E.G.S.Pillay Engineering College, (Autonomous) Nagapattinam

Dept of Electrical and Electronics Engineering

INTERNAL CIRCULAR 2-05-2021

Value added course

It is informed to all final year (2017-21) students that a five day value added course on "ELECTRIC VEHICLES," been organized between 3-05-2021 to 7-05-2021. All the students of IV year EEE are instructed to attend the course without fail.

Time: 9.15 am – 4.30 Pm
Venue: EEE Seminar hall

02/05/2021

HOD/EEE

Dr. V. MOHAN M.E.,Ph.D.,
PROFESSOR & HEAD
Department of Electrical & Electronics Engg
E.G.S. Pillay Engineering College - Nagapattinam

(Circulated to IV year class)

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.

**E.G.S. PILLAY ENGINEERING COLLEGE (AUTONOMOUS)**

Nagapattinam – 611 002

Affiliated to Anna University, Chennai| Approved by AICTE, New Delhi

ACCREDITED by NAAC With GRADE 'A'

Department of Electrical and Electronics Engineering

(Accredited by NBA)

**VALUE ADDED COURSE ON**

**" Electric vehicle"**

## Syllabus

- *Introduction to electric vehicles*
- *Electric motors*
- *Power electronics for EVs*
- *Energy storage systems*
- *EV battery charging technologies*
- *Hybrid technologies*
- *Design &implementation*

## Course Overview

### Resource Person

**Mr.S.Rajkumar,**

**Senior Engineer ,R& D**

**(Indiguard Systems ,Pvt Ltd), Thanjavur**

### Course Coordinator

**Mr.R.Anandaraj,AP/EEE**

**course period : 3-5-2021 to 7-5-2021**

**Time : 9.30 am – 4.30 pm**

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi, Nagore - 611 002.

**E.G.S. Pillay ENGINEERING COLLEGE**
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**Department of Electrical and Electronics Engineering**
**(Accredited by NBA)**

# VALUE ADDED COURSE

ON

# "Electric vehicles"

## Syllabus

- Electric Vehicle Foundations & Supporting Infrastructure
- Battery Technology and Control Systems
- Electric Motors and Power converters

**Resource Person**


**Mr.R.Anandaraj**
**Associate Professor**
**EEE**
**E.G.S. Pillay Engineering college ,Nagapattinam**


*Course Coordinator*

**Mrs.S.Latha,AP/EEE**

ATTESTED

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Nagapattinam (Dt) Tamil Nadu.

E.G.S. PILLAY ENGINEERING, NAGAPATTINAM

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

*Value added course*

*On*

***ELECTRIC VEHICLES***

**About the institution :**

Our college is offering value added courses for all the students intended to provide additional learner centric graded skill oriented technical training. The courses enhance the ability of students in their respective domains and progress in their respective field of studies.

**About the department:**

Our department intends to provide additional technical knowledge and ensure the active participation of students to practice in the multidisciplinary tasks and core related areas.

Course period
03-05-2021 to 07-06-2021

**Course instructor:**
Mr.R.Anandaraj AP/EEE

**Objectives**

Objectives of providing value added courses are to

- Gain knowledge from the subject experts
- Meet the expectations of industry
- Improve the employability skills of the students
- To reduce air pollution and curb the health emergency issues.

**Courses Structure**

✓ Industry experts / eminent academicians from other Institutes/ Subject Expertsfrom the respective departments teach the value added course

✓ The registration for the courses will be done at the beginning of academic year

✓ The duration of each course is 40 hours of Theory / Practical / Both

ATTESTED
Dr. S. RAMABALAN, M.E., Ph.D.,
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E.G.S. Pillay Engineering College,
Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.

## Expected Outcomes

Students will be able to

- ➢ Demonstrate their technical and communication skills
- ➢ Apply the novel technologies in their respective fields
- ➢ Face the challenges in the current industry scenario

## Evaluation & Result

Evaluation of value added courses shall be carried out annually for 100 marks. Students will be given certificates with the grades based on the marks scored in the Examination.

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.

Requisition letter

From

Mr.RAnandaraj.,Asst.Prof./EEE
Department of Electrical and Electronics Engineering

E.G.S. Pillay Engineering College (Autonomous)

Nagapattinam-611002

**To**

The Secretary,

E.G.S. Pillay Engineering College (Autonomous)

Nagapattinam-611002

(Through HoD)

**Respected sir,**

Sub: Request to approve and allocate a fund to conduct a course on "Electric vehicles" for II year EEE students.

We have planned to conduct a 5 days course on electric vehicles for the II EEE students during the period 03-05-2021 to 07-05-2021.Details of students, course fee, course details etc. are placed enclosed with this letter .we request you to approve and allocate fund for the same.

Thanking you

Encl:
1. Course details
2. Course fee
3. Expected budget.

Yours obediently

28.04.21
Nagapattinam

ATTESTED

Dr.S.RAMA... M.E. Ph.D.,

E.G.S ...

Department of Electrical and Electronics Engineering

ONE WEEK VALUE ADDED COURSE

On

**"ELECTRIC VEHICLES"**

**Attendance register**

Batch: 2017-2021

Academic Year: 2020-2021

| SL.No | Reg. No | Name | 3/5/21 | 4/5/21 | 5/5/21 | 6/5/21 | 7/5/21 |
|---|---|---|---|---|---|---|---|
| 1. | E17EER001 | AJITHKUMAR J | P | P | P | P | P |
| 2. | E17EER002 | AKASH J | P | P | P | P | P |
| 3. | E17EER003 | AKASH S | A | A | A | A | A |
| 4. | E17EER004 | ANANTH N | P | P | P | P | A |
| 5. | E17EER005 | ARUNKUMAR R | P | P | P | P | P |
| 6. | E17EER006 | ASHOKRAJ B | P | P | P | P | P |
| 7. | E17EER007 | ATCHAYA R | P | P | P | P | P |
| 8. | E17EER008 | BALAJI S | P | P | P | P | P |
| 9. | E17EER009 | BALAKUMARAN V | P | P | A | P | A |
| 10. | E17EER010 | BALAMURUGAN R | P | P | P | P | P |
| 11. | E17EER011 | BHARATH S | P | P | P | P | P |
| 12. | E17EER012 | CHANDRU S | P | P | P | P | P |
| 13. | E17EER014 | DHANUSRI S | P | P | P | P | P |
| 14. | E17EER015 | DHIVAKAR A | P | P | P | P | P |
| 15. | E17EER016 | DIVYA J | P | P | P | P | P |
| 16. | E17EER017 | DURAIVALAVAN K | P | P | P | P | P |
| 17. | E17EER018 | GANESH P | P | P | P | P | P |
| 18. | E17EER019 | GIRISUNDAR M R | P | P | P | P | P |
| 19. | E17EER020 | HANIN FARAZ H | P | P | P | P | P |
| 20. | E17EER021 | HARISH T | A | A | A | A | A |
| 21. | E17EER022 | IBTHIHARUDEEN S | P | P | P | P | P |
| 22. | E17EER023 | JAYADEEPAN T | P | P | P | P | P |
| 23. | E17EER024 | JEROMIYA S | P | P | P | P | P |
| 24. | E17EER025 | KARTHIKESH K | P | P | P | P | P |
| 25. | E17EER026 | KRISHNARAJ D | A | A | A | A | A |
| 26. | E17EER027 | KURALARASAN S | P | P | P | P | P |
| 27. | E17EER028 | MADHAVAN S | P | P | P | P | P |
| 28. | E17EER029 | MANOJRAJ A S | P | P | P | P | P |
| 29. | E17EER030 | MOHANRAJ S | P | P | A | P | P |
| 30. | E17EER031 | NAVANEETHA KANNAN S | P | P | P | P | P |
| 31. | E17EER032 | NEETHIS RAM S | P | P | P | P | P |
| 32. | E17EER034 | PAVITHRAN T | P | P | P | P | P |
| 33. | E17EER035 | PRATHEEP S | P | P | P | P | P |
| 34. | E17EER036 | RAGUL D | P | P | P | P | P |
| 35. | E17EER038 | RAJESH KANNAN M | A | A | A | A | A |
| 36. | E17EER039 | RAJKUMAR R | P | P | P | P | P |
| 37. | E17EER040 | RAJMANI R | P | P | P | P | P |
| 38. | E17EER041 | RAMESH M | P | P | P | P | P |
| 39. | E17EER042 | RAMYA N | P | P | P | P | P |
| 40. | E17EER043 | RENUGA M V | P | P | P | P | P |
| 41. | E17EER044 | REVATHI M | P | P | P | P | P |
| 42. | E17EER045 | SAIVIGNESH M | P | P | P | P | P |
| 43. | E17EER046 | SANTHOSH R | P | P | P | A | P |

