

# CHHOTUBHAI GOPALBHAI PATEL INSTITUTE OF TECHNOLOGY

## Department of Electrical Engineering

### A REPORT

### ON

### GUJCOST Sponsored One Day Workshop on “Transforming India’s Mobility through Electric Vehicles”

<b>Title of the Expert Talk</b>	<b>Transforming India’s Mobility through Electric Vehicles</b>
<b>Organizing Department</b>	Department of Electrical Engineering
<b>Organizing Secretary</b>	Prof. Ankur Rana, HOD of Electrical Department
<b>Target Audience</b>	Diploma, B. Tech and M. Tech students and Faculties of Electrical, EC&ICT and Civil department
<b>Total Number of Participants</b>	122
<b>Date of Programme</b>	14 <sup>th</sup> December, 2019
<b>Invited Speakers</b>	<b>Dr. Pradip Gundaliya</b> Professor, Civil Engineering Department L. D. College of Engineering Ahmedabad  <b>Dr. Varsha Shah</b> Associate Professor Electrical Department SVNIT, Surat

# **Program Schedule**

**GUJCOST Sponsored One Day Workshop  
On  
“Transforming India’s Mobility through Electric Vehicles”  
14<sup>th</sup> December, 2019  
Organized By  
Department of Electrical Engineering  
C. G. Patel Institute  
Of Technology  
Uka Tarsadia University**

<b>Time</b>	<b>Program</b>	<b>Venue</b>
<b>09:00 AM to 10:00 AM</b>	Registration and breakfast	Outside Architecture Mandap
<b>10:00 AM to 10:30 AM</b>	Inaugural function	Architecture Mandap
<b>10:30 AM to 11:45 AM</b>	<b>Session-I</b> “Electrical Vehicle: A way to Sustainable Transportation” Dr. Pradip Gundaliya Professor, Civil Engineering Department L. D. College of Engineering Ahmedabad	Architecture Mandap
<b>11:45 AM to 01:00 PM</b>	<b>Session-II</b> “Electric Vehicle Technology – I” Dr. Varsha Shah Associate Professor Electrical Department SVNIT, Surat	Architecture Mandap
<b>01:00 PM to 01:45PM</b>	Lunch	Girl’s Hostel
<b>01:45 PM to 03:00 PM</b>	<b>Session-III</b> “Electric Vehicle Technology – II” Dr. Varsha Shah Associate Professor Electrical Department SVNIT, Surat	Architecture Mandap
<b>03:00 PM to 03:30 PM</b>	Valedictory function & Feedback	Architecture Mandap

## **Detail of Programme:**

GUJCOST sponsored one day workshop on ““Transforming India’s Mobility through Electric Vehicles”” was organized by Department of Electrical Engineering, Chhotubhai Gopal Bhai Patel institute of Technology, UTU. This one day workshop was organized. The main aim of workshop is to impart greater awareness about two major challenges faced by India: congestion and pollution. Green mobility technologies and smart transportation system is the solution of congestion problem. ICE vehicles which are the major cause of air pollution, global warming and climate change can be replaced by high performance electrical vehicle to encounter pollution problem. The overall objectives of workshop are 3C: Clean, Convenient and Congestion-free India. To achieve the objectives, following action-agenda is advocated around four key pillars, namely, (a) Connect Bharat, (b) Optimize travel footprint, (c) Promote seamless, co-operative transport and (d) Adopt green modes and technologies.

First session was conducted by Mr. Pradip J.Gondaliya.He started with introduction of current scenario and what are the aspects which effects on overall environment of city and what are the challenges are face government to convert city into smart city. The various aspects are disclosed and the Electric vehicle are one of the solution for it. Besides from electric vehicle there are many aspects which are directly as well as indirectly effected towards implementation. The sustainability of the scheme is first factor which should calculated before start implementing new scheme. To start implement EV, the first step is to understand new technology sustainability on specific place because it changes at each place because all condition like economy and environment as well as mindset are different. The second step is to make people and authority to understand why this new technology is required and what are the consequences and advantages. For that the person or authority need to take different objectives and factors which required to take into consideration for making strategy during implementation. The next one is to check whether the place have proper transportation available or not. The funding and economical factor comes and it is one of the main factor and another is to create policy for implementing it with government rules. For that the policy and reforms are required. This make government to create brief guideline for certain policy to run the new policy properly. There are many points which is face by implementer and the local people. There are many aspects which should implement to convert current city scenario into smart city with high growth rate.

