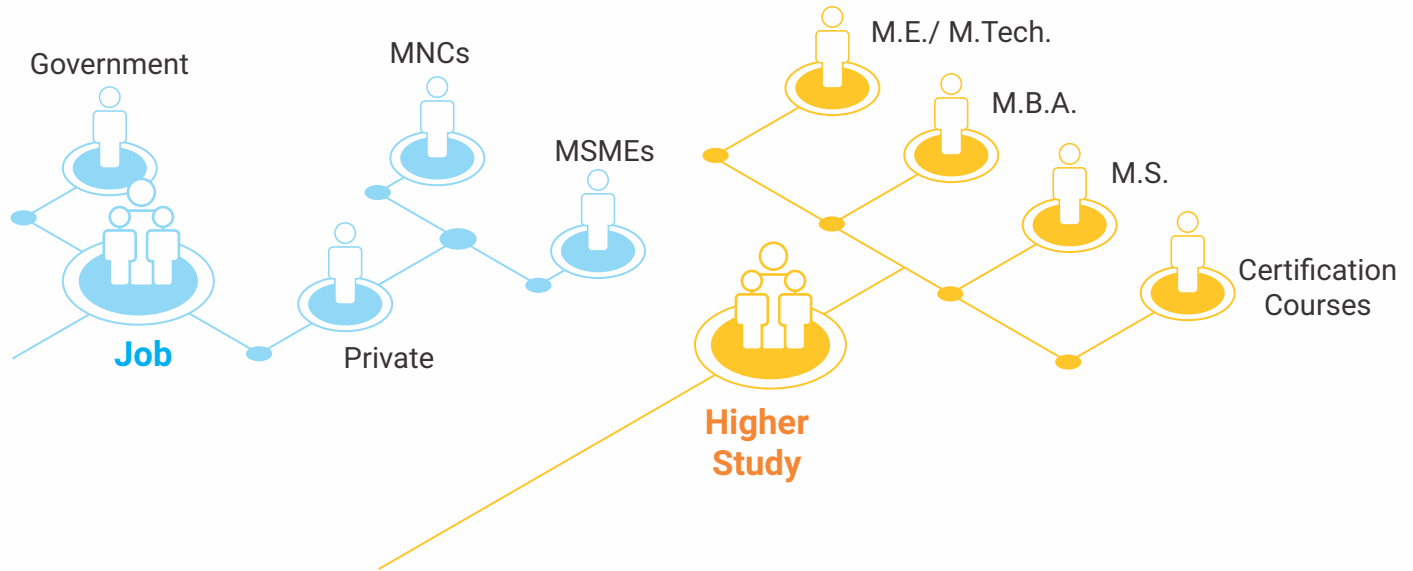


Career after **Mechanical** Engineering



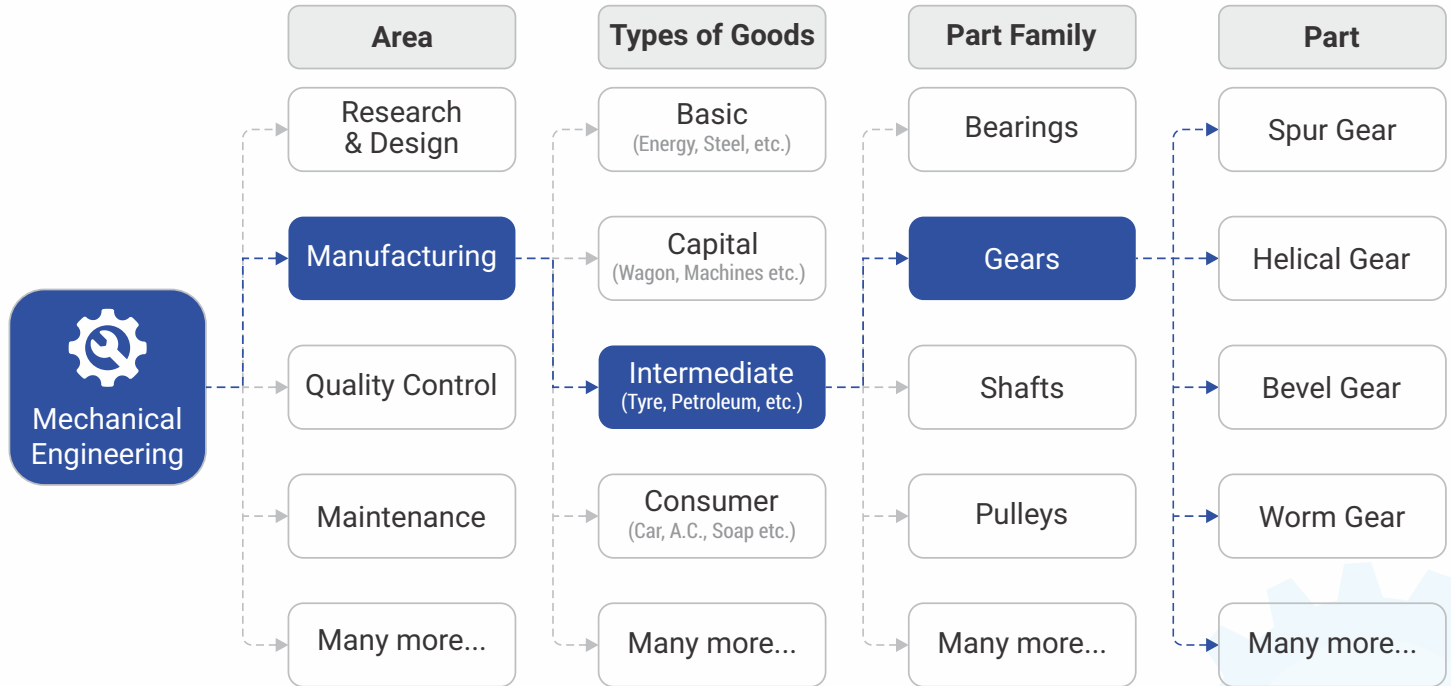


Career Opportunities





Broadest Engineering Discipline



- Manufacturing is the process of making various goods (every product which satisfies human needs) by hand or machine.
- E.g. a car is made of around 30,000 parts which includes gears, shafts, couplings, pulleys, pistons, fasteners, etc.
