



E-rickshaw Vehicle Designing & Manufacturing

Year:2019-20

Event Description:

This E-rickshaw Vehicle Designing & Manufacturing webinar was organized on the year of 2019-20. It gives idea about designing and assembling of E-Rickshaw using 3D-Experience (Dassault)

**E-rickshaw Vehicle
Designing &
Manufacturing**

Smart-Mobility Center

Year : 2019 -2020

Centurion University of Technology and
Management



Pre-requisites: Nil
 Course Type : Audit (Workshop)
 Duration : 30 Hours

Course Objectives:

- To Design & development of Electric Rickshaw
- To Use of digital multi-disciplinary technology

Learning Outcomes:

- Students will learn how to design an Electric Rickshaw
- Students will be able to Use of digital multi-disciplinary technology
- Students will be able to use of 3D Experience Platform of Dassault Systemes

Module	Contents	Duration
Module 1	Design & development of Electric Rickshaw for 800kg passenger carrier (4+1 seater)	6 hrs.
Module 2	Low affordable mobility	6 hrs.
Module 3	Use of digital multi disciplinary technology	6 hrs.
Module 4	Commercialize with start-ups, Intellectual Property and/or generate employability	6 hrs.
Module 5	Use of 3D Experience Platform of Dassault Systemes	6 hrs.
TOTAL		30 hours

Anita Patra



Dr. Anita Patra, Registrar, CUTM

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Convener



Report on E-rickshaw Vehicle Designing & Manufacturing

Total number of participants: 73

Academic year: 2018-19

Date: 08.10.2019

The course introduced the fundamental concepts, principles, analysis and design of electric vehicles. Understanding working of Electric Vehicles and recent trends in this area were discussed in the program. The program focused on assembling, production and servicing of Battery Pack, Power Train, Inverter and Wiring Harness. Analyzing different power converter topology used for electric vehicle application was also discussed in the program.

E-Rickshaws - a green solution with no petrol, CNG and mobile-oil requirements. Electric rickshaws need minimum maintenance and could serve as a solution to last-mile commuting problems. Apart from contributing to a clean environment; it can also lead to empowerment of people from lower SOCIO-economic backgrounds. These vehicles have gained much popularity owing to the content and mode of transport they provide to the fellow commuters. They are 3 wheelers pulled by an electric motor. Till now only a few foreign countries manufacture these vehicles. Battery-run rickshaws could be a low-emitter complementary transport for the low-income people, who suffer most from a lack of transport facility, if introduced in a systematic manner according to experts.



Demonstration on the Design of E Rickshaw on 08.10.2019

The following points were discussed in the course of the programme.

1. Introduction
2. General Classification of three wheeled vehicles
3. E -vehicle specifications and environmental aspects
4. Charging stations
5. Case studies at different locations
6. E-vehicles merits, demerits and challenges
7. Future scopes

Conclusion

- Overview of E-Vehicle
- Overview of design of E vehicle
- Design of chassis
- Selection of BLDC motor
- Selection of differential axel
- Selection of battery
- Battery Management System (BMS)

- Vehicle ranges
- EV Regenerating breaking modes
- PHEV drivetrain modes

- EVSE types
- Reporting energy consumption

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H. K. S.



Convener



List of participants **E-rickshaw Vehicle Designing & Manufacturing**

Organized by: Centurion University of Technology and Management

Date: 08 October 2019

Event Description:

This E-rickshaw Vehicle Designing & Manufacturing webinar was organized in the year of 2018-19. It gives idea about designing and assembling of E-Rickshaw using 3D-Experience (Dassault)

S.No.	Name	Reg. No.	Presence/Absent
1	KAMAL BEHERA	170301160002	Present
2	MD HAFIZUR REHMAN	170301160008	Present
3	BISWAJIT MOHANTY	170301160010	Present
4	DURGASANKAR MOHANTY	170301160013	Present
5	SUDIPTA SUNDAR ROY	170301160016	Present
6	SAHIL KUMAR PANDEY	170301160017	Present
7	MANJEET SHUBHANKAR	170301160020	Present
8	MD ISHA	170301160022	Present
9	HARA PRASANNA ROUT	170301160026	Present
10	SOMABRATA SAHU	170301160029	Present
11	ASIT KUMAR SAHOO	170301160030	Present
12	SUBHAM PATRA	170301160032	Present
13	SUMAN KUMAR DHAL BISOI	170301160033	Present
14	SOUMYA RANJAN MISHRA	170301160034	Present
15	S. GYANESH PATRO	170301160035	Present
16	SANTOSH SAHU	170301160037	Present
17	ADITYA KAR	170301160040	Present
18	GOBARDHAN MALIK	170301160041	Present
19	RAKESH MOHANTY	170301160042	Present
20	MOHAMMAD ASIF IBRAHIM	170301160044	Present
21	RITWICK DAW	170301160045	Present
22	MD.SAMIR ALI	170301160047	Absent

23	BHAGABAN BISWAL	170301160049	Present
24	SAWAN KUMAR BISWAL	170301160050	Present
25	BISWA DEB GUIN	170301160052	Present
26	RAJVEER CHHOTRAY	170301160053	Present
27	RAKESH SINGH	170301160054	Present
28	SRIKANTA BEHERA	170301160055	Present
29	BISWAJEET DAS	170301160056	Present
30	AMIT KUMAR PRADHAN	170301160058	Present
31	ROCKEY JENA	170301161059	Present
32	SIDHARTH PANDA	170301161060	Present
33	ANUNAYA KAR	170301161061	Present
34	PRIYARANJAN DASH	170301161062	Present
35	DEBASISH MANTRI	170301161063	Present
36	MANDEEP BOSE	170301161064	Present
37	ARUN ALOK MAHAKUD	170301161065	Present
38	KIRAN SOREN	170301161066	Present
39	SATYAJIT NANDA	170301161067	Present
40	SASWAT KUMAR SWAIN	170301161068	Present
41	ROHAN KUMBHAR	170301161069	Present
42	ROHIT PATEL	170301161070	Absent
43	SURAJ SAREJENDU PAL	170301161071	Present
44	BHABANI SANKAR BEHERA	170301161072	Present
45	ABHISHEK PRASAD	170301161073	Present
46	RAVI THAPA	170301161074	Absent
47	SOURAV KUMAR NAYAK	170301190003	Present
48	ABHIJEET ROUT	170301190004	Present
49	DEBASISH PRADHAN	170301190005	Present
50	AJAYA KUMAR BARAL	170301190006	Present
51	CHIRAG MOHANTY	170301190007	Present
52	PRITAM NANDI	170301190010	Present
53	ASHISH KUMAR JAISWAL	170301190011	Present
54	SATYAJIT ROY	170301190012	Present
55	TUSHAR KANTI DEY	170301190013	Present
56	MOUVIK KUNDU	170301190014	Present
57	KAMESH CHANDRA NAYAK	170301190015	Present
58	SHUBHAM RAJ	170301190016	Present
59	VISHAL KUMAR SINGH	170301190018	Present
60	TAPAS KUMAR SAHOO	170301190019	Present
61	MANABENDRA BARIK	170301190020	Present
62	P.SAIKIRAN	180101160007	Present
63	U.MOHAN KUMAR	180101160009	Present
64	O.DILLESWAR RAO	180101160010	Present
65	YESHI WANGCHUK	180101160011	Present
66	G MANIKANTHA	180101160001	Present

67	PONDURU SHYAM SUNDAR RAO	180101160002	Present
68	PALLI PAVAN KUMAR	180101160003	Present
69	ROUTU CHAITANYA	180101160004	Present
70	SAI KIRAN KUMAR PANDA	180101160005	Present
71	RATNALA AKHIL	180101160006	Present
72	RAGHUTHU SHIVA	180101160008	Present
73	JAGADISH DASH	180101161012	Present

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