There are many key factors/issues which are required for achieving sustainability. The major factor is population and human resources. The major drawback of India is its highest growing and highest population. The resources are there but proper use of the resources are needed and because of overpopulation it’s hard to implement anything new instantly without facing any difficulty. This is the one of the major factor for India why introducing and implementing anything new required much more efforts. The second factor is industries. There are many industries in India and the industries also get many incentives from government. The next factor is food security. The speaker says that till date

India not required to import food while, India only export the food. The India had 90% food sector and 10% industries in 1940's and 1950's but eventually the ration change and now its 50-50 of both sector or even 60-40 respectively. But because of this the urbanization increases which ultimately create the current problems. The energy is next major factor. The generating energy is creating pollution and even the efficiency of electricity generation is less. The next big issue under this factor is electricity thefts and that ultimately creating problem because the unexpected load; make LDC calculation wrong. These all make next problem which is conflict and degradation of environment. The last one is urban challenges which are discussed.

The EV is required but why people and government use it. For that the main question is why people travel and what is success ratio. The condition of travel is change on each place. For India the road and traffic are terrible and more time the conventional vehicles run on ideal mode which creates highest pollution while the EV is not even use energy during ideal mode. The second is breaking while the breaking all the energy nullify into heat loss while using EV the all breaking energy stored using regenerative breaking. The proper using of land is also creating positive towards smart city which reduce traveling or make public travel much easier than today. The 1972 UN law is given guidance for this. The section end with question-answer in which the changing effect of EV of goal 2030 make huge effect on petroleum refinery which produce petrol and diesel. Which is not identify yet.

Second and Third session was taken by Ms. Varsha Shah and she started with question why EV is required. The carbon emission from different sources and one of the main source is the conventional vehicles. The India is 4<sup>th</sup> in carbon emission worldwide in which all the sources are come like fossil fuel generation, road transport and so on. The growth of automobile industries increases the carbon emission and this ultimately make us required EV. The history states that the first car is made is electric vehicle. The timeline shows that for several decades the electric vehicles are used even if the ICE vehicles are invented within a decade. The groundbreaking time come when Hendry ford starts manufacturing ICE car using mass production which reduce the cost and its start era of ICE cars. But, because of global warming and limited fossil fuel the world start recreating EV with higher efficiency. The speaker shows the raking of India in various way and its potentials. The India has huge market potential and for that different specifications are shown. The EV face different linear and nonlinear aspects. The terms low carbon vehicle driving force is shown. The core infrastructure for smart city is green term in which green energy is also use with green commute for EV. The green mobility and sustainable energy source and storage source is required for green commute. The high efficiency EV engine is required for EV and HEV. The efficiency of conventional ICE is 8%-10% in city and 32% during ideal condition of road. This is the reason why India needs EV for Indian road because of urbanization. The section end with question-answer in which the low speed EV can create path for EV because of low cost and high demand in city and china run electric bus using super capacitor.

