



SAARTHI - सारथी

करियर मार्गदर्शन पोर्टल · Career Guidance Portal

"सही मार्गदर्शन, उज्ज्वल भविष्य।"

करियर शीट · CAREER SHEET

इंस्ट्रुमेंटेशन इंजीनियर

An Instrumentation Engineer designs, installs and controls the instruments and sensors that measure and regulate temperature, pressure and flow in factories, refineries and plants. They are at the heart of process and automation....



Scan for everything on this career

Salary, exams, colleges, the routes in and the steps after — all on the portal.

career.gsssjethantri.in/#/career/eng-4626

राजकीय उच्च माध्यमिक विद्यालय, जेठन्तरी

Govt. Sr. Sec. School, Jethantri · ब्लॉक समदड़ी · बालोतरा (Block Samdari · Balotra)

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सुशील कुमार शर्मा

प्रधानाचार्य, रा.उ.मा.वि. जेठन्तरी · मास्टर ट्रेनर
Principal, GSSS Jethantri · Master Trainer



श्री चेनाराम चौधरी

प्रधानाचार्य, डाइट बाड़मेर
Principal, DIET Barmer



श्रीमती संघमित्रा

वरिष्ठ व्याख्याता, डाइट बाड़मेर (सहयोग)
Sr. Lecturer, DIET Barmer (Support)



भरत चौधरी

अभिकल्पना व विकास · व्याख्याता (इतिहास)
Designed & developed · Lecturer (History)

विशेष धन्यवाद · SPECIAL THANKS



सुरेन्द्र सिंह राठौड़

व्याख्याता (इतिहास) · रा.उ.मा.वि. कानाना



सुरेश कुमार सैन

व्याख्याता (भूगोल) · रा.उ.मा.वि. रामसीन मूंगड़ा



वनिता कुमारी

व्याख्याता (इतिहास) · रा.उ.मा.वि. रामसीन मूंगड़ा



कमलेश चौधरी

व्याख्याता (राजनीति विज्ञान) · रा.उ.मा.वि. टापरा

करियर मार्गदर्शन कार्यशाला, डाइट बाड़मेर (14-17 जुलाई 2026) में विकसित व लोकार्पित
Developed & unveiled at the Career Guidance Workshop, DIET Barmer (14-17 July 2026)

यह एक स्वतंत्र परियोजना है, जो सरकार की आधिकारिक करियर-मार्गदर्शन सामग्री पर आधारित है। · An independent project based on the Government's official career-guidance content.

1 About this career

An Instrumentation Engineer designs, installs and controls the instruments and sensors that measure and regulate temperature, pressure and flow in factories, refineries and plants. They are at the heart of process and automation. It is a career of precision and problem-solving.

2 At a glance

Minimum qualification	Diploma/B.Tech in Instrumentation
Work mode	Office + plant/field, shifts
Demand	Rising — automation & energy sector
Top earning	₹1,20,000+/month

3 What you need

INTERESTS

- Understanding how machines work
- Electronics and control systems
- Solving problems

ABILITIES

- Attention to detail and precision
- Good communication and teamwork
- Logical, analytical thinking

KEY SKILLS

- Sensors and measurement instruments
- Process control and calibration
- Reading blueprints and documentation
- PLC, SCADA and automation
- Electronics and circuit design
- Safety standards and troubleshooting

4 How to get there

- 1 Pass 10+2 with science (Physics, Chemistry, Maths).
- 2 Do a diploma or B.Tech in Instrumentation/Instrumentation & Control.
- 3 Clear an entrance test (JEE Main/REAP etc.) and pick an institute.
- 4 Gain hands-on experience via internships and plant training.
- 5 Start as a junior instrumentation engineer/technician.
- 6 With experience and GATE, move to senior roles or a master's.

MAIN EXAMS

- JEE Main / REAP (bachelor's entry)
- GATE (master's and PSU jobs)

5 Where to study

GOVERNMENT INSTITUTES

- मालवीय राष्ट्रीय प्रौद्योगिकी संस्थान (MNIT) — Jaipur, Rajasthan
- राजस्थान तकनीकी विश्वविद्यालय (RTU) व संबद्ध कॉलेज — Kota, Rajasthan
- राजकीय पॉलिटेक्निक महाविद्यालय (इंस्ट्रुमेंटेशन डिप्लोमा) — Jaipur/Jodhpur, Rajasthan
- एन.आई.टी. तिरुचिरापल्ली / आई.आई.टी. खड़गपुर — Tamil Nadu / West Bengal

PRIVATE INSTITUTES

- मणिपाल प्रौद्योगिकी संस्थान — Manipal, Karnataka
- थापर इंस्टीट्यूट ऑफ इंजीनियरिंग एंड टेक्नोलॉजी — Patiala, Punjab
- वेल्लोर प्रौद्योगिकी संस्थान (VIT) — Vellore, Tamil Nadu

ONLINE

- SWAYAM/NPTEL (इंस्ट्रुमेंटेशन व नियंत्रण) — Online (<https://swayam.gov.in>)

FEEES

About ₹10,000-1,50,000/year in government institutes and ₹1,00,000-4,00,000/year in private ones; diplomas are comparatively cheaper.

