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करियर मार्गदर्शन पोर्टल • Career Guidance Portal

"सही मार्गदर्शन, उज्ज्वल भविष्य।"

करियर शीट • CAREER SHEET

स्मार्ट मैनुफैक्चरिंग एंड ऑटोमेशन इंजीनियरिंग

Smart manufacturing and automation engineers use robots, sensors, AI and data to make factories automated and intelligent. It is a rising career of the Industry 4.0 era.



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-4656

राजकीय उच्च माध्यमिक विद्यालय, जेठन्तरी

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

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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

Smart manufacturing and automation engineers use robots, sensors, AI and data to make factories automated and intelligent. It is a rising career of the Industry 4.0 era.

2 At a glance

Minimum qualification	12th PCM + B.Tech in Smart Manufacturing/Automation/Mechatronics
Work mode	Smart factory, control room and office
Demand	Very high - in Industry 4.0, robotics and EV plants
Top earning	Automation architect/project manager: Rs 2-3 lakh+/month

3 What you need

INTERESTS

- Interest in robots and new technology
- Liking for maths and computers
- Passion for solving problems

ABILITIES

- Logical and analytical thinking
- Ability to work under pressure
- Quickly learning new technologies

KEY SKILLS

- PLC, SCADA and industrial automation
- Robotics and mechatronics
- IoT sensors and data analytics
- Programming (Python, C++)
- Basics of AI/machine learning
- Quality systems and lean manufacturing

4 How to get there

- 1 Pass 12th with Physics, Chemistry, Maths.
- 2 Do B.Tech in smart manufacturing, automation, mechatronics or robotics via JEE Main/REAP.
- 3 Do PLC/robotics lab projects and factory internships.
- 4 Start with an automation company or smart plant job.
- 5 Grow via GATE or certifications (Siemens, ABB).

MAIN EXAMS

- JEE Main / JEE Advanced
- REAP (Rajasthan)
- BITSAT
- GATE (for M.Tech)

5 Where to study

GOVERNMENT INSTITUTES

- MNIT Jaipur — Jaipur, Rajasthan (<https://www.mnit.ac.in>)
- IIT Jodhpur (AI & robotics programmes) — Jodhpur, Rajasthan (<https://iitj.ac.in>)
- Rajasthan Technical University (RTU) — Kota, Rajasthan (<https://www.rtu.ac.in>)
- NSUT (Netaji Subhas University of Technology) — New Delhi
- SLIET Longowal — Sangrur, Punjab
- IIITDM Kancheepuram — Chennai, Tamil Nadu

PRIVATE INSTITUTES

- BITS Pilani — Pilani, Rajasthan (<https://www.bits-pilani.ac.in>)
- Manipal University Jaipur (Mechatronics) — Jaipur, Rajasthan (<https://jaipur.manipal.edu>)
- JECRC University — Jaipur, Rajasthan (<https://www.jecrcuniversity.edu.in/>)
- UPES Dehradun — Dehradun, Uttarakhand

ONLINE

- NPTEL / SWAYAM (Industry 4.0, robotics courses) — Online (<https://nptel.ac.in>)

FEES

Around Rs 50,000-2 lakh per year in government institutes; Rs 1.5-4 lakh per year in private ones. Scholarships are available.

SCHOLARSHIPS

- National Scholarship Portal (<https://scholarships.gov.in>)
- Vidya Lakshmi Education Loan Portal (<https://www.vidyalakshmi.co.in>)
- Rajasthan Social Justice Dept Scholarships (<https://sje.rajasthan.gov.in>)
- Buddy4Study (<https://www.buddy4study.com>)

6 What the work is like

WHERE YOU WORK

Smart factories, automation companies, EV and auto plants, PSUs (ISRO, DRDO), IT and robotics startups.

WORK CULTURE

Mostly indoor work in control rooms/plants; teamwork on project deadlines. Opportunities exist for persons with disabilities.

WHO HIRES

- | | |
|-----------------------------|-------------------------------------|
| • Siemens and ABB | • Bosch and Honeywell |
| • Tata Motors and EV plants | • Robotics startups like GreyOrange |
| • ISRO, DRDO, PSUs | • Automation teams of IT companies |

DEMAND (2026)

Demand is very high in 2026 with the expansion of Industry 4.0, robotics and EV manufacturing; growth here outpaces traditional mechanical roles.

7 Career growth

- 1 Automation trainee engineer
- 2 Automation/commissioning engineer
- 3 Senior automation engineer / QA lead
- 4 Automation architect / project manager
- 5 Plant digitalisation head

EARNINGS

Starting	₹25,000-45,000
Mid level	₹60,000-1,20,000
Senior level	₹1,50,000-2,50,000+

Monthly pay; premium for robotics/AI skills. 2026 levels, indicative.

8 The good parts · The challenges

The good parts

- Fast-growing field in future technology
- Better starting packages than plain mechanical
- Opportunities abroad and in startups

The challenges

- Technology changes fast, constant learning needed
- Branch not available in every college
- Pressure of project deadlines

9 Real-life journeys

Samay Kohli

Co-founder, GreyOrange (warehouse robotics)

While studying mechanical engineering at BITS Pilani in Rajasthan, Samay built one of India's first humanoid robots. He then co-founded GreyOrange, whose robots automate warehouses for companies like Flipkart.

Forbes India · <https://www.forbesindia.com/article/30-under-30/samay-kohli-akash-gupta-the-masters-of-robotics/39593/1>

Aditi Prasad

Co-founder and COO, Robotix Learning Solutions; Indian Girls Code

Aditi runs Robotix Learning Solutions with her sister and teaches free robotics and coding to underprivileged orphan girls through the Indian Girls Code initiative, aiming to raise girls' participation in automation fields.

The Better India · <https://thebetterindia.com/82869/indian-girls-code-robotix-phiro-aditi-prasad-deepti-rao-suchindran/>

10 Sources & further reading

1. Rajasthan Career Guidance: Smart Manufacturing and Automation — <https://cg.rajasthan.gov.in/careerguidance/hi/career/%e0%a4%b8%e0%a5%8d%e0%a4%ae%e0%a4%be%e0%a4%b0%e0%a5%8d%e0%a4%9f-%e0%a4%ae%e0%a5%88%e0%a4%a8%e0%a5%8d%e0%a4%af%e0%a5%81%e0%a4%ab%e0%a5%88%e0%a4%95%e0%a5%8d%e0%a4%9a%e0%a4%b0%e0%a4%bf%e0%a4%82%e0%a4%97/>
2. AICTE — <https://www.aicte-india.org>
3. NPTEL (free online courses) — <https://nptel.ac.in>
4. National Career Service (NCS) — <https://www.ncs.gov.in>



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