**Glimpse of The Programme:**



**Inauguration: Lamp Lightening**





Inauguration: Lamp Lightening



Inauguration: Dignitaries welcome on stage



Inauguration: University Anthem



Inauguration: Welcome of Dr. Varsha Shah by Dr. R. V. Patil with Tulsi Pot





Inauguration: Welcome of Dr. Pradip Gindaliya by Dr. N. C. Shah with Tulsi Pot



Inauguration: Felicitation of Dr. Varsha Shah by Dr. N. C. Shah with Memento





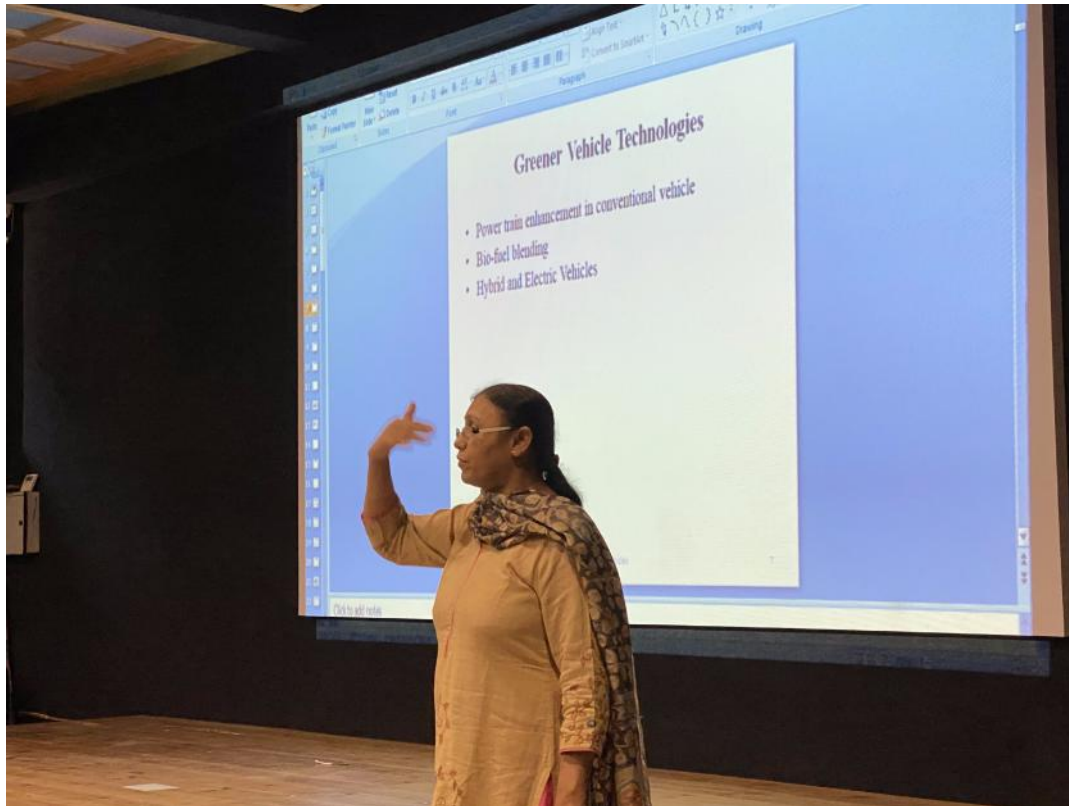
Inauguration: Felicitation of Dr. Pradip Gundaliya by Dr. R V Patil with Memento



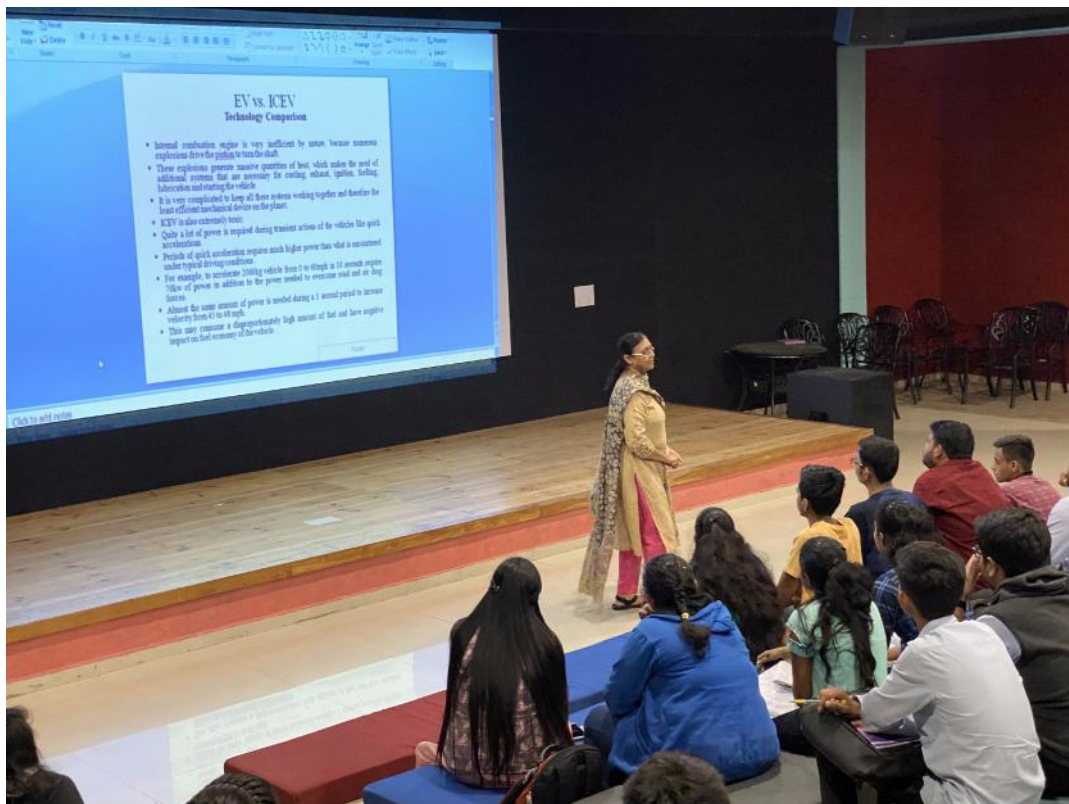
Session I: Dr. Pradip Gundaliya interact with Audience