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi, Nagore - 611 002

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 44. | E17EER048 | SARAVANAN S | P | P | P | P | P | |
| 45. | E17EER049 | SELVAKUMAR S | P | P | P | P | P | |
| 46. | E17EER051 | SUVETHA M | P | P | P | P | P | |
| 47. | E17EER052 | THARUMARAJA P | P | P | P | P | P | |
| 48. | E17EER053 | THILEEBAN M | A | A | A | A | A | |
| 49. | E17EER054 | VASANTH J | P | P | P | P | P | |
| 50. | E17EER055 | VASANTHAN S | P | P | P | P | P | |
| 51. | E17EER056 | VENKATESAN D | P | P | P | P | P | |
| 52. | E17EER057 | VENKATESH K | P | P | P | P | P | |
| 53. | E17EER058 | VIGNESH T | P | P | P | P | P | |
| 54. | E17EER059 | VIJAY G | P | P | P | P | P | |
| 55. | E17EER060 | VINITH A | A | A | A | A | A | |
| 56. | E17EER061 | VINIYA S | P | P | P | P | P | |
| 57. | E17EER062 | VISHAL N | A | A | A | A | A | |
| 58. | E17EER063 | YUVARAJ G | P | P | P | P | P | |
| 59. | E17EEL301 | AADHILL AHAMED S | P | P | P | P | P | |
| 60. | E17EEL303 | DHARSHAN R | P | P | P | P | P | |
| 61. | E17EEL304 | KEERTHIVASAN.S | P | P | P | P | P | |
| 62. | E17EEL305 | MATHAVAN.A | P | P | P | P | P | |
| 63. | E17EEL306 | MOHAMED AMANULLA M | P | P | P | P | A | |
| 64. | E17EEL307 | MOHAMED FAIZ.J | P | P | P | P | P | |
| 65. | E17EEL308 | MOHAMMED RIZWAN.S | P | P | P | P | P | |
| 66. | E17EEL309 | RAJAMANIKANDAN.S | P | P | P | P | P | |
| 67. | E17EEL310 | SATHIYA NARAYANAN D | P | P | P | P | P | |
| 68. | E17EEL311 | SURYA R | P | P | P | P | P | |
| 69. | E17EEL312 | SYED YAKINUL RAGMAN.H | P | P | P | P | P | |
| 70. | E17EEL313 | VENKATRAMANAN .N | P | P | P | P | P | |
| 71. | E17EEL314 | VIGNESH C | P | P | P | P | P | |
| 72. | E17EEL315 | VINITH K | P | P | P | P | P | |

HOD/EEE

Dr. V. MOHAN M.E.,Ph.D.,
PROFESSOR & HEAD
Department of Electrical & Electronics Engg
E.G.S. Pillay Engineering College - Nagapattinam

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.

# E.G.S PILLAY ENGINEERING COLLEGE

## NAGAPATTINAM – 611002

Accredited by NAAC with 'A' Grade | Accredited by NBA (EEE, MECH, CSE)

Approved by AICTE - New Delhi and Affiliated to Anna University - Chennai

Value added course on

## ELECTRIC VEHICLES

**Organized by**

*Department of Electrical and Electronics Engineering*

## *Certificate*

This is to certify that ~~Mr~~. / Ms. / ~~Mrs~~. S. DHANUSRI

Of IV EEE has attended five days Value Added Course on "Electric Vehicles" From 03rd May 2021 to 07th May 2021.

S. M.
COORDINATOR

ATTESTED
Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.

HOD/EEE

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Value added course on

## ELECTRIC VEHICLES

**Organized by**

***Department of Electrical and Electronics Engineering***

## *Certificate*

This is to certify that Mr. / ~~Ms.~~ / ~~Mrs.~~ M. SAIVIGNESH

Of IV EEE has attended five days Value Added Course on "Electric Vehicles" From 03rd May 2021 to 07th May 2021.

**COORDINATOR**

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.

**HOD/EEE**

E.G.S. Pillay Engineering college,Nagapattinam

Department of electrical and electronics engineering

# VALUE ADDED COURSE ON ELECTRIC VEHICLES

**03.05.2021 to 07.05.2021**

Expenditure statement

| Sl.no | Particulars | Bill details | Amount spent (Rs) |
|---|---|---|---|
| 1 | Banner | New jeevi multimedia | 475 |
| 2 | Shawl | Saranya textiles | 300 |
| 3. | Tea snacks | E.G.S.P. canteen | 3600 |
| 4 | Program report | voucher | 400 |
| Total expenditure | | | 4775 |

Fund allotted for value added course : Rs. 5000

Fund utilized for the course : Rs. 4775

Fund to be remitted to the account : Rs. 225

Course coordinator

HoD/EEE

Dr. V. MOHAN M.E..Ph.D.,
PROFESSOR & HEAD
Department of Electrical & Electronics Engg
E.G.S. Pillay Engineering College - Nagapattinam

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.

**E.G.S. PILLAY ENGINEERING COLLEGE (AUTONOMOUS)**

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**VALUE ADDED COURSE ON**

**ELECTRIC VEHICLES**

**FEEDBACK FORM**

**DATE:** 7.5.21

**Give your feedback in 1 to 5 scale 1. Very poor 2.Poor 3.Good 4.Very good 5.Excellent**

| | | | | | |
|---|---|---|---|---|---|
| 1. How much the Course is useful for you? | (5) | 4 | 3 | 2 | 1 |
| 2. Course Content | (5) | 4 | 3 | 2 | 1 |
| 3. Interaction with students | (5) | 4 | 3 | 2 | 1 |
| 4. Content Delivery method | 5 | (4) | 3 | 2 | 1 |
| 5. Whether all your queries are answered | (5) | 4 | 3 | 2 | 1 |
| 6. How the difficult points are handled | (5) | 4 | 3 | 2 | 1 |

Any other points ....Good.....

.....

.....

ATTESTED

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Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.

M. Sanjeesh

**Signature of the student**

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Value added course on

## ELECTRIC VEHICLES

**Organized by**

**Department of Electrical and Electronics Engineering**

## Certificate

This is to certify that Mr. / ~~Ms.~~ / ~~Mrs.~~ M. SAIVIGNESH .

Of IV EEE has attended five days Value Added Course on "Electric Vehicles" From 03rd May 2021 to 07th May 2021.

COORDINATOR

ATTESTED

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Nagapattinam (Dt) Tamil Nadu,

HOD/EEE

# E.G.S. PILLAY ENGINEERING COLLEGE, NAGAPATTINAM

**(Autonomous)**

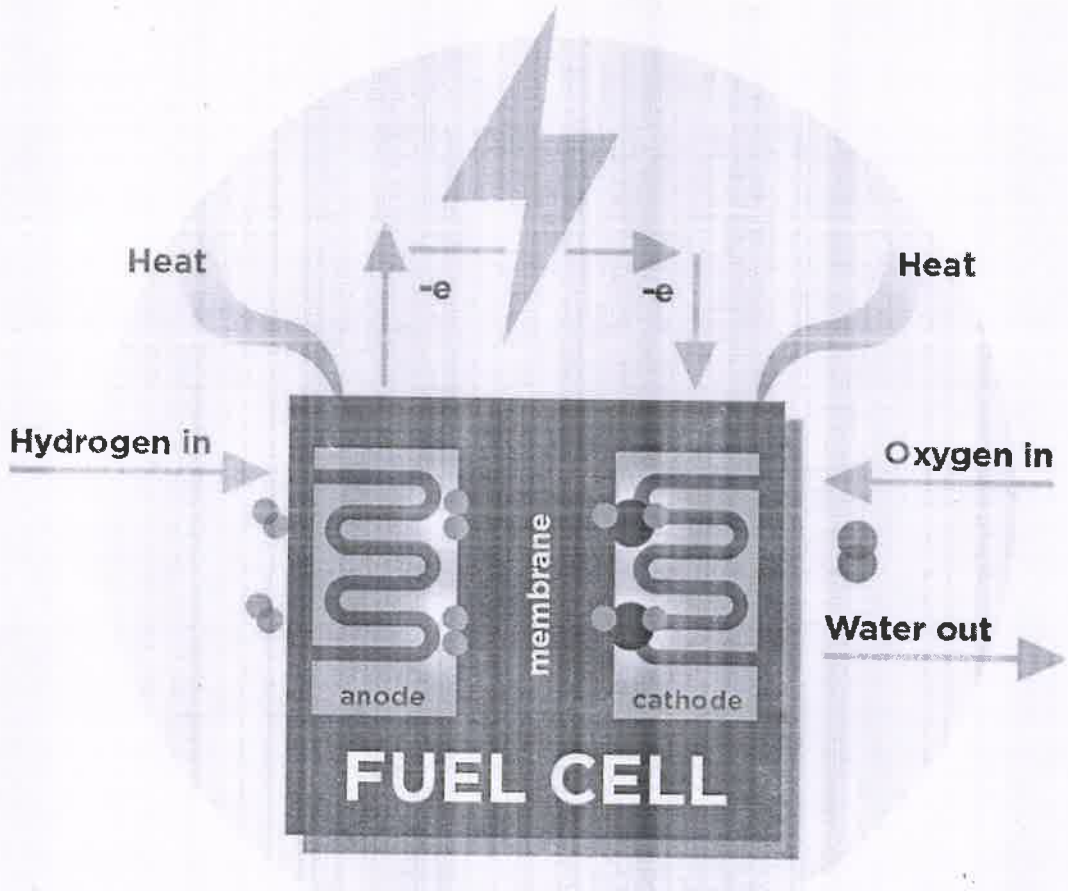
**Accredited by NAAC with 'A' Grade**

**Department of Electrical and Electronics Engineering**

**Value Added Course**

**on**

# HYDROGEN AS A FUEL




ATTESTED

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Nagapattinam (Dt), Tamil Nadu.

# E.G.S. PILLAY ENGINEERING COLLEGE, NAGAPATTINAM

**(Autonomous)**

**Accredited by NAAC with 'A' Grade**

**Department of Electrical and Electronics Engineering**

**(Accredited by NBA)**

A REPORT ON ONE Week Value Added Course

on

## HYDROGEN AS A FUEL

## REPORT

Department of Electrical and Electronics Engineering, E.G.S. Pillay Engineering College, Nagapattinam has planned to organize a one week value added course for the second year students of EEE department of E.G.S. Pillay Engineering College and through discussions it was coined as "HYDROGEN AS A FUEL". The coordinators identified for this program is Prof. SIVAMANI.S. EEE department. The program commences on 24.05.2021 and ended 28.05.2021.

