESSION  
WAS VERY GOOD,

Student Name : MEGHANA B

Student Signature: 

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



## Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372800/1, 2

www.sapthagiri.edu.in

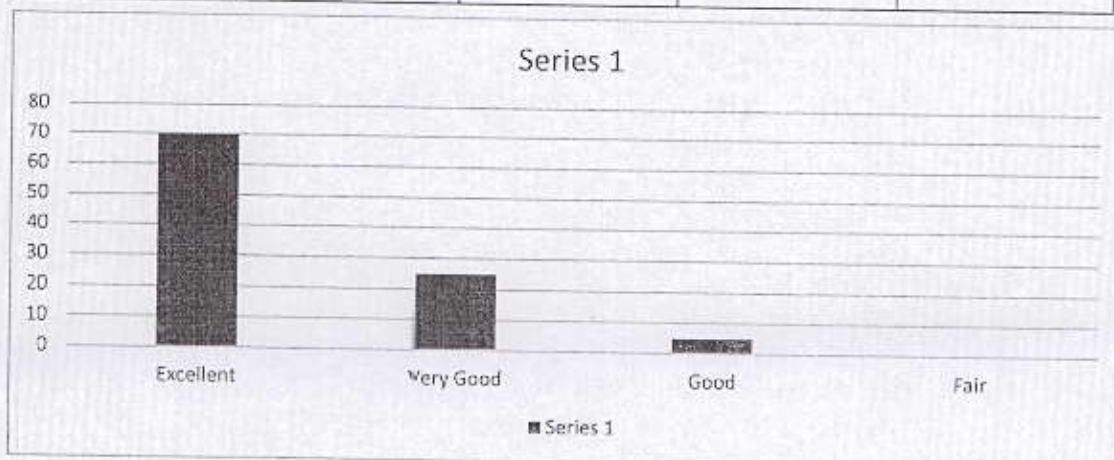
Fax: 080-28372797

### Department of Electrical & Electronics Engineering

#### FEEDBACK ANALYSIS

Certification Programme: **"Condition and Assessment of High Voltage insulation in power system equipment"**

No. of students participated	Student Feedback			
	Excellent	Very Good	Good	Fair
107	70	25	5	0



#### Action Report:

70 % of students were completely happy with the certification program and 25 % of students felt it was a good program and remaining 5 % 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.

  
Program Coordinator

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

HOD  
PROF & HOD  
Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bangalore - 560057.





# Sapthagiri College of Engineering

Bangalore-560057

## Certificate

This is to Certify that Mr./Ms. SUDHEEP R - 1SG18EE417  
of EEE has participated and  
successfully completed Five days Certification Course on "Condition and Assessment of  
High Voltage Insulation in Power System Equipment" from 25th JAN, 2019 to 31st  
JAN, 2019 organized by the Department of Electrical & Electronics Engineering,  
Sapthagiri College of Engineering.

HOD, Dept. of EEE

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

Principal





# Sapthagiri College of Engineering

Bangalore-560057

## Certificate

This is to Certify that Mr./Ms. KUSHAL D 1SG17EE037  
of EEE has participated and  
successfully completed Five days Certification Course on "Condition and Assessment of  
High Voltage Insulation in Power System Equipment" from 25th JAN, 2019 to 31st  
JAN, 2019 organized by the Department of Electrical & Electronics Engineering,  
Sapthagiri College of Engineering.

HOD, Dept. of EEE

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

Principal





# Sapthagiri College of Engineering

Bangalore-560057

## Certificate

This is to Certify that Mr./Ms. \_\_\_\_\_  
of \_\_\_\_\_ has participated and  
successfully completed Five days Certification Course on “Condition and Assessment of  
High Voltage Insulation in Power System Equipment” from 25th JAN, 2019 to 31st  
JAN, 2019 organized by the Department of Electrical & Electronics Engineering,  
Sapthagiri College of Engineering.

Principal

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

HOD, Dept. of EEE

Principal





# Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372800/1/2

www.sapthagiri.edu.in

Fax: 080-28372797

## Department of Electrical & Electronics Engineering

### Certificate Course Report

Department of EEE conducted Certificate Course on "Condition and assessment of High Voltage insulation in power system equipment".

**Guest Speaker:** Prof. Aruna M, Associate Professor, Department of EEE, Acharya Institute of Technology, Bengaluru.

**Duration of the course:** five days from Jan 25<sup>th</sup> 2019 to Jan 31<sup>st</sup> 2019

#### Course detail

**Objective of the Course:** The five day course made the students to be familiar with the A high-voltage power system of a complex configuration of generators, long-distance transmission lines and localized distribution networks with above- and below-ground conductors for delivering energy to users. As the voltages and powers to be transmitted increased over the past hundred years the basic dielectrics greatly improved following extensive research by industry and in specialized laboratories, where much of this work continues. It is of interest to note that paper, suitably dried and impregnated, is still used for many high-voltage applications.

The application of renewable sources – for example solar devices, wind generators, biomass generation and small hydro-plants – is becoming more important. Within ten years it might be expected that embedded generation from such sources could contribute between 10 and 20 per cent of the total power in some countries, although commercial problems may limit the developments.

Certificate course made them comfortable with the condition and assessment of High Voltage insulation in power system equipment. 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.

Principal

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



## Department of Electrical & Electronics Engineering

### Schedule of Certification Course

Dates	SESSION 1 (9.00am-10.30am)	SESSION 2 (11.00am-12.30pm)	SESSION 3 Hands-on Session (1.00pm-4.00pm)
25-1-2019 Friday	Interconnection of HV power system components Alternating voltage systems	Direct-voltage systems Insulation coordination High-voltage test levels	Hands on failure of practical insulating materials
28-1-2019 Monday	Lightning-impulse voltages Switching surges Very fast transient tests (VFTT)	Direct-voltage tests Power system developments	Hands-on Collections at Power-frequency voltages examples
29-1-2019 Tuesday	High-voltage machines Possible insulation failure mechanisms in rotating machines	CIGRE summary of expected machine insulation degradation Future of machine insulation Transformers	Hands on Earthing, handling and Connections
30-1-2019 Wednesday	Basic methods for insulation assessment Generation and measurement of test high voltages	Power-frequency voltages Very-low-frequency voltages (VLF)	Hands-on Ultrasonic method for detection of partial discharges
31-1-2019 Thursday	Insulation resistance (IR) measurements Measurements of the dielectric dissipation factor (DDF)	Measurement of partial discharges by electrical methods Dielectric response measurements	Hands-on Water treeing in XLPE Test Conduction

**Conclusion:** Certificate course made them comfortable with practical knowledge. 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.

It is a practice of the department to take care of any issues pertaining to the academics. In this connection department of EEE has conveyed meeting with Faculty members to discuss about any lapses with academic activities and felt the need to conduct a certificate Course. As part of

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



# Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

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

Phone: 080-28372800/1/2

www.sapthagiri.edu.in

Fax: 080-28372797

## Department of Electrical & Electronics Engineering

Certificate course 4 faculty members were identified and assigned duties and responsibilities to carry out the Certificate course.



Principal

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



HOD EEE

PROF. S. HOD  
Department of Electrical & Electronics Engineering  
Sapthagiri College of Engineering  
Bangalore - 560057.