## Appreciation of Dr. Pradip Gundaliya with Appreciation Certificate and Gift by Prof. Ankur Rana



Session II: Dr. Varsha Shah deliver the session





Session III: Dr. Varsha Shah interact with Audience



Appreciation of Dr. Varsha Shah with Appreciation Certificate and Gift by Prof. Ankur Rana



Valedictory with Group Photo and Vote of Thanks

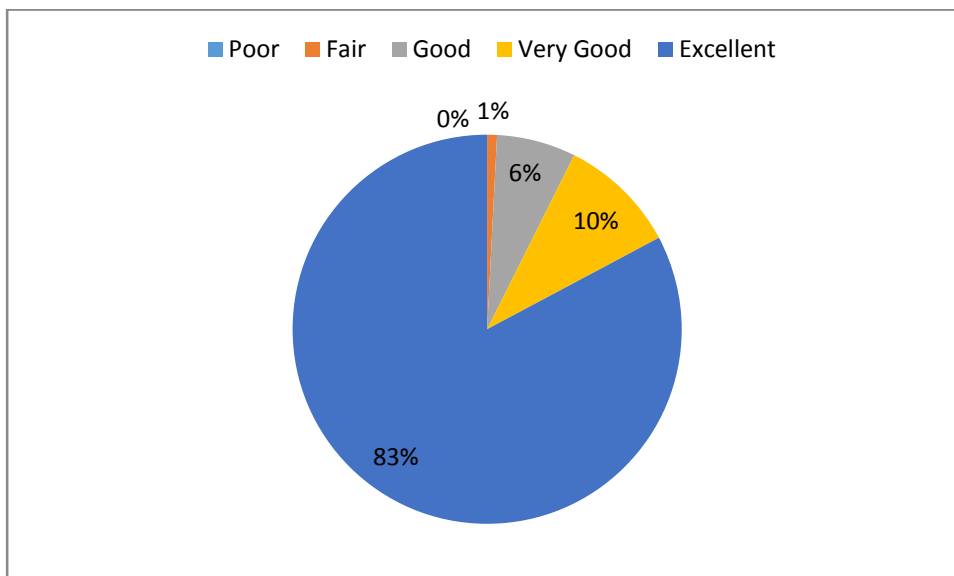


## Feedback:

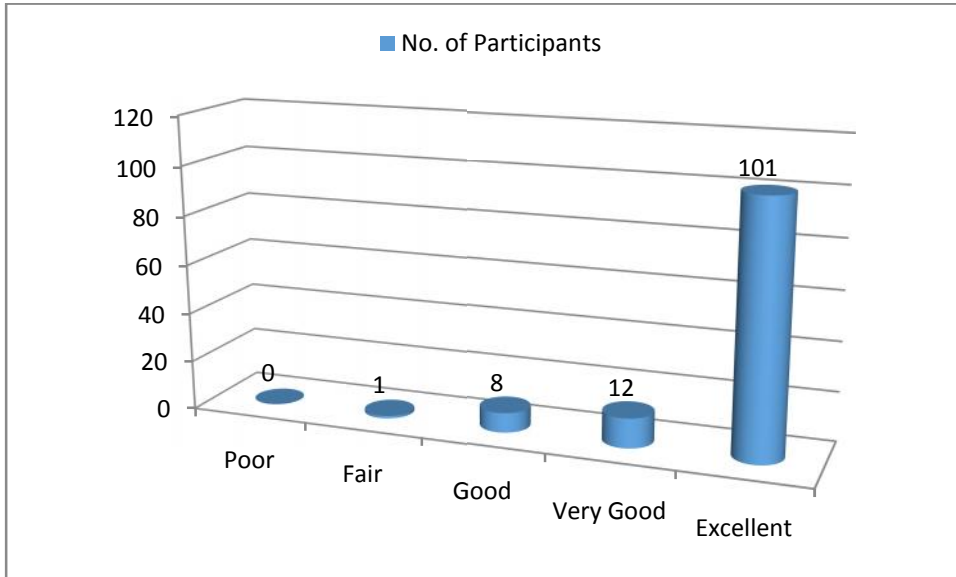
### 1. Information imparted in the Program:



