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M. Tech student (2015-2017)
Metallurgical Engineering and Materials Science
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Examination	University	Institute	Year	CPI/%
Post Graduation Specialisation: Corrosion Science and Engg	IIT Bombay	IIT Bombay	2017	8.31
Graduation Specialisation: Metallurgical Engg	Jadavpur University	Jadavpur University	2015	7.9
Intermediate/+2	WBCHSE	Gangapuri Siksha Sadan	2011	84
Matriculation	WBBSE	Gangapuri Siksha Sadan	2009	89.13

SCHOLASTIC ACHIEVEMENTS

- Placed in the **89.11th** percentile in GATE-2015 Metallurgical Engineering
- NACE MERIT Certificate** - good score in **Aqueous Corrosion and its Control** (*Prof. V.S.Raja*)
- Secured **93.58** percentile in West Bengal Joint Entrance Examination around **130000** candidates
- Acquired **1st position** in school in XII-Standard out of **80** students in the final exam

KEY PROJECTS AND SEMINARS

M.TECH DISSERTATION | *“Corrosion study of Steel using Novel inhibitor applicable for Oil Industry”*

Guide: *Prof. S. Parida* (Professor, Department of MEMS, IIT Bombay) [Apr'2016 – June'2017]

Objective: To study the corrosion behavior of new Green Inhibitor and its applicability in oil industry

- **Completed literature survey** on the recent Green inhibitor and different corrosion aspects
- **Extraction of Inhibitor** from leaves using filtration method
- **Applicability of the extract** as an inhibitor has been examined by potentiodynamic polarization study
- **Adsorption model** of inhibitor molecule over the surface has been found
- Tafel extrapolation, linear polarization, and EIS study of the samples from **ONGC** will be done
- Finding out **inhibitor efficiency** and **effect of the temperature** in the corrosion

M. TECH SEMINAR | *“Powder Coating”*

Guide: *Prof. A. S. Khanna* (Professor, Department of MEMS, IIT Bombay) [Jan'2016 - May' 2016]

Objective: Study on recent trends and developments of powder coating including future prospects

- Basic introduction of powder coating, different methods of producing and storage of powders
- Detailed study of application of powders including electrostatic spray and fluidized bed
- Surveyed antibacterial powder coating and its application

M.TECH MINI SEMINAR

1) Corrosion of AUTOMOTIVE EXHAUST SYSTEM

GUIDE: *Prof. V. S. Raja* (Professor, Department of MEMS, IIT Bombay) [March'2016 - April' 2016]

- Detailed study of different types of corrosion problems arise in exhaust system
- Finding out the appropriate solution of the corrosion problems along with proposal of materials

2) COMPOSITE FOR AUTOMOTIVE LEAF SPRING

GUIDE: *Prof. MJNV Prasad* (Professor, Department of MEMS, IIT Bombay) [October '2016 - November'2016]

- Surveyed the different parts of automobile focused on leaf spring
- investigate conventional materials along with detailed study of using composite materials and their drawbacks

B. TECH DISSERTATION | *"Comparative study of Direct Reduction of Magnetite ore and Titaniferrous Magnetite ore in Lump form using boiler grade coal"* [Jun'2014 - May'2015]

Guide: *Prof. R. Dey* (Associate Professor, Department of Metallurgical and Materials Engg, Jadavpur University)

Objective: To know the effect of TiO_2 on the reduction process of **TMO**, alternating source of iron

- **Collected** the raw magnetite ore from Tiluri, Bankura, West Bengal
- **Characterization** of Pure and Titaniferrous Magnetite ore and boiler grade coal by SEM, XRD and TG/DTA
- **Carbothermic reduction** of Pure and Titaniferrous magnetite ore in lump form
- Characterization of reduced magnetite by XRD, SEM and check extent of reduction for both cases
- Analysis of effect of TiO_2 on the reduction process by measuring **Degree of Metallization**

B.TECH MINI PROJECT | Development of interface **for ELLINGHAM DIAGRAM"** [Jan'2014 - May '2014]