This value added course was conducted by Dr.T.Suresh Padmanabhan, Professor. E.G.S. Pillay Engineering College for the one week of period. The main purpose of conducting this course for the second year student is to ignite student to develop interpersonal skills on renewable energy sources . The course comprises theory, demo and field visits in the five day period of training period. This course with the fund spend up of Rs.55, 500 was successfully conducted with the financial assistance of the management and the department of Electrical and electronics. Of the total 72 registered third year

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Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi, Nagore

students 56 students successfully got trained in this one week course and they have been issued with the certificate with special prizes for the active performers in all sessions.

The students thoroughly utilize this one week course and acknowledge the outcome of this value added course with their feedback and suggestions. The department faculty Prof. S.Sivamani coordinate the entire course session with the assistance of the department head Prof Dr.V.Mohan and other teaching and non teaching staff members.

28/8/2021.

Reported by,

- Course coordinator

ATTESTED

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PRINCIPAL
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ACCREDITEDbyNAACWithGRADE'A'

DepartmentofElectrical and Electronics Engineering

(AccreditedbyNBA)

# VALUEADDEDCOURSEON "HYDROGEN AS A FUEL"

## Syllabus

**Properties of hydrogen**

**Introduction to hydrogen storage**

**Use of hydrogen in internal combustion engines**

**Fuel cells**

**Hydrogen sensing**

**Demonstrations**

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.

## CourseOverview

**ResourcePerson**

**Dr.T.SureshPadmanabhan, Professor**

**(E.G.S. Pillay Engineering College)**

**CourseCoordinator**

**Mr.S.Sivamani,AP/EEE**

E.G.S. PILLAY

**ENGINEERING COLLEGE**

**(AUTONOMOUS)**

Nagapattinam – 611 002

Affiliated to Anna University, Chennai| Approved by AICTE, New Delhi

ACCREDITED by NAAC With GRADE 'A'

Department of Electrical and Electronics Engineering

(Accredited by NBA)

# VALUE ADDED COURSE ON "HYDROGEN AS A FUEL"

## Syllabus

**Properties of hydrogen**

**Introduction to hydrogen storage**

**Use of hydrogen in internal combustion engines**

**Fuel cells**

**Hydrogen sensing**

**Demonstrations**

ATTESTED

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Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.

## Course Overview

**Resource Person**

**Dr.T.Suresh Padmanabhan, Professor**

**(E.G.S. Pillay Engineering College)**

**Course Coordinator**

**Mr.S.Sivamani ,AP/EEE**

## ABOUT THE INSTITUTION

E. G. S. Pillay Engineering College (Autonomous) is one of the pioneering non-grant engineering Colleges in the State. It was established by the G. S. Pillay & Sons Educational & Charitable Trust, Nagapattinam in the year 1995 with the sanction of the Government of Tamil Nadu, approval of the All-India Council for Technical Education, New Delhi and affiliated to Anna University, Chennai. The college has accredited by NAAC with 'A' Grade and all the UG programmes are accredited by NBA. The College has earned the reputation of being one of the most preferred colleges by the students and parents all these years. Known for its excellent infrastructure and facilities for learning, the outstanding non-grant engineering college has registered impressive performance consistently. A gate-way to success, the college has now set on long-range planning to enlarge and enrich its programs and activities to empower the youth who aspire to become successful Engineers, Scientists and Managers. A gate-way to success, the college has now set on long-range planning to enlarge and enrich its programs and activities to empower the youth who aspire to become successful Engineers, Scientists and Managers.

## Vision

*Envisioned to transform our institution into a "Global Centre of Academic Excellence"*

## Mission

- ✓ *To provide world class education to the students and to bring out their inherent talents*
- ✓ *To establish state-of- the-art facilities and resources required to achieve excellence in teaching - learning and supplementary processes*
- ✓ *To recruit competent faculty and staff and to provide opportunity to upgrade their knowledge and skills*
- ✓ *To have regular interaction with the industries in the area of R&D and offer consultancy, training and testing services*
- ✓ *To establish centre of excellence in the emerging areas of research*
- ✓ *To offer continuing education and non-formal vocational education programmes that are beneficial to the society*

ATTESTED

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PRINCIPAL
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Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.

## Department Vision

The department is envisioned to produce globally competent electrical and electronics engineering

## Department Mission

To impart the contemporary knowledge in the field of electrical and electronics engineering with high human values

To offer state –of -the –art facilities for conducive learning and conducting research

To train the students for professional career and higher education by imparting self-learning and interpersonal skills.

Date: 24-05-2021 to 28-05-2021

(Five Days)

Time: 9.30 am to 4.30 pm

# E.G.S.Pillay Engineering College, Nagapattinam
## Dept of Electrical and Electronics Engineering
## VALUE ADDED COURSE
On
## HYDROGEN AS A FUEL 2020-2021

**About the institution :**

Our college is offering value added courses for all the students intended to provide additional learner centric graded skill oriented technical training. The courses enhance the ability of students in their respective domains and progress in their respective field of studies.

**About the department:**

Our department intends to provide additional technical knowledge and ensure the active participation of students to practice in the multidisciplinary tasks and core related areas .

**Course period:**

24.05.2021 to 28.05.2021

**Course instructor:**

Resource Person — Dr.T.Suresh Padmanabhan, Professor (E.G.S. Pillay Engineering College)

**Objectives**

Objectives of providing value added courses are to

- Gain knowledge from the subject experts
- Meet the expectations of industry
- Improve the employability skills of the students

**Courses Structure**

✓ Industry experts / eminent academicians from other Institutes/ Subject Experts from the respective departments teach the value added course

✓ The registration for the courses will be done at the beginning of academic year

✓ The duration of each course is 40 hours of Theory / Practical / Both

**Expected Outcomes**

Students will be able to

➢ Demonstrate their technical and communication skills

➢ Apply the novel technologies in their respective fields

✓ Face the challenges in the current industry scenario

**Evaluation & Result**

Evaluation of value added courses shall be carried out annually for 100 marks. Students will be given certificates with the grades based on the marks scored in the Examination.

ATTESTED

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PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi [illegible]
Na[illegible]

**E.G.S.Pillay Engineering College, (Autonomous) Nagapattinam**

**Department of Electrical and Electronics Engineering**

**CIRCULAR** 20-05-2020

## Value added course

It is informed to all Second year (2019-23) students that a five day value added course on "Hydrogen as a fuel," been organized between 24-05-2021 to 28-05-2021. All the students of II year EEE are instructed to attend the course without fail.

Time: 9.15 am – 4.30 Pm
Venue: EEE Seminar hall

HOD/EEE
Dr. V. MOHAN M.E.,Ph.D.,
PROFESSOR & HEAD
Department of Electrical & Electronics Engg
E.G.S. Pillay Engineering College - Nagapattinam

(Circulated to II year class)

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Nagapattinam (Dt) Tamil Nadu.

**E.G.S.Pillay Engineering college,(Autonomous ) Nagapattinam**
**Department of Electrical and Electronics Engineering**

ONE WEEK VALUE ADDED COURSE

On

**" Hydrogen as a fuel "**

**Students enrolled for the value added course**

Batch: 2019 -23

Academic years: 2020-21

| S. No | Name | Reg. No | 24/5 | 25/5 | 26/5 | 27/5 | 28/5 |
|---|---|---|---|---|---|---|---|
| 1. | Aarthi.S | E19EER001 | | | | | |
| 2. | Abilash.S | E19EER002 | | | | | |
| 3. | AjithKumar.M | E19EER003 | | | | | |
| 4. | Amos.R | E19EER004 | | | AB | | |
| 5. | Aravindh.M | E19EER006 | | | | | |
| 6. | Dhivinraj.K | E19EER008 | | | | | |
| 7. | Dinesh Kumar.R | E19EER009 | | | | | |
| 8. | Dinesh.S | E19EER010 | | | | | |
| 9. | Dominic Rosario.S | E19EER011 | AB | AB | AB | AB | AB |
| 10. | Durai Murugan.M | E19EER012 | | | | | |
| 11. | Govindarajulu.M | E19EER013 | | | | | |
| 12. | Jagajeevi.J | E19EER014 | | | | | |
| 13. | Janane.K.S | E19EER015 | | | | | |
| 14. | John Milton.A | E19EER016 | | | | | |
| 15. | Kabilan.V | E19EER017 | | | | | |
| 16. | Kamal Raj. K | E19EER018 | | | | | |
| 17. | Karthik.S | E19EER019 | | | | | |
| 18. | Karthikesan.P | E19EER020 | | | | | |
| 19. | Kavinesh.R | E19EER021 | | | | | |
| 20. | Keerthana.M | E19EER022 | | | | | |

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E.G.S. Pillay Engineering College

