

# Diksha Yadav

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## PROFESSIONAL SUMMARY

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Detail-oriented research associate specializing in chemistry with extensive experience in lubricant testing, condition monitoring, and automotive fluid development. Proven expertise in adhering to ASTM and IEC standards while operating advanced laboratory instruments. Maximized product reliability and safety through rigorous testing and compliance. Demonstrated commitment to innovation in product development and quality assurance.

## WORK EXPERIENCE

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### Indian Oil R&D Centre | May 2022 – Present

Research Project Assistant

- Results-driven Lubricant professional with extensive experience in automotive test methods including ASTM, JIS and IEC standards.
- Enhanced product reliability, durability, and safety by ensuring compliance with SAE, and OEM specifications through rigorous validation protocols.
- Hands on experience on performance testing i.e oxidation (DKA, ISOT etc.), Detergency testing (Panel Coker, KHT etc.), Low and high temperature performance testing (Cranking and pumping and HTHS, corrosion ( Cu corrosion and Rust).
- Acquired expertise in small-scale and bulk blending with in-depth knowledge of base oil selection (Group I-V, esters) and additive technologies for optimized performance.
- Conducted lubricant and EV fluid testing in a NABL-accredited laboratory (ISO/IEC 17025), maintaining traceability, precision, and compliance with international standards.
- Supported method validation, documentation, logbook, calibration, and measurement of uncertainty for ASTM and IEC test procedures, enhancing result accuracy and reproducibility.
- Viscosity Measurement – KV, dynamic viscosity, and HTHS.
- Cold Flow Properties – Pour Point, Cloud point, MRV, Brookfield and CCS.
- Oxidation & Thermal Stability – NOACK, Foaming, PDSC, Panel Coker, TEOST, ISOT, DKA and shear stability.
- Flash & Fire Point Testing – COC and PMCC.
- Tribological & Corrosion Testing – TAN/TBN, Cu corrosion, and Rust protection.
- Moisture Analysis – Karl Fischer titration.
- Fuel & Material Compatibility – Aniline point, E85 compatibility, and water tolerance.
- Calorimetry & Density – Density, and related measurements.

- Electrical Insulating Fluid Testing (EV Segment) – BDV, Tan Delta, Resistivity, and Conductivity assessments.

## **Graviens Educational Services | November 2021 – April 2022**

### **Subject Matter Expert**

- Developed high-quality educational content for IIT-JEE/NEET aspirants using ChemDraw, and MathType, increasing student engagement and comprehension.
- Designed corrective action plans to ensure data accuracy and quality.

## **EDUCATION**

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### **J. C. Bose University of Science and Technology •**

M.Sc. Chemistry (Hons.) in Chemistry | GPA: 7.5

### **Shivaji College, University of Delhi •**

B.Sc. Chemistry (Hons.) in Chemistry

- PERCENTAGE - 71.2

## **SKILLS**

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### **Analytical and Laboratory Techniques:**

ASTM Testing | MS Office | Lubricant Formulation | Oxidation Testing | NABL accreditation | SAE specification

### **Soft Skills:**

Time Management | Team Collaboration | Lab Safety | Problem Solving | Quality Assurance

## **PROJECTS**

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### **Driveline Segment**

*Spearheaded formulation and performance testing of transmission oil grades (80W90, 85W140, 75W80) and tractor oils (UTTO and STOU), ensuring compliance with industry standards and enhancing operational efficiency.*