SCHOLARSHIPS

- राष्ट्रीय छात्रवृत्ति पोर्टल / National Scholarship Portal (<https://scholarships.gov.in>)
- Buddy4Study (<https://www.buddy4study.com>)
- विद्यालक्ष्मी शिक्षा ऋण / Vidya Lakshmi Education Loan (<https://www.vidyalakshmi.co.in>)

6 What the work is like

WHERE YOU WORK

Manufacturing companies, refineries and chemical plants, steel and thermal plants, defence and biomedical firms, government and private engineering organisations.

WORK CULTURE

Much time designing instrument blueprints; also testing, maintenance and quality work at plants, with some travel. Shifts are possible. Opportunities may exist for persons with disabilities.

WHO HIRES

- | | |
|--|--|
| • Oil & gas companies (IOCL, ONGC, BPCL) | • Power & thermal plants (NTPC etc.) |
| • Steel and chemical companies | • Automation companies (Siemens, ABB, Honeywell) |
| • Defence & space bodies (DRDO, ISRO) | • EPC and engineering consulting firms |

DEMAND (2026)

Growth in industrial automation, smart plants, renewable energy and Industry 4.0 is raising demand for instrumentation engineers in 2026.

7 Career growth

- 1 Instrumentation Technician/Junior Engineer
- 2 Instrumentation Engineer
- 3 Instrumentation Supervisor/Lead
- 4 Manager, Instrumentation & Control

EARNINGS

Starting	₹20,000-35,000/माह
Mid level	₹45,000-75,000/माह
Senior level	₹1,20,000+/माह

Source: PayScale and industry data, 2026; much higher in PSUs, oil & gas and abroad.

8 The good parts · The challenges

The good parts

- Demand in core industries and automation
- Openings in both PSUs and private firms
- Technical, hands-on work

The challenges

- Risk and pressure at plants and field
- Shifts and emergency duty
- Constant learning of new technology

9 Real-life journeys

Moumita Dutta

Scientist, ISRO Space Applications Centre

Moumita Dutta, a physicist from Kolkata, develops optical instruments at ISRO's Space Applications Centre in Ahmedabad. She served as project manager for the Methane Sensor on India's Mars Orbiter Mission, Mangalyaan. Her precise instrumentation work helped India reach Mars on its very first attempt.

SheThePeople · <https://www.shethepeople.tv/top-stories/inspiration/moumita-dutta-physicist-space-applications-centre-isro/>

P. Veeramuthuvel

Project Director, Chandrayaan-3, ISRO

Son of a railway technician in Villupuram, P. Veeramuthuvel began with a polytechnic diploma in mechanical engineering, earned a PhD from IIT Madras, and led the systems and testing work behind Chandrayaan-3's historic Moon landing in 2023.

Wikipedia · https://en.wikipedia.org/wiki/P._Veeramuthuvel

Muthayya Vanitha**Telemetry/electronics systems engineer; Project Director, Chandrayaan-2, ISRO**

Muthayya Vanitha joined ISRO as a junior engineer testing hardware, led the Telemetry and Telecommand divisions (the measurement-and-control heart of satellites) for years, and became the first woman project director of an ISRO interplanetary mission with Chandrayaan-2.

Wikipedia · https://en.wikipedia.org/wiki/Muthayya_Vanitha

10 Sources & further reading

1. Rajasthan Career Guidance — <https://cg.rajasthan.gov.in/careerguidance/hi/career/%e0%a4%87%e0%a4%82%e0%a4%b8%e0%a5%8d%e0%a4%9f%e0%a5%8d%e0%a4%b0%e0%a5%82%e0%a4%ae%e0%a5%87%e0%a4%82%e0%a4%9f%e0%a5%87%e0%a4%b6%e0%a4%a8-%e0%a4%87%e0%a4%82%e0%a4%9c%e0%a5%80%e0%a4%a8%e0%a4%bf%e0%a4%af/>
2. AICTE — <https://www.aicte-india.org>
3. National Career Service (NCS) — <https://www.ncs.gov.in>
4. National Scholarship Portal — <https://scholarships.gov.in>

**And 770+ more careers — the whole portal**

Interest and aptitude tests, government jobs, skill courses and a CV builder — free, no login, and it works offline.

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