



SAARTHI - सारथी

करियर मार्गदर्शन पोर्टल · Career Guidance Portal

"सही मार्गदर्शन, उज्ज्वल भविष्य।"

करियर शीट · CAREER SHEET

धातुकर्म इंजीनियर

Metallurgical Engineers extract metals from ores, develop alloys and improve their quality. Rajasthan's zinc-copper mining belt and India's steel industry employ them.



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-4634

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

Metallurgical Engineers extract metals from ores, develop alloys and improve their quality. Rajasthan's zinc-copper mining belt and India's steel industry employ them.

2 At a glance

Minimum qualification	B.E./B.Tech in Metallurgical Engineering
Work mode	Plant, lab and furnace areas; shifts possible
Demand	Steady-to-rising demand from steel, defence materials and EV battery metals
Top earning	₹2.5 lakh+ per month at general manager level

3 What you need

INTERESTS

- Deep interest in maths and science
- Working in a team
- Exploring properties of materials and metals

ABILITIES

- Attention to detail
- Ability to work in hot industrial settings
- Logical and analytical thinking

KEY SKILLS

- Metal extraction and refining processes
- Materials testing (NDT, microscopy)
- Quality control and failure analysis
- Heat treatment and alloy design
- Furnace and plant operations
- Safety and environmental standards

4 How to get there

- 1 Complete Class 12 in Science (Physics, Chemistry, Maths)
- 2 Do B.Tech in Metallurgical Engineering via JEE Main/Advanced or REAP
- 3 Do plant internships and vacation training
- 4 Clear GATE for PSUs (SAIL, NMDC) or M.Tech
- 5 Join a steel/mining company as a graduate trainee

MAIN EXAMS

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

5 Where to study

GOVERNMENT INSTITUTES

- MNIT Jaipur (Metallurgical and Materials Engg.) — Jaipur, Rajasthan (<https://www.mnit.ac.in>)
- IIT Jodhpur (Materials Engineering) — Jodhpur, Rajasthan
- IIT Bombay/Madras/Kharagpur — Mumbai/Chennai/Kharagpur
- NIT Trichy/Surathkal/Warangal — Trichy/Surathkal/Warangal

PRIVATE INSTITUTES

- BITS Pilani — Pilani, Rajasthan
- Amity University — Noida, Uttar Pradesh
- OP Jindal University — Raigarh, Chhattisgarh

ONLINE

- NPTEL/SWAYAM (Metallurgy courses) — Online (<https://nptel.ac.in>)

FEES

Full course costs about ₹30,000 to ₹2 lakh in government institutes; up to ₹8 lakh in private ones.

SCHOLARSHIPS

- National Scholarship Portal (<https://scholarships.gov.in>)
- Rajasthan SJE Scholarships (<https://sje.rajasthan.gov.in>)

- Vidya Lakshmi Education Loan Portal (<https://www.vidyalakshmi.co.in>)

6 What the work is like

WHERE YOU WORK

Steel plants, zinc-copper smelters (Udaipur, Chittorgarh), foundries, automobile-aerospace units, research labs.

WORK CULTURE

Work spans labs and offices plus hot areas near furnaces; team-based; shift duty is common in plants.

WHO HIRES

- Hindustan Zinc (Vedanta), Udaipur
- JSW and Jindal Stainless
- DRDO/ISRO/BARC labs
- SAIL and Tata Steel
- Hindalco/NALCO
- Auto and aerospace companies

DEMAND (2026)

In 2026 steel capacity expansion, indigenous defence materials and EV-battery metals are boosting opportunities; Rajasthan's mining belt is a major employer.

7 Career growth

- 1 Graduate Trainee
- 2 Assistant Metallurgist
- 3 Metallurgist/Senior Metallurgist
- 4 General Manager

EARNINGS

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

PSUs and large private firms pay more with plant allowances extra.

8 The good parts · The challenges

The good parts

- Stable, varied opportunities in core engineering
- Local jobs in Rajasthan's mining-smelter belt
- Paths from research to plant management

The challenges

- Hot, demanding environment near furnaces
- Most plants are far from big cities
- Affected by commodity price swings

9 Real-life journeys

Samir V. Kamat

Chairman, DRDO (Metallurgical Engineer)

After metallurgical engineering at IIT Kharagpur he joined DMRL as a scientist, worked on defence alloys and rose to become DRDO Chairman.

The Tribune · <https://www.tribuneindia.com/news/india/drdo-chief-samir-v-kamat-gets-one-year-extension-625354>

Sharada Srinivasan

Archaeometallurgist, NIAS Bengaluru

An IIT Bombay engineering physics graduate, she did world-renowned research on India's ancient wootz steel and bronze metallurgy, earning the Padma Shri in 2019.

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

10 Sources & further reading

1. Rajasthan Career Guidance Portal — <https://cg.rajasthan.gov.in/careerguidance/hi/career/%e0%a4%a7%e0%a4%be%e0%a4%a4%e0%a5%81%e0%a4%95%e0%a4%b0%e0%a5%8d%e0%a4%ae-%e0%a4%87%e0%a4%82%e0%a4%9c%e0%a5%80%e0%a4%a8%e0%a4%bf%e0%a4%af%e0%a4%b0-metallurgy-engineer/>
2. National Career Service — <https://www.ncs.gov.in>
3. AICTE — <https://www.aicte-india.org>
4. NPTEL courses — <https://nptel.ac.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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