



SAARTHI - सारथी

करियर मार्गदर्शन पोर्टल · Career Guidance Portal

"सही मार्गदर्शन, उज्ज्वल भविष्य।"

करियर शीट · CAREER SHEET

फार्मास्युटिकल इंजीनियरिंग

Pharmaceutical engineers design the processes, machines and plants used to manufacture medicines. Combining chemistry, biology and engineering, they help produce safe, affordable drugs at scale.



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-4680

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

Pharmaceutical engineers design the processes, machines and plants used to manufacture medicines. Combining chemistry, biology and engineering, they help produce safe, affordable drugs at scale.

2 At a glance

Minimum qualification	12th with Physics-Chemistry + B.Tech/B.Pharm
Work mode	Lab and pharma plant based, full-time
Demand	High - India is the pharmacy of the world
Top earning	R&D head: Rs 1.5 lakh+/month

3 What you need

INTERESTS

- Research and experimentation
- Working in a team
- Solving problems

ABILITIES

- Logical and scientific thinking
- Patience and precision
- Attention to detail

KEY SKILLS

- Understanding of chemistry and bioprocessing
- Quality control (GMP)
- Data analysis
- Process design and scale-up
- Equipment and plant operation
- Documentation and regulatory knowledge

4 How to get there

- 1 Pass 10+2 with Physics, Chemistry and Maths/Biology.
- 2 Take an entrance exam like JEE Main or REAP.
- 3 Do B.Tech/B.E. in pharmaceutical/chemical engineering.
- 4 Take an internship/training in a pharma company.
- 5 Optionally clear GATE for M.Tech or research.

MAIN EXAMS

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

5 Where to study

GOVERNMENT INSTITUTES

- MNIT Jaipur (Chemical Engineering) — Jaipur, Rajasthan (<https://www.mnit.ac.in>)
- IIT (BHU) Varanasi - Pharmaceutical Engineering — Varanasi, Uttar Pradesh
- IIT (ISM) Dhanbad — Dhanbad, Jharkhand
- Institute of Chemical Technology (ICT) — Mumbai, Maharashtra

PRIVATE INSTITUTES

- BITS Pilani (B.Pharm) — Pilani, Rajasthan
- NIMS University — Jaipur, Rajasthan
- PP Savani University — Surat, Gujarat

ONLINE

- NPTEL/SWAYAM (Chemical & Biochemical Engineering) — Online (<https://nptel.ac.in>)
- Coursera (Drug Development courses) — Online

FEES

About Rs 2-4 lakh in government institutes and Rs 4-8 lakh in private ones (full course); varies by institute.

SCHOLARSHIPS

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

6 What the work is like

WHERE YOU WORK

Pharma companies, research labs, universities and government agencies.

WORK CULTURE

Mostly lab/plant work, 8 hours a day, 5-6 days a week. Opportunities exist for persons with disabilities.

WHO HIRES

- | | |
|---------------|-----------------------------------|
| • Cipla | • Sun Pharma |
| • Dr. Reddy's | • Biocon |
| • Lupin | • Merck / Pfizer (multinationals) |

DEMAND (2026)

India is the largest exporter of generic medicines; with biotech and vaccine manufacturing growing, demand for skilled engineers is high in 2026.

7 Career growth

- 1 Quality Control Analyst
- 2 Process/Drug Analyst
- 3 Drug Inspector
- 4 R&D Manager

EARNINGS

Starting	₹20,000-35,000
Mid level	₹40,000-70,000
Senior level	₹80,000-1,50,000+

Monthly pay; adjusted to 2026 levels from government source data, indicative.

8 The good parts · The challenges

The good parts

- Fast-growing, stable industry
- Direct contribution to public health
- Opportunities in research and abroad

The challenges

- Strict regulations and documentation
- Shift duty possible in plants
- Small mistakes can have big consequences

9 Real-life journeys

Richi Sethi

Bioprocess Systems Specialist, Merck Life Science

A Panjab University gold medallist with an M.Tech from IIT Bombay, Richi began as a process engineer at Biocon. She now leads bioprocess equipment design for drug manufacturing at Merck.

ISPE · <https://ispe.org/people/richi-sethi>

Yusuf Hamied

Scientist and Chairman, Cipla

Chemist Yusuf Hamied used Cipla's manufacturing strength to cut AIDS drug costs from \$12,000 to \$350 a year. A Padma Bhushan awardee, his work saved millions of lives.

The Better India · <https://thebetterindia.com/253198/india-remdesivir-supply-covid19-cipla-pharmaceutical-giant-antiretroviral-generic-drugs-hiv-aids-yusuf-hamied-nor41/>

10 Sources & further reading

1. Rajasthan Career Guidance: Pharmaceutical Engineer — <https://cg.rajasthan.gov.in/careerguidance/hi/career/%e0%a4%ab%e0%a4%be%e0%a4%b0%e0%a5%8d%e0%a4%ae%e0%a4%be%e0%a4%b8%e0%a5%8d%e0%a4%af%e0%a5%81%e0%a4%9f%e0%a4%bf%e0%a4%95%e0%a4%b2-%e0%a4%87%e0%a4%82%e0%a4%9c%e0%a5%80%e0%a4%a8%e0%a4%bf%e0%a4%af%e0%a4%b0/>
2. AICTE — <https://www.aicte-india.org>
3. National Career Service (NCS) — <https://www.ncs.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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