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 21. | Kesavan.R | E19EER023 | | | | | |
| 22. | Kulothungan.S | E19EER024 | | | | | |
| 23. | Manikandan.S | E19EER025 | | | | | |
| 24. | Manoj Kumar.S | E19EER027 | | | | | |
| 25. | Mathan Kumar.K | E19EER028 | | | | | |
| 26. | Mohamed Abul Fayasudeen M | E19EER029 | | | | | |
| 27. | Muhammed Bagurudeen H | E19EER030 | | | | | |
| 28. | Mukilan P | E19EER031 | AB | AB | AB | AB | AB |
| 29. | Muthu Krishnan R | E19EER032 | | | | | |
| 30. | Nagarajan S | E19EER033 | | | | | |
| 31. | Naveeth Ahamed T | E19EER034 | | | | | |
| 32. | Nivash Prasath V R | E19EER035 | | | | | |
| 33. | Niyasudeen N | E19EER036 | | | | | |
| 34. | Prakash Raj S | E19EER037 | | | | | AB |
| 35. | Ragunanthan G | E19EER038 | | | | | |
| 36. | Rifath Ahamed E | E19EER040 | | | | | |
| 37. | Rishikeshi S | E19EER041 | | | | | |
| 38. | Salman Haris A | E19EER042 | | | | | |
| 39. | Santhosh R | E19EER043 | | | | | |
| 40. | Saravanan P | E19EER044 | AB | AB | AB | AB | AB |
| 41. | Sharmila M | E19EER045 | | | | | |
| 42. | Sivasankar S | E19EER046 | | | | | |
| 43. | Somnth R | E19EER047 | | | | | |
| 44. | Sriram J | E19EER048 | | | | | |
| 45. | Suraj Singh | E19EER049 | | | | | |
| 46. | Surendraprasad M | E19EER050 | | | | | |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 47. | Umamaheswari M | E19EER051 | | | | | |
| 48. | Varatharajan J | E19EER052 | | | | | |
| 49. | Vaseem Akram Y | E19EER053 | AB | AB | AB | AB | AB |
| 50. | Vignesh S | E19EER054 | | | | | |
| 51. | Vijay K | E19EER055 | | | | | |
| 52. | Vijaya Kumar G | E19EER056 | | | | | |
| 53. | Ahamed A | E19EEL301 | | | | | |
| 54. | Ashok Kumar R | E19EEL302 | | | | | |
| 55. | Balaji A | E19EEL303 | | | | | |
| 56. | Dinesh D | E19EEL304 | | | | | |
| 57. | Keerthivasan D | E19EEL305 | | | | | |
| 58. | Abikumar M | E19EEL306 | | | | | |
| 59. | Mohamed Dhilsath Hussain M | E19EEL307 | | | | | |
| 60. | Nitheesh | E19EEL308 | | | | | |
| 61. | Rajeshkumar .K | E19EEL309 | | | | | |
| 62. | Sabari S | E19EEL310 | | | | | |
| 63. | Sajithram R | E19EEL311 | AB | | | | |
| 64. | Sathishkumar R | E19EEL312 | | | | | |
| 65. | Sriram V | E19EEL313 | | | | | |

24/5 25/5 26/5 27/5 28/5

28/5/21.

**Course coordinator**

**HOD/EEE**

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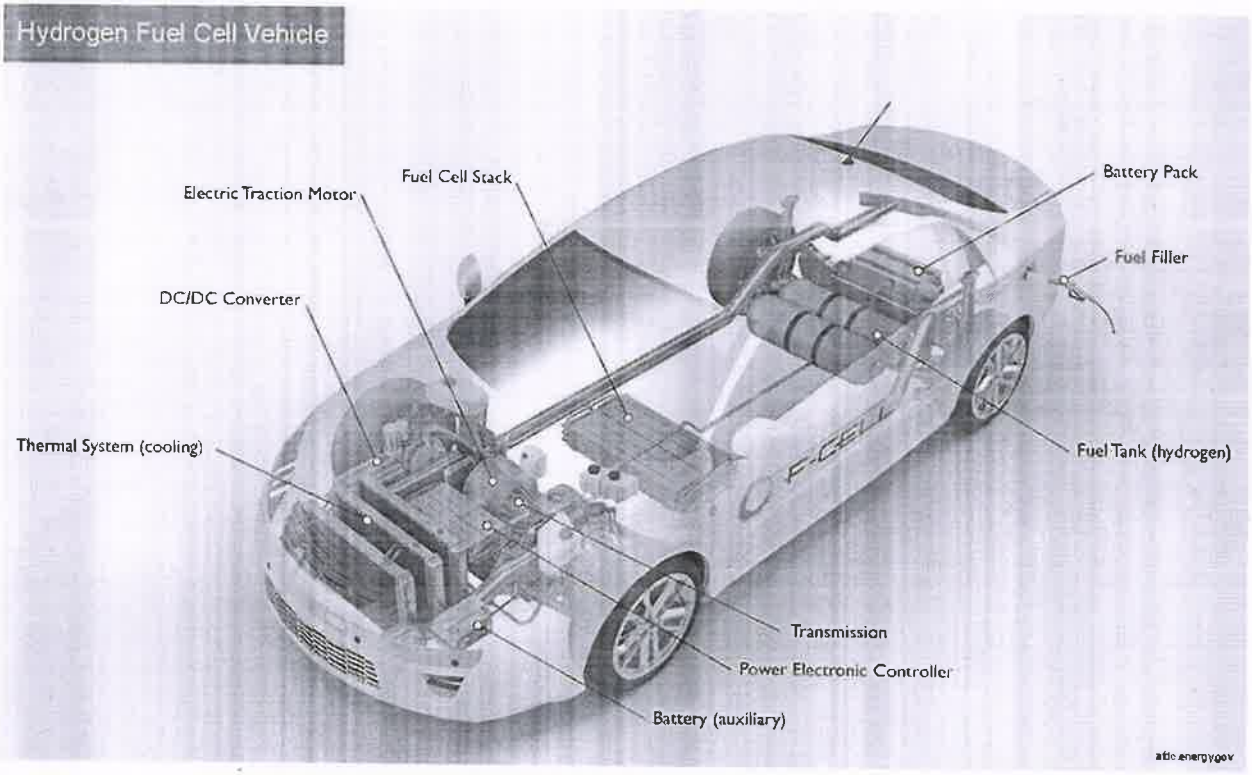
# COURSE MATERIAL

How Do Fuel Cell Electric Vehicles Work Using Hydrogen?

Like all-electric vehicles, fuel cell electric vehicles (FCEVs) use electricity to power an electric motor. In contrast to other electric vehicles, FCEVs produce electricity using a fuel cell powered by hydrogen, rather than drawing electricity from only a battery. During the vehicle design process, the vehicle manufacturer defines the power of the vehicle by the size of the electric motor(s) that receives electric power from the appropriately sized fuel cell and battery combination. Although automakers could design an FCEV with plug-in capabilities to charge the battery, most FCEVs today use the battery for recapturing braking energy, providing extra power during short acceleration events, and to smooth out the power delivered from the fuel cell with the option to idle or turn off the fuel cell during low power needs. The amount of energy stored onboard is determined by the size of the hydrogen fuel tank. This is different from an all-electric vehicle, where the amount of power and energy available are both closely related to the battery's size. Learn more about fuel cell electric vehicles.

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**Key Components of a Hydrogen Fuel Cell Electric Car**

Battery (auxiliary): In an electric drive vehicle, the low-voltage auxiliary battery provides electricity to start the car before the traction battery is engaged; it also powers vehicle accessories.

Battery pack: This high-voltage battery stores energy generated from regenerative braking and provides supplemental power to the electric traction motor.

DC/DC converter: This device converts higher-voltage DC power from the traction battery pack to the lower-voltage DC power needed to run vehicle accessories and recharge the auxiliary battery.

Electric traction motor (FCEV): Using power from the fuel cell and the traction battery pack, this motor drives the vehicle's wheels. Some vehicles use motor generators that perform both the drive and regeneration functions.

Fuel cell stack: An assembly of individual membrane electrodes that use hydrogen and oxygen to produce electricity.

Fuel filler: A nozzle from a fuel dispenser attaches to the receptacle on the vehicle to fill the tank.

Fuel tank (hydrogen): Stores hydrogen gas onboard the vehicle until it's needed by the fuel cell.

Power electronics controller (FCEV): This unit manages the flow of electrical energy delivered by the fuel cell and the traction battery, controlling the speed of the electric traction motor and the torque it produces.

Thermal system (cooling) - (FCEV): This system maintains a proper operating temperature range of the fuel cell, electric motor, power electronics, and other components.

Transmission (electric): The transmission transfers mechanical power from the electric traction motor to drive the wheels.

A fuel cell uses the chemical energy of hydrogen or other fuels to cleanly and efficiently produce electricity. If hydrogen is the fuel, the only products are electricity, water, and heat. Fuel cells are unique in terms of the variety of their potential applications; they can use a wide range of fuels and feedstocks and can provide power for systems as large as a utility power station and as small as a laptop computer.

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## Why Study Fuel Cells

Fuel cells can be used in a wide range of applications, providing power for applications across multiple sectors, including transportation, industrial/commercial/residential buildings, and long-term energy storage for the grid in reversible systems.

Fuel cells have several benefits over conventional combustion-based technologies currently used in many power plants and vehicles. Fuel cells can operate at higher efficiencies than combustion engines and can convert the chemical energy in the fuel directly to electrical energy with efficiencies capable of exceeding 60%. Fuel cells have lower or zero emissions compared to combustion engines. Hydrogen fuel cells emit only water, addressing critical climate challenges as there are no carbon dioxide emissions. There also are no air pollutants that create smog and cause health problems at the point of operation. Fuel cells are quiet during operation as they have few moving parts.

## How Fuel Cells Work

Fuel cells work like batteries, but they do not run down or need recharging. They produce electricity and heat as long as fuel is supplied. A fuel cell consists of two electrodes—a negative electrode (or anode) and a positive electrode (or cathode)—sandwiched around an electrolyte. A fuel, such as hydrogen, is fed to the anode, and air is fed to the cathode. In a hydrogen fuel cell, a catalyst at the anode separates hydrogen molecules into protons and electrons, which take different paths to the cathode. The electrons go through an external circuit, creating a flow of electricity. The protons migrate through the electrolyte to the cathode, where they unite with oxygen and the electrons to produce water and heat. Learn more about:

Parts of a fuel cell

Fuel cell systems

Types of fuel cells.