- The design and manufacturing technique of each part is different, hence many mechanical engineers of different domains are required.



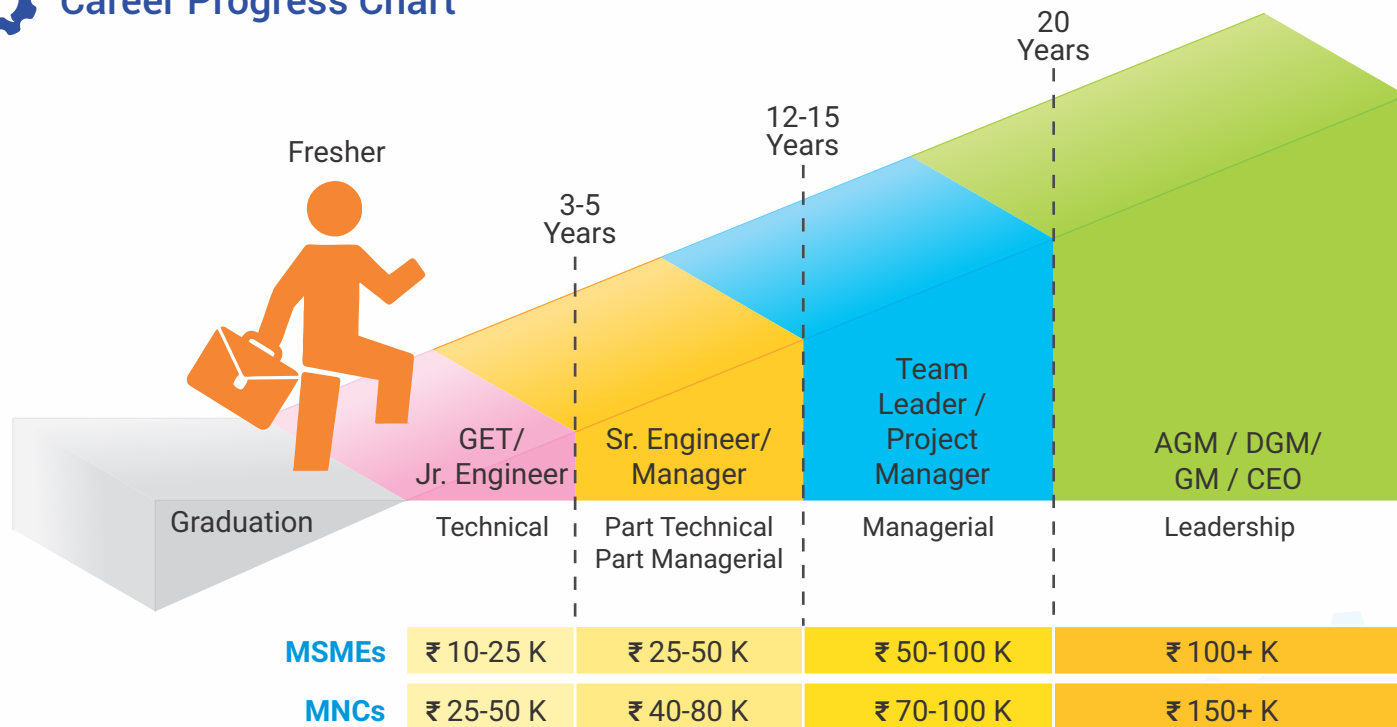
Work Areas



- Mechanical Engineering is the most diverse & versatile field of engineering.
- After graduation, students have many options to select the work area as per their interest.



Career Progress Chart