GUIDE: *Prof. S. Paul* (Professor, Department of Metallurgical and Materials Engg, Jadavpur University)

- Detailed study of different reactions occur at different temperatures
- Created a **programming interface** in **C Programming** to find out preferential oxidation at a given temperature

B. TECH SEMINAR | *"High Strength Low Alloy Steel"* [Jan'2014 - May '2014]

Guide: *Dr.D. Ghosh* (Professor, Department of Metallurgical and Materials Engg, Jadavpur University)

Objective: Study on different properties of HSLA steel along with its application

- Analyzed the composition of HSLA Steel and effects of different alloying addition along with categories
- Recognized the different properties special mentioning strengthening mechanism and toughness

INDUSTRIAL TRAININGS

SUMMER '14 PROJECT | *"A study on the Mass Balance and Heat Balance of Blast furnace"*

Guide: *Mr. A. Majumder* (Senior Manager, QATD Lab, Vizag Steel Plant) [Jun'2014]

Objective: To create a Programming interface for Mass and Heat balance of Blast Furnace

- **Surveyed major departments** in the industry including RMHP, Coke oven, Sinter plant, Blast furnace, Steel Melting Shop, Continuous cooling plant, LMMM, MMSM, WRM
- **Collected** the detailed report of Blast furnace for the month of May,2014
- Examined the data and did Mass and Heat balance calculations for individual elements
- Incorporated the calculations in the **C Programming** and **created a Programming interface**

VOCATIONAL TRAINING | **Bokaro Steel Plant** [May'2013]

- Successfully completed the vocational training of 2 weeks and visited major units: Blast furnace, Sinter plant, Coke oven, Steel Melting Shop, Continuous Casting Plant, Rolling Mill

TECHNICAL SKILLS

- **SOFTWARE:** C, GNU OCTAVE, ORIGIN
- **EXPERIMENTAL:** EC Lab, NOVA, Optical Microscopy, SEM, TEM, XRD, XPS, DTA/TG, FTIR, UV-Vis, Spectra Manager

POSITIONS OF RESPONSIBILITY

- **Student Coordinator, Institute Student Companionship Programme (ISCP), 2016** [July'2016 – June'2017]
 - Part of an Institute level team of **196**, organizing the *Institute PG Orientation Program* of **1500+** freshmen
 - Volunteer at Institute Orientation (Parents Orientation Program) at LCH
 - Managed the help desk and organized a Lab visits to the new entrants
 - Currently mentoring **6** freshmen for their academic and non-academic affairs
- **Teaching Assistant, IIT Bombay**
 - 1) FTIR Lab** [January'2016 –December' 2016]
 - Done FTIR machine learning training for 1 week and learned the associate software(**Spectra Manager**)
 - Examined FTIR data of **200+** samples from different users from different departments
 - 1) Advance Corrosion Lab (MM 462 coursework)** [January'2017 – June'2017]
 - Managed **120** B.Tech students and guided for different experiments as per the coursework
 - Demonstrated different software associated with the experiments
- **Joint Treasurer, Metallix, Jadavpur University** [2015]
 - Part of a Departmental Team of around **15** people in Metallix, **Departmental National Symposium**
 - Collection of funds from different departments as well as from alumni of Metallurgy department
 - Handled the proper balance sheet of the event estimated around **5 lacs**

COURSEWORK

- Aqueous Corrosion and its control
- Advance design and control of corrosion
- Technology of Alloy Steel
- Structural Characterization of Materials
- Advanced Composite
- Steel Making
- Electrochemical material science
- Materials for High temp corrosion prevention

EXTRA CURRICULAR ACTIVITIES

- Represented Department in Inter Departmental Badminton GC, IIT Bombay, 2016
- Team Member of Inter Departmental Football GC, IIT Bombay, 2016
- Interests: Badminton, Football, Cricket
- Member of National Association of Corrosion Engineers, 2016-2017
- Member of *Indian Institute of Metals, Kolkata Chapter, 2011-12*