View the Hydrogen and Fuel Cell Technologies Office's fuel cell animation to see how a fuel cell operates.

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Research and Development Goals

The U.S. Department of Energy (DOE) is working closely with its national laboratories, universities, and industry partners to overcome critical technical barriers to fuel cell development. Cost, performance, and durability are still key challenges in the fuel cell industry. View related links that provide details about DOE-funded fuel cell activities.

Cost—Research, development, and demonstration (RD&D) focuses on the development of low-cost fuel cell stack and balance of plant (BOP) components and advanced high-volume manufacturing approaches to reduce overall system cost. Platinum represents one of the largest cost components of a direct hydrogen fueled polymer electrolyte membrane fuel cell, so there is emphasis on approaches that will increase activity and utilization and reduce the content of current platinum group metal (PGM) and PGM-alloy catalysts, as well as PGM-free catalyst approaches for long-term applications.

Performance—To improve fuel cell efficiency and performance, RD&D focuses on innovative materials and integration strategies. Efforts include developing ion-exchange membrane electrolytes with enhanced efficiency and durability at reduced cost; improving membrane electrode assemblies (MEAs) with high power density through integration of state-of-the-art MEA components; modeling to understand system design and operating conditions; and developing stacks with high efficiency at rated power and high-performing BOP components, such as air management components with low parasitic losses.

Durability—Fuel cell applications generally require adequate performance to be maintained over long periods of time. DOE has set ultimate targets for fuel cell system lifetime under realistic operating conditions at 8,000 hours for light-duty vehicles, 30,000 hours for heavy-duty trucks, and 80,000 hours for distributed power systems. In the most demanding applications, system reliability and robustness is required under dynamic and harsh operating conditions. Realistic operating conditions include starting and stopping, freezing and thawing, impurities in the fuel and air, and humidity and dynamic load cycles that result in stresses on the chemical and mechanical stability of the fuel cell system materials and components. RD&D focuses on identifying and understanding the fuel cell degradation mechanisms and developing materials and strategies to mitigate their effects.

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**E.G.S. PILLAY ENGINEERING COLLEGE (AUTONOMOUS)**

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**VALUE ADDED COURSE ON**

# HYDROGEN AS A FUEL

**FEEDBACK FORM**

**DATE:** 28/05/2021

**Give your feedback in 1 to 5 scale 1. Very poor 2.Poor 3.Good 4.Very good 5.Excellent**

1. **How much the Course is useful for you?** 5 **4** 3 2 1
2. **Course Content** 5 **4** 3 2 1
3. **Interaction with students** 5 **4** 3 2 1
4. **Content Delivery method** 5 **4** 3 2 1
5. **Whether all your queries are answered** 5 **4** 3 2 1
6. **How the difficult points are handled** 5 **4** 3 2 1

**Any other points** ..... Excellent .....

.....

.....

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Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.

**Signature of the student**

**E.G.S. PILLAY ENGINEERING COLLEGE (AUTONOMOUS)**

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**VALUE ADDED COURSE ON**

# HYDROGEN AS A FUEL

**FEEDBACK FORM**

**DATE:** 28-5-2021

**Give your feedback in 1 to 5 scale 1. Very poor 2.Poor 3.Good 4.Very good 5.Excellent**

| | | | | | |
|---|---|---|---|---|---|
| 1. How much the Course is useful for you? | (5) | 4 | 3 | 2 | 1 |
| 2. Course Content | (5) | 4 | 3 | 2 | 1 |
| 3. Interaction with students | (5) | 4 | 3 | 2 | 1 |
| 4. Content Delivery method | (5) | 4 | 3 | 2 | 1 |
| 5. Whether all your queries are answered | 5 | (4) | 3 | 2 | 1 |
| 6. How the difficult points are handled | 5 | (4) | 3 | 2 | 1 |

Any other points ..... Need more time. .....

.....

.....

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Thethi, Nagore - 611 002,
Nagapattinam (Dt) Tamil Nadu.

Signature of the student

**E.G.S. PILLAY ENGINEERING COLLEGE (AUTONOMOUS)**

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**VALUE ADDED COURSE ON**

# HYDROGEN AS A FUEL

**FEEDBACK FORM**

**DATE:** 28-05-2021

**Give your feedback in 1 to 5 scale 1. Very poor 2.Poor 3.Good 4.Very good 5.Excellent**

| | | | | | |
|---|---|---|---|---|---|
| 1. How much the Course is useful for you? | (5) | 4 | 3 | 2 | 1 |
| 2. Course Content | 5 | (4) | 3 | 2 | 1 |
| 3. Interaction with students | 5 | (4) | 3 | 2 | 1 |
| 4. Content Delivery method | 5 | 4 | (3) | 2 | 1 |
| 5. Whether all your queries are answered | 5 | (4) | 3 | 2 | 1 |
| 6. How the difficult points are handled | (5) | 4 | 3 | 2 | 1 |

Any other points ..... good .....

.....

.....

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**Signature of the student**

**E.G.S. PILLAY ENGINEERING COLLEGE (AUTONOMOUS)**

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**VALUE ADDED COURSE ON**

# HYDROGEN AS A FUEL

**FEEDBACK FORM**

**DATE:** 28-05-2021

**Give your feedback in 1 to 5 scale 1. Very poor 2.Poor 3.Good 4.Very good 5.Excellent**

| | | | | | |
|---|---|---|---|---|---|
| 1. How much the Course is useful for you? | 5 | 4 | 3 | 2 | 1 |
| 2. Course Content | 5 | 4 | 3 | 2 | 1 |
| 3. Interaction with students | 5 | 4 | 3 | 2 | 1 |
| 4. Content Delivery method | 5 | 4 | 3 | 2 | 1 |
| 5. Whether all your queries are answered | 5 | 4 | 3 | 2 | 1 |
| 6. How the difficult points are handled | 5 | 4 | 3 | 2 | 1 |

**Any other points** .....

.....

.....

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Jagajeevi.S

**Signature of the student**

**E.G.S. PILLAY ENGINEERING COLLEGE (AUTONOMOUS)**

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**VALUE ADDED COURSE ON**

# HYDROGEN AS A FUEL

**FEEDBACK FORM**

**DATE:** 28-05-2021

**Give your feedback in 1 to 5 scale 1. Very poor 2.Poor 3.Good 4.Very good 5.Excellent**

| | | | | | |
|---|---|---|---|---|---|
| 1. How much the Course is useful for you? | 5 | 4 | 3 | 2 | 1 |
| 2. Course Content | 5 | 4 | 3 | 2 | 1 |
| 3. Interaction with students | 5 | 4 | 3 | 2 | 1 |
| 4. Content Delivery method | 5 | 4 | 3 | 2 | 1 |
| 5. Whether all your queries are answered | 5 | 4 | 3 | 2 | 1 |
| 6. How the difficult points are handled | 5 | 4 | 3 | 2 | 1 |

Any other points ..... useful .....

.....

.....

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Dr.S.RAMABALAN, M.E., Ph.D.,
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Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.

**Signature of the student**

# E.G.S PILLAY ENGINEERING COLLEGE

## (AUTONOMOUS)

NAGAPATTINAM – 611002

Accredited by NAAC with 'A' Grade | Accredited by NBA (EEE, MECH, CSE)

Approved by AICTE - New Delhi and Affiliated to Anna University - Chennai

IQAC

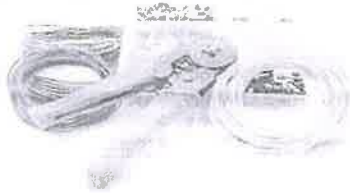
One week VALUE ADDED COURSE on

## HYDROGEN AS A FUEL

Organized by

**Department of Electrical & Electronics Engineering**

## Certificate



This is to certify that Mr. / Ms. / Mrs. JOHN MILTON A

of II EEE has attended One week VALUE ADDED COURSE on HYDROGEN AS A FUEL on 24th - 28th May 2021.

28/5/2021.

Course Coordinator

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi, Nagore - [illegible]
Nagapattinam (Dt), Tamil Nadu.

HOD

Requisition letter

From,

V.Yokeshwaran.
Assistant professor,EEE Dept
E.G.S.Pillay Engineering College,
Nagapattinam

To,

The principal,
E.G.S.Pillay Engineering College,
Nagapattinam.

forwarded to Principal.
24/02/2021

Through proper channel,

Sub: requisition for conducting value added course on "Introduction to Electric vehicle"

Sir,

As part of the academic progress we have planned to conduct a five day value added course on "Introduction to Electric vehicles," from 01-03-2021 to 05-03-2021 for the III year students (2018-2022 batch) .I request you to grant us permission to utilize the laboratory and other facilities for conducting the programme in a successful manner.

Thanking you.