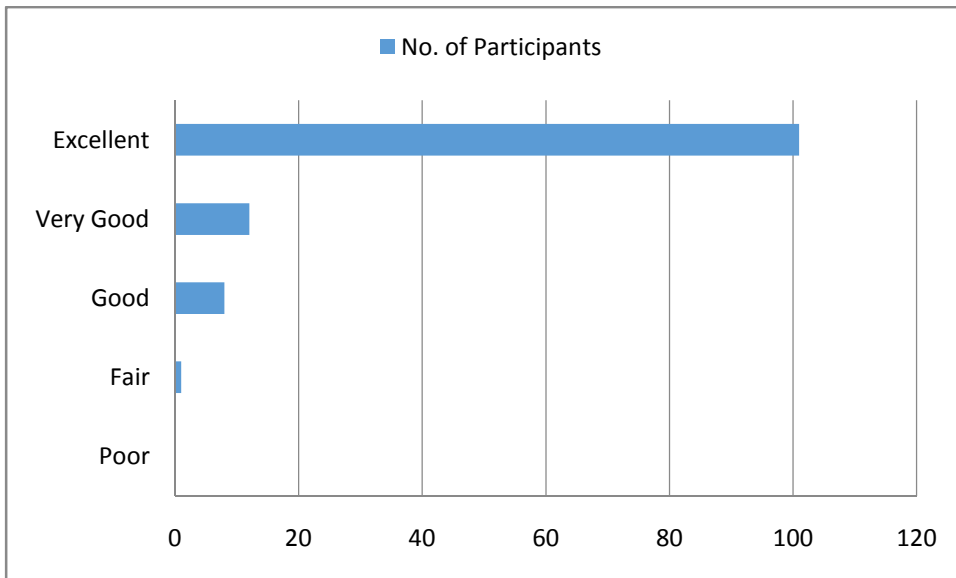
### 2. Course contents:



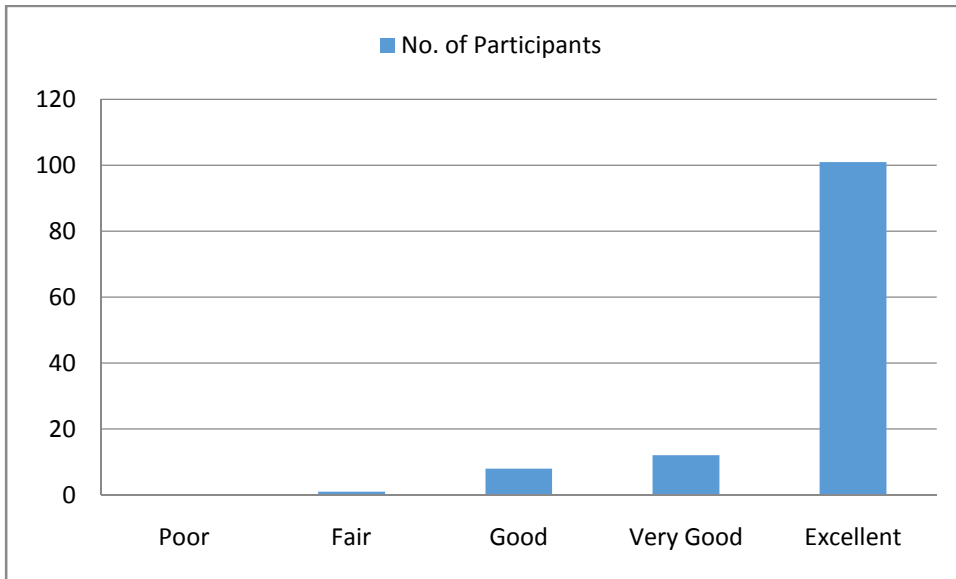
3. Usefulness of course contents in practical use:



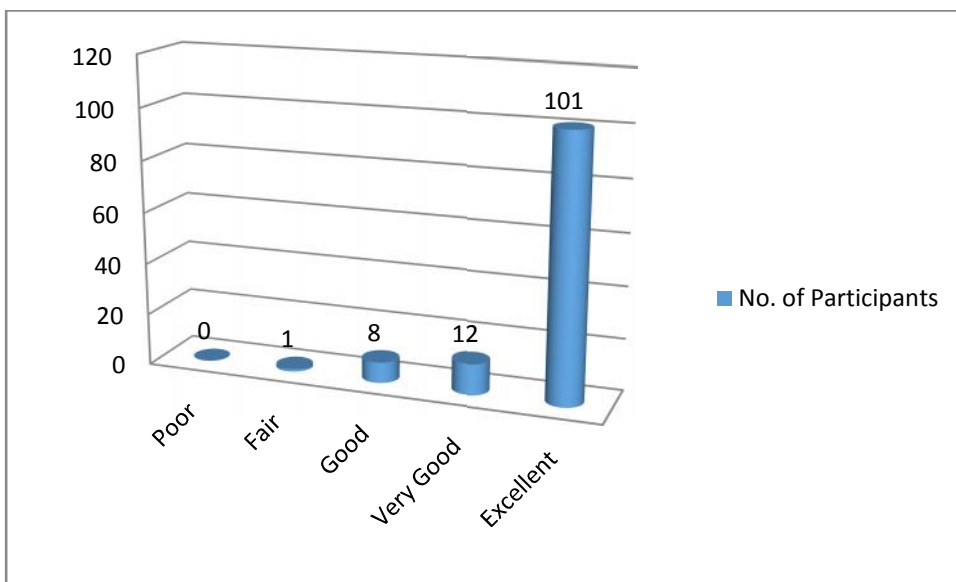
4. Faculty/speaker's Knowledge about subject:



5. Faculty/speaker's Presentation methods:

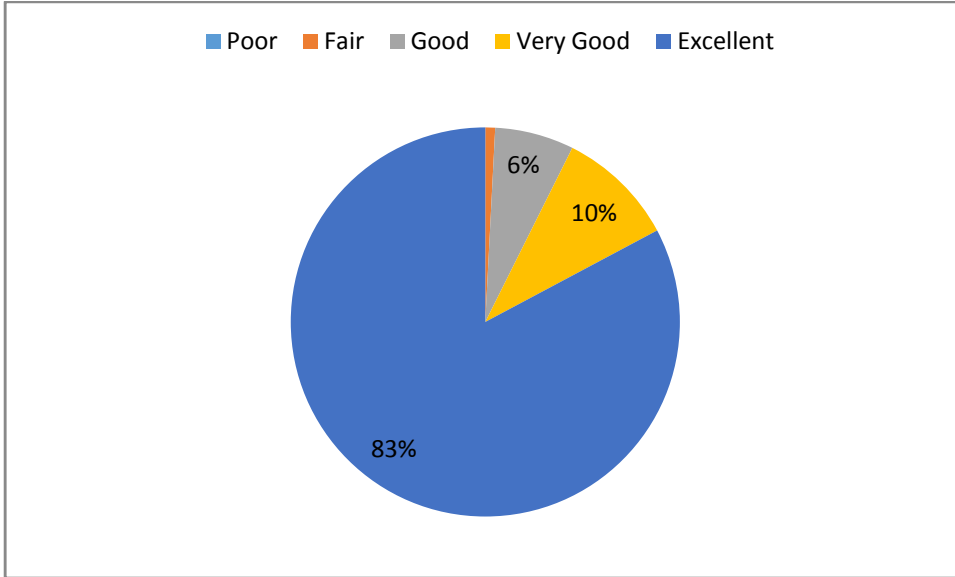


6. Faculty/speaker's level of Instructions:





7. a) Relevance of learning to Participants:



7. b) Overall Grading of the Program:

