

## ACADEMIC QUALIFICATIONS

Year	Degree	Institute	University/Board	Performance
2017-Present	M. Tech.	Indian Institute of Technology, Kanpur	IIT Kanpur	7.25/10
2012-2016	B. Tech.	Meerut Inst. of Engg. and Technology, Meerut	AKTU, Lucknow	78.30%
2011	Intermediate (10+2)	Sainta Claz Int. Collage, Agra	UP Board	77.00%
2009	High School	Shri Sant JP HSS, Ramnagar, Agra	UP Board	62.66%

## SCHOLASTIC ACHIEVEMENTS

- Secured **AIR 624** in GATE 2017 amongst 1.90 lakhs candidates with **99.67** percentile.
- Secured **96.63 percentile** in Joint Entrance Examination (IIT JEE-2012).

## M. Tech. THESIS

### Development of highly efficient, low-octane gasoline powered compression ignition (GCI) engine for BS VI norms

Thesis Supervisor: Prof. Avinash Kumar Agarwal,

Department of Mechanical Engineering, IIT Kanpur

- Substituted diesel with **low octane gasoline** in CI engine to reduce **emissions without compromise in engine efficiency**
- Mapped the **Open ECU** for the best injection strategy (split injections) of gasoline for optimum performance of GCI engine
- Implemented lambda based closed-loop and exhaust gas recirculation control to meet **BS VI** emission norms
- Running the GCI Engine on **100hp eddy current dynamometer** for wide throttle range with **lower PM and NOx emissions**

## PAPER PRESENTATION

- Presented on "**1-d simulation and modelling of mono-cylinder gasoline direct injection (GDI) engine using GT- Power software**" at 3<sup>rd</sup> **ISEES international conference** held at the **IIT Roorkee**
- Presented a poster on "**Reactivity Controlled Compression Ignition (RCCI) engine**" at 2<sup>nd</sup> Conference of International Society of Energy, Environment and Sustainability held at the **IISC Bangalore**

## B. Tech. PROJECTS

### Design and development of eco-friendly, solar powered mini-refrigeration and heating system using thermoelectric module

Project Supervisor: Prof. Nikhil Yadav,

August'15 to June'16

- Designed a small, portable cabin using sheet metal and insulating material for refrigerator **for remote application**
- Implemented **photovoltaic driven** refrigerator cum heating system powered from **solar panels with a battery bank**
- Replaced **harmful refrigerant** and **removed all moving parts** using eco-friendly thermoelectric module (**Peltier effect**)
- Achieved temperature range from **8°C (min.)** to **150°C (max.)** with **0.3 COP** (Coefficient of Performance)

## ACADEMIC PROJECTS AND INTERNSHIPS

### Development of high speed Data Acquisition and Combustion Analysis System for IC Engine using Lab-View 2017

Project Supervisor: Prof. Kamal Poddar

Department of Aerospace Engineering, IIT Kanpur

- Developed **low cost DAQ System** using NI Daq (model- NI 6070E) and **user-friendly interface** using the **Labview Soft**
- Acquired in-cylinder pressure versus crank angle using pressure transducer, angle encoder, and charge amplifier
- Postprocessed the acquired data and presented the results of P-V, logP-logV, P-theta, ROHR, IMEP, and Indicated Power

### General Awareness of Steam Turbine Manufacturing

June '15 to July '15

Bharat Heavy Electricals Ltd., Haridwar

- Incorporated with different manufacturing processes and machines like milling, lathe, welding, and CNC, etc.
- Gained an understanding of material selection for several components of turbine like blades, rotor, etc.
- Underwent training on balancing assembly of the turbine rotor and general assembly of the steam turbine manufacturing

## TECHNICAL SKILLS

- Familiar with operation of Single Cylinder Optical Research Engine, and Gasoline Direct Injection (GDI) Optical Engine
- Proficient in spray investigation (**Phase Doppler Interferometry**) and optical diagnostics (**Particle Image Velocimetry**)
- Hands-on experience of Emission Analysers: MEXA-6000FT-E (FTIR), Horiba EXSA-1500 Gas Analyser
- Competent with engine simulation tools (**GT Suite**), graphical programming language (**Lab view**), and C ++

## POSITIONS OF RESPONSIBILITY AND EX-CURRICULAR ACTIVITIES

- Completed short term course on "**Design of Engine for Emissions Compliance**" organized by ERL at IIT Kanpur
- Participated in short term course on "**Advanced Course on Engine Combustion, Diagnostic, Emissions Control and Emerging Fuels**" held at IIT Kanpur
- Teaching assistance** for a NPTEL course on "**Fundamental of IC Engine-ME 359a**" at IIT Kanpur
- Mechanical **Branch Coordinator** for Y 12 batch from August 2014 to August 2015 at MIET Meerut