24-02-2021

Nagapattinam

(V.Yokeshwaran)

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# E.G.S.PILLAY ENGINEERING COLLEGE, NAGAPATTINAM

## DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

CIRCULAR

INTERNAL COMMUNICATION

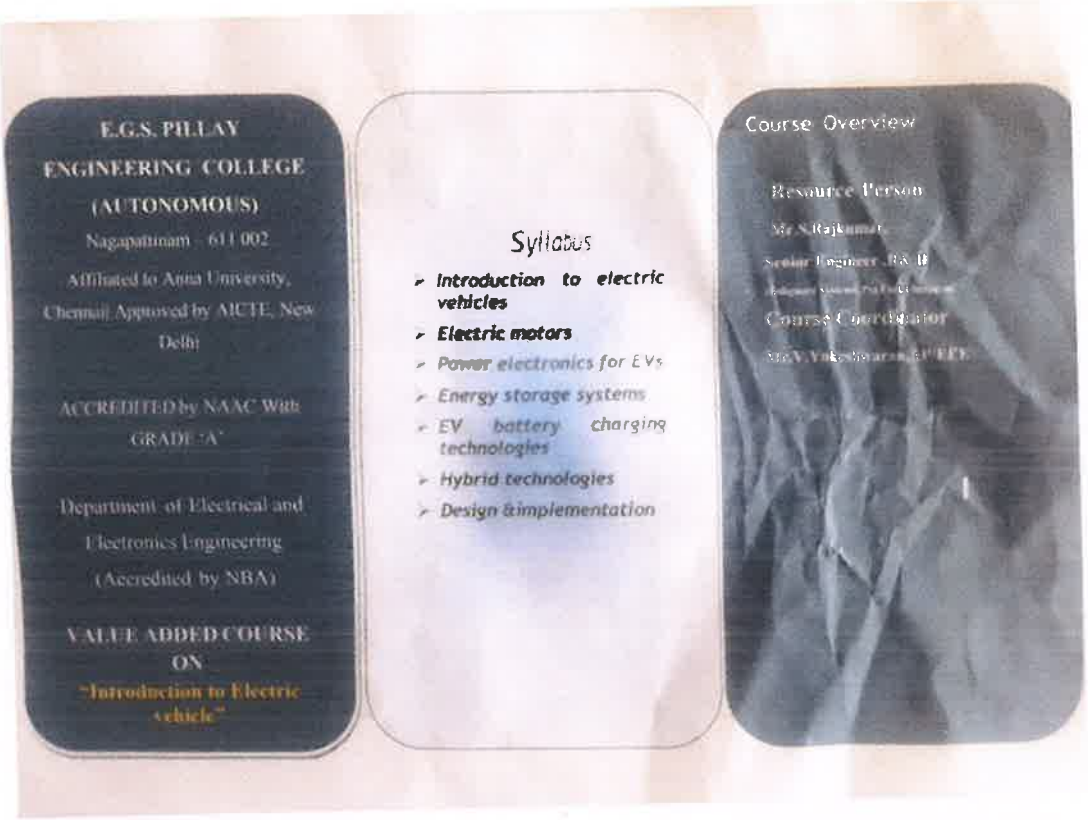
28.02.2021

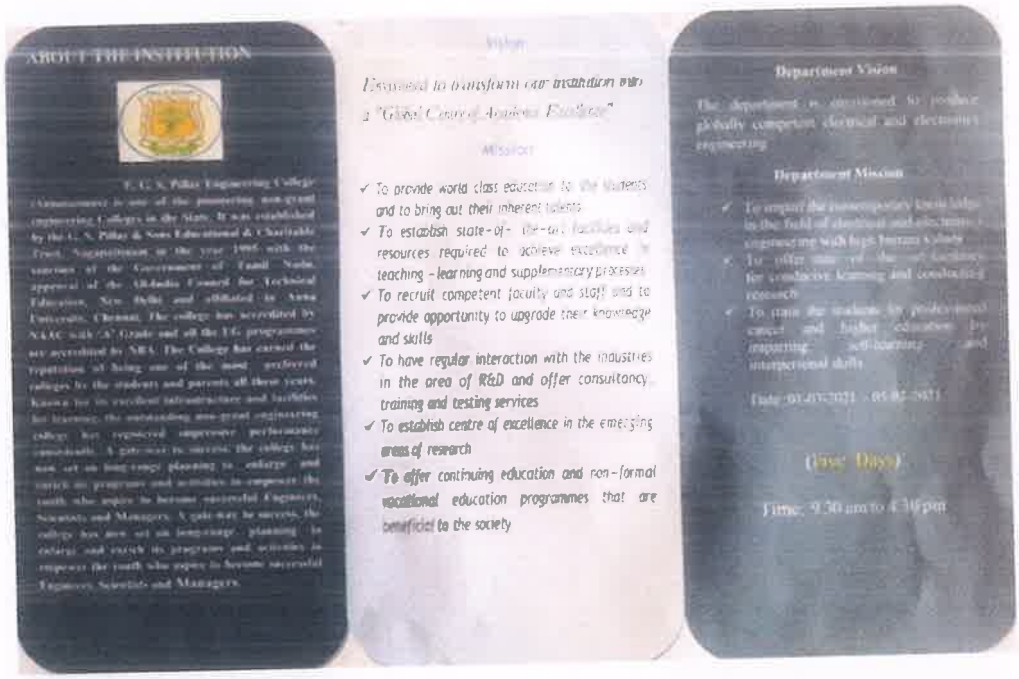
All the final year students are instructed to attend the value added course on "**Electric Vehicle**" to be held between 01.03.2021 to 05.03.2021.

Venue: Seminar Hall

Time: 09.30 am - 04.30 pm

HOD/EEE

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# Introduction to Electric vehicle

1. Electric Vehicle (EV) draws electrical energy from the electrical energy storage system (EESS) to generate traction power.
2. About 24.5 % of air pollution is due to IC Engines.
3. HEV use two types of energy storage devices(ESS)
    1. High specific energy (Wh/kg) - Main Energy Storage system (MES) -extended driving range (Eg battery, Fuel cell).
    2. High specific power (W/kg) - Rechargeable Energy Storage System (RESS) - Good acceleration (Eg Ultra Capacitor).

Er. S Rajkumar, Senior Manager R & D, Bodiguard System Pvt Ltd

# Types of EV's

Electric vehicle - Battery electric vehicles (BEV), hybrid electric vehicles (HEV), Plug-in hybrid electric vehicle (PHEV)


Er. S Rajkumar, Senior Manager R & D, Bodiguard System Pvt Ltd

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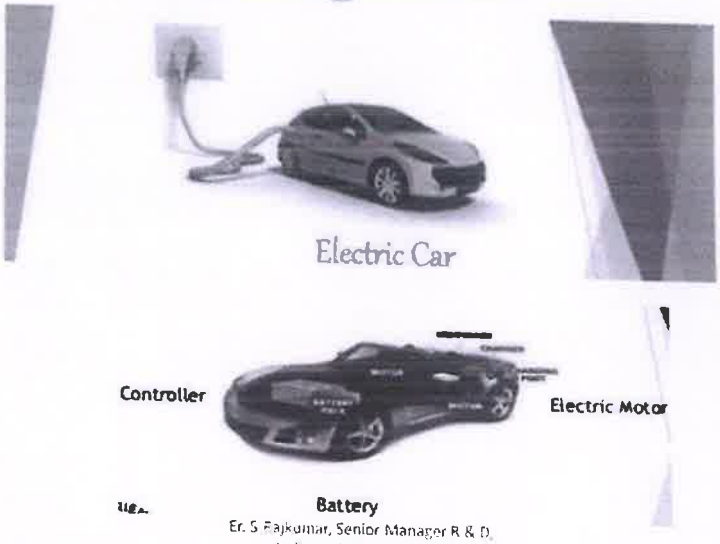
# Electric vehicles and power management




Er. S.Rajkumar, Senior Manager R & D,
Indiguard System Pvt Ltd

## Introduction to electric vehicle

1. Unlike vehicles with combustion engines, electric vehicles do not produce exhaust gases during operation. This alone makes electric vehicles more environmentally friendly than vehicles with conventional technology.
2. However, the electrical energy for charging the vehicle does have to be produced from renewable sources, e.g. from wind, solar, hydroelectric or biogas power plants.
3. By combining different drive types, the overall efficiency of the vehicle can be improved and fuel consumption can be reduced.

Er. S.Rajkumar, Senior Manager R & D,
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| | | | | | |
|---|---|---|---|---|---|
| 31 | E18EER033 | SRIRAM M | | | |
| 32 | E18EER034 | SUJITHVARMAN S | | | |
| 33 | E18EER035 | SURIYAPRAKASH M | | | |
| 34 | E18EER036 | TAMILSELVAN S | | | |
| 35 | E18EER037 | VENKATESWARAN S | | | |
| 36 | E18EER038 | VIGNESH P | | | |
| 37 | E18EER039 | VIGNESH R | | | |
| 38 | E18EER041 | VISHNU R | | | |
| 39 | E18EEL301 | AAKASH D | | | |
| 40 | E18EEL302 | AJAY M | | | |
| 41 | E18EEL303 | ANANTHAKUMAR S | | | |
| 42 | E18EEL304 | ARAVINTHKUMAR K | | | |
| 43 | E18EEL305 | ASHIQ FARHAD.M | | | |
| 44 | E18EEL306 | BHARATHIRAJA G | | | |
| 45 | E18EEL307 | GOPIKRISHNAN P | | | |
| 46 | E18EEL308 | HARIPRASAD .V | | | |
| 47 | E18EEL309 | KARAN. K | | | |
| 48 | E18EEL310 | KARTHIKEYAN R | | | |
| 49 | E18EEL311 | KARTHIKRAJA .R | | | |
| 50 | E18EEL312 | MANIVANNAN .K | | | |
| 51 | E18EEL313 | MANOJ M | | | |
| 52 | E18EEL314 | MOHAMMED ABBAS C | | | |
| 53 | E18EEL315 | RAMKUMAR R | | | |
| 54 | E18EEL316 | SATHISH S | | | |
| 55 | E18EEL317 | TAMILPOONGULZHALY I | | | |
| 56 | E18EEL318 | VIGNESH R | | | |
| 57 | E18EEL319 | VIKNESHWARAN S | | | |

Course Coordinator

HOD

ATTESTED

Dr.S.RAMABALAN, M.E., Ph.D.,
PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.

**E.G.S. PILLAY ENGINNERING COLLEGE (Autonomous)**

**Department of Electrical Electronics & Engineering**

**Attendance**

| Sl.No | Register No | Student Name | 1/3/2021 | 2/3/2021 | 3/3/2021 |
|---|---|---|---|---|---|
| 1 | E18EER001 | AAKASH M | | | |
| 2 | E18EER002 | AKASH P | | | |
| 3 | E18EER003 | AKASHRAJ A | | | |
| 4 | E18EER004 | AMIRTHAVARSHINI P | | | |
| 5 | E18EER005 | ARUNKUMAR R | | | |
| 6 | E18EER006 | BALAGANESH S | | | |
| 7 | E18EER007 | CHOZHAN M | | | |
| 8 | E18EER008 | DEEPAK T | | | |
| 9 | E18EER009 | DHARIK AHAMED S | | | |
| 10 | E18EER010 | DHEEPAK RAM R | | | |
| 11 | E18EER011 | IMRAN NAZIR N | | | |
| 12 | E18EER012 | ISHWARYA P | | | |
| 13 | E18EER013 | JAGATHEESH R | | | |
| 14 | E18EER014 | KALAIYARASAN A | | | |
| 15 | E18EER015 | KALIDOSS K | | | |
| 16 | E18EER016 | KAMALESH K | | | |
| 17 | E18EER017 | KEERTHIVASAN B | | | |
| 18 | E18EER018 | KEVIN CHRISTOPHER A | | | |
| 19 | E18EER019 | KIRUPAKARAN M | | | |
| 20 | E18EER020 | KIRUTHIGA S | | | |
| 21 | E18EER021 | KUMARAVEL M | | | |
| 22 | E18EER022 | MADESH B | | | |
| 23 | E18EER023 | MANIKANDAN G | | | |
| 24 | E18EER024 | MURUGESH KANNAN C | | | |
| 25 | E18EER025 | MUTHUDHINESH G | | | |
| 26 | E18EER026 | PREM P | | | |
| 27 | E18EER027 | PUYALARASAN R | | | |
| 28 | E18EER028 | REEHAN B | | | |
| 29 | E18EER029 | SADEESHKUMAR P | | | |
| 30 | E18EER032 | SHIRAZUDEEN H | | | |

ATTESTED

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PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu

# E.G.S PILLAY ENGINEERING COLLEGE
## (Autonomous)
### NAGAPATTINAM – 611002

Accredited by NAAC with 'A' Grade | Accredited by NBA (EEE, MECH, CSE)
Approved by AICTE - New Delhi and Affiliated to Anna University - Chennai

## Department of Electrical and Electronics Engineering

Value Added Course

*On*

Introduction to Electric vehicle

IQAC

This is to certify that Mr. / ~~Ms.~~ .....C. MOHAMMED ABBAS.....
..... has attended Five days Value Added Course on "Introduction to Electric vehicle" from 1-03-2021 to 5-03-2021 at E.G.S. Pillay Engineering College, Nagapattinam.

CONVENER

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi, Nagore - 611 002.
Nagapattinam (Dt) Tamil Nadu.

PRINCIPAL

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# E.G.S PILLAY ENGINEERING COLLEGE
## (Autonomous)
### NAGAPATTINAM – 611002

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Approved by AICTE - New Delhi and Affiliated to Anna University - Chennai

## Department of Electrical and Electronics Engineering

Value Added Course

IQAC

*On*

Introduction to Electric vehicle

This is to certify that Mr. / Ms. .....R.DHEEPAK.RAM.....
..... has attended Five days Value Added Course on "Introduction to Electric vehicle" from 1-03-2021 to 5-03-2021 at E.G.S. Pillay Engineering College, Nagapattinam.

CONVENER

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
E.G.S. Pillay Engineering College,
Nagapattinam - 611 002.
Tamil Nadu.

PRINCIPAL

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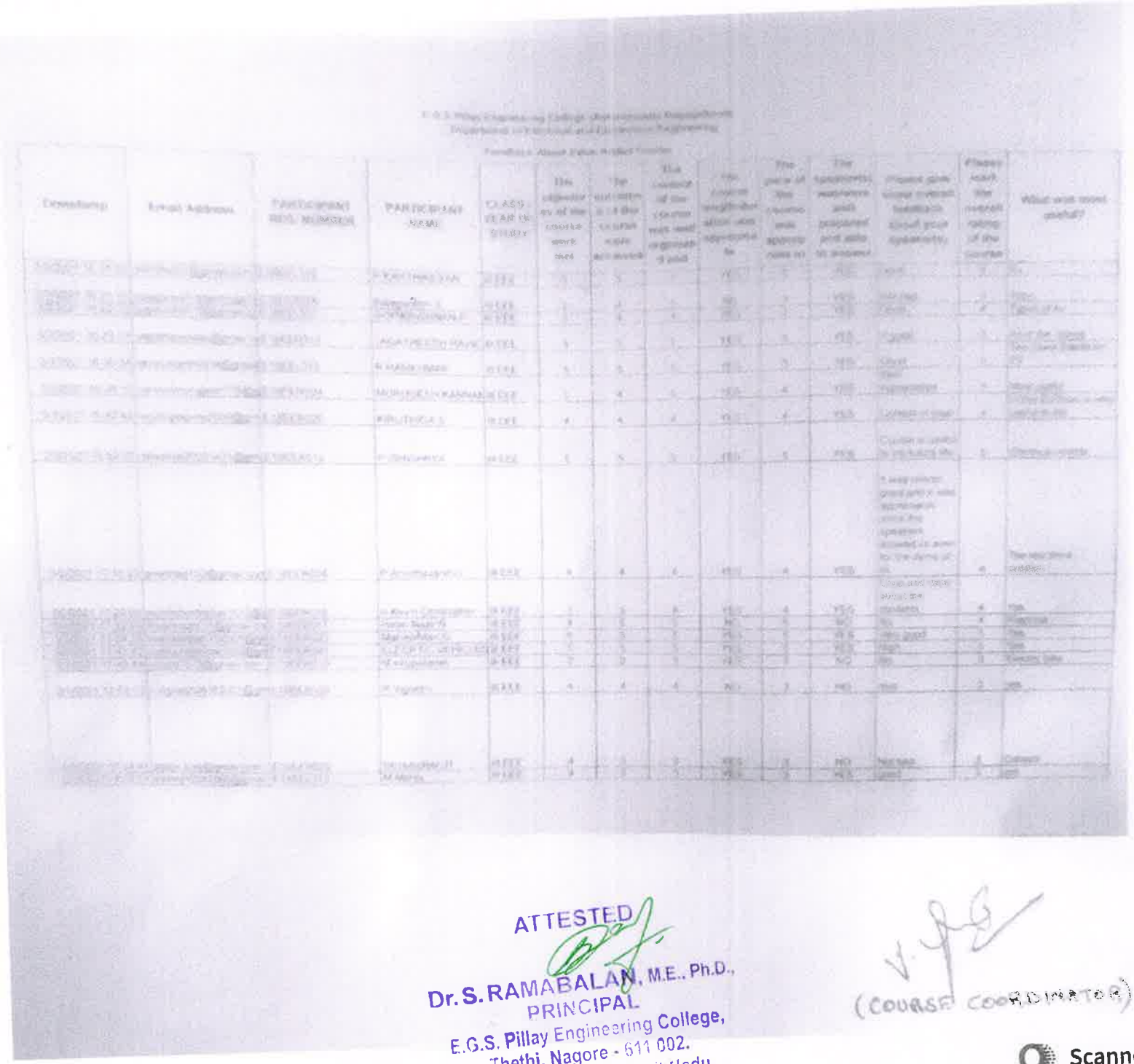

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,
PRINCIPAL
E.G.S. Pillay Engineering College,
Thethi, Nagore - 611 002.
Nagattinam (Dt) Tamil Nadu.

(COURSE COORDINATOR)

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| What was least useful? | Any other topics that you would like to add in the one credit course | Are there any ways you think the course could be improved? | Would you recommend this course to colleagues? Yes/No Why? | What other areas/skills would you like to develop/improve in the future related to what?(SUGGEST) | Any other comments? |
|---|---|---|---|---|---|
| No | Yes | Yes | Yes it's useful | Yes | No |
| Time | Electronics subjects | No | Yes because it will help in future | Project | No |
| All contents | Nil | Nil | Yes | Latest technology | No |
| None | More about charger and battery | Yes | No, I am a student | None | None |
| No | IC Manufacturing | Related Experiments Models | Yes | Electrical Vechicles | Good |
| None | Battery | Improvement | Yes | Yes | No comments |
| No | Yes | No | Yes | Electrical related courses | No |
| Electrical vehicles(two wheeler) | Embedded systems | Practical classes | Yes | Communication skill and network analysis | No |
| Nothing like that | How to model a ev | The video session of modelling can be involved | Yes Since ev are the future and its useful to know about it. | lot | No |
| Yes | Detailed about BMS | Yes if doing more projects regardingly | Yes | About the battery | Nil |
| Nothing | No | No | Yes | Marketing | No |
| Very useful | No | Nil | Yes | No | No comments |
| yes | electric vehicles | yes | yes | yes | no |
| Electric vehicles | Very useful | Yes | Yes | Yes | No |
| no | yes sir | I m improved | yes | ses | no |
| Ppt | Real Time example not worth | Pls add some real examples deassembly | Yes they want to know their field knowledge how they are going to use their knowledge so it is very useful | Add some software skills | This course is so useful |
| yes | yes | I m improved | yes | ssst | no |

ATTESTED

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(COURSE COORDINATOR)

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E.G.S.Pillay **Engineering College (Autonomous)**

Nagapattinam

Department **of Electrical and Electronics Engineering**

Date : 05.03.2021

**A Report of Value added Course on Electrical Vehicle for III Year EEE**

Value added course on recent technologies was planned to conduct for the third year students. After much deliberation amongst the BoS Chairman/Hod and the value added courses coordinator along with class coordinator, it was decided to conduct Value added Course on Electrical Vehicle.

The class coordinator of III year EEE suggested the dates for the training program as 01st march to 03rd march 2021. He also appointed a course representative from the third year students, P.Amirthavarshini / III EEE.

The permission for the above mentioned program was received earlier by the value added courses coordinator from the HoD and Secretary of EGSPEC.

Since the regulations of EGSPEC allow the students to do value added courses on recent trends and employability, this course was opted which will provide more opportunities to get jobs in the field of Electrical Vehicle.

Students were actively engaged and participated in the Electrical Vehicle program. Every day activities were given to the students and the outputs shown by them showed their enthusiasm in acquiring new skills.

Based on the regulations of EGSPEC – R2017, three tests were conducted, First test was conducted on 02.03.2021 for 25 marks. Second test was conducted for 25 marks and the final test was conducted for 50 marks on 03.03.2021. All these tests were conducted with MCQ type of questions. The answers of students were evaluated and calculated the total marks of this training program.

This report was prepared by P.Amirthavarshini / III EEE.

ATTESTED

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**E.G.S. PILLAY**

**ENGINEERING COLLEGE**

**(AUTONOMOUS)**

Nagapattinam – 611 002

Affiliated to Anna University, Chennai| Approved by AICTE, New Delhi

ACCREDITED by NAAC With GRADE 'A'

Department of Electrical and Electronics Engineering

(Accredited by NBA)

**VALUE ADDED COURSE ON**

**"DESIGN OF ELECTRIC VEHICLES"**

## *Syllabus*

- Introduction to electric vehicles
- Motor specifications
- Power electronics for electric vehicles
- Energy storage systems
- Electric vehicle battery charging technologies

## Course Overview

.

**Resource Person**

**Mr.S.Rajkumar,**

**Senior Manager ,R&D**

**Indiguard system Pvt Ltd,**

**Thanjavur**

**Course Coordinator**

**Mr.K.Nandakumar,AP/EEE**

## ABOUT THE INSTITUTION

**E. G. S. Pillay Engineering College (Autonomous) is one of the pioneering non-grant engineering Colleges in the State. It was established by the G. S. Pillay & Sons Educational & Charitable Trust, Nagapattinam in the year 1995 with the sanction of the Government of Tamil Nadu, approval of the All-India Council for Technical Education, New Delhi and affiliated to Anna University, Chennai. The college has accredited by NAAC with 'A' Grade and all the UG programmes are accredited by NBA. The College has earned the reputation of being one of the most preferred colleges by the students and parents all these years. Known for its excellent infrastructure and facilities for learning, the outstanding non-grant engineering college has registered impressive performance consistently. A gate-way to success, the college has now set on long-range planning to enlarge and enrich its programs and activities to empower the youth who aspire to become successful Engineers, Scientists and Managers. A gate-way to success, the college has now set on long-range planning to enlarge and enrich its programs and activities to empower the youth who aspire to become successful Engineers, Scientists and Managers.**

## *Vision*

*Envisioned to transform our institution into a "Global Centre of Academic Excellence"*

## *Mission*

- ✓ *To provide world class education to the students and to bring out their inherent talents*
- ✓ *To establish state-of- the-art facilities and resources required to achieve excellence in teaching -learning and supplementary processes*
- ✓ *To recruit competent faculty and staff and to provide opportunity to upgrade their knowledge and skills*
- ✓ *To have regular interaction with the industries in the area of R&D and offer consultancy, training and testing services*
- ✓ *To establish centre of excellence in the emerging areas of research*
- ✓ *To offer continuing education and non-formal vocational education programmes that are beneficial to the society*

## Department Vision

The department is envisioned to produce globally competent electrical and electronics engineering

## Department Mission

- ✓ To impart the contemporary knowledge in the field of electrical and electronics engineering with high human values
- ✓ To offer state –of –the –art facilities for conducive learning and conducting research
- ✓ To train the students for professional career and higher education by imparting self-learning and interpersonal skills.

Date: 19-04-2021 to 23-04-2021

(Five Days)

Time: 9.30 am to 4.30 pm

E.G.S.Pillay Engineering college,(Autonomous) Nagapattinam

Department of Electrical and Electronics Engineering

15-04-2021

**Internal circular**

Value added course

All the post graduate III Semester students are hereby informed to attend the value added course on **"DESIGN OF ELECTRIC VEHICLES"** going to held between **19-04-2021 to 23-04-2021.**

Venue: Simulation laboratory

Time: 09.30 am -04.30 pm

Course coordinator

15/04

HOD/EEE

(Copy to: M.E II year class room)

E.G.S.Pillay Engineering college,(Autonomous) Nagapattinam

Department of Electrical and Electronics Engineering

List of the students registered for the

Value added course

On

# "DESIGN OF ELECTRIC VEHICLES"

Date: 19-04-2021- 23-04-2021

Batch :2019-2021

| S.No | Name of the student | Register number |
|---|---|---|
| 1. | DINESH KUMAR R | E19PEF001 |
| 2. | ISWARYA LAKSHMI S | E19PEF002 |
| 3. | LAKSHMI R | E19PEF004 |
| 4. | PITCHAI MUTHU M | E19PEF005 |
| 5. | RATHAKRISHNAN T | E19PEF007 |
| 6. | THIRUVATHIRAI KANNAN | E19PEF008 |

Course coordinator

HOD/EEE

EGSP
Consultancy Services
Training/Design/Consultancy

EGSPCS

Phone: 04365 251112
Web : www.egspec.org
Email : consultancy@egspec.org

# Certificate

The Consultancy Services Division of E.G.S. Pillay Engineering College (Autonomous), Certifies that Mr/Ms....LAKSHMI.R.....has been awarded this certificate for the successful completion of Value added course on "**DESIGN OF ELECTRIC VEHICLES**" from 19-04-2021 to 23-04-2021 organized by the Department of Electrical and Electronics Engineering, E.G.S.Pillay Engineering College.

CertificateNo:EGSPCS/2021/EEE/TRG/01/004 Issue Date:26/04

| Dr.T.Sureshpadmanabhan | Dr.V.Mohan | Prof.M.Vijayakumar |
|---|---|---|
| *Departmentco-ordinator* | *HOD/EEE* | *Director ConsultancyServices* |

EGSP
Consultancy Services
Training/Design/Consultancy

# EGSPCS

Phone: 04365 251112
Web : www.egspec.org
Email : consultancy@egspec.org

## Certificate

The Consultancy Services Division of E.G.S. Pillay Engineering College (Autonomous), Certifies that Mr/Ms.....RATHAKRISHNAN.T.....has been awarded this certificate for the successful completion of Value added course on "**DESIGN OF ELECTRIC VEHICLES**" from 19-04-2021 to 23-04-2021 organized by the Department of Electrical and Electronics Engineering, E.G.S.Pillay Engineering College.

CertificateNo:EGSPCS/2021/EEE/TRG/01.007 Issue
Date: 26/04

| Dr.T.Sureshpadmanabhan | Dr.V.Mohan | Prof.M.Vijayakumar |
|---|---|---|
| *Departmentco-ordinator* | *HOD/EEE* | *Director ConsultancyServices* |

E.G.S.Pillay Engineering college,(Autonomous) Nagapattinam

Department of Electrical and Electronics Engineering

Value added course

On

**"DESIGN OF ELECTRIC VEHICLES"**

Date: 19-04-2021- 23-04-2021 Academic Year: 2020-21

Batch: 2019 -21

COURSE ATTENDENCE

| S.No | Name of the student | Register number | 19/4 | 20/4 | 21/4 | 22/4 | 23/4 |
|---|---|---|---|---|---|---|---|
| 1. | DINESH KUMAR R | E19PEF001 | | | | | A |
| 2. | ISWARYA LAKSHMI S | E19PEF002 | | | A | | |
| 3. | LAKSHMI R | E19PEF004 | | | | | |
| 4. | PITCHAI MUTHU M | E19PEF005 | | | | | |
| 5. | RATHAKRISHNAN T | E19PEF007 | | | | A | |
| 6. | THIRUVATHIRAI KANNAN | E19PEF008 | | | | | |

Course coordinator

HOD

**E.G.S. PILLAY ENGINEERING COLLEGE (AUTONOMOUS)**

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**VALUE ADDED COURSE ON**

**"DESIGN OF ELECTRIC VEHICLES"**

**FEEDBACK FORM**

**DATE: 23-04-2021**

**Give your feedback in 1 to 5 scale 1. Very poor 2. Poor 3. Good 4.Very good 5.Excellent**

| | | | | | |
|---|---|---|---|---|---|
| 1. How much the Course is useful for you? | 5 | 4 ✓ | 3 | 2 | 1 |
| 2. Course Content | 5 | 4 ✓ | 3 | 2 | 1 |
| 3. Interaction with students | 5 ✓ | 4 | 3 | 2 | 1 |
| 4. Content Delivery method | 5 ✓ | 4 | 3 | 2 | 1 |
| 5. Whether all your queries are answered | 5 ✓ | 4 | 3 | 2 | 1 |
| 6. How the difficult points are handled | 5 | 4 ✓ | 3 | 2 | 1 |

**Any other points** .....

.....

.....

Ishwarya

**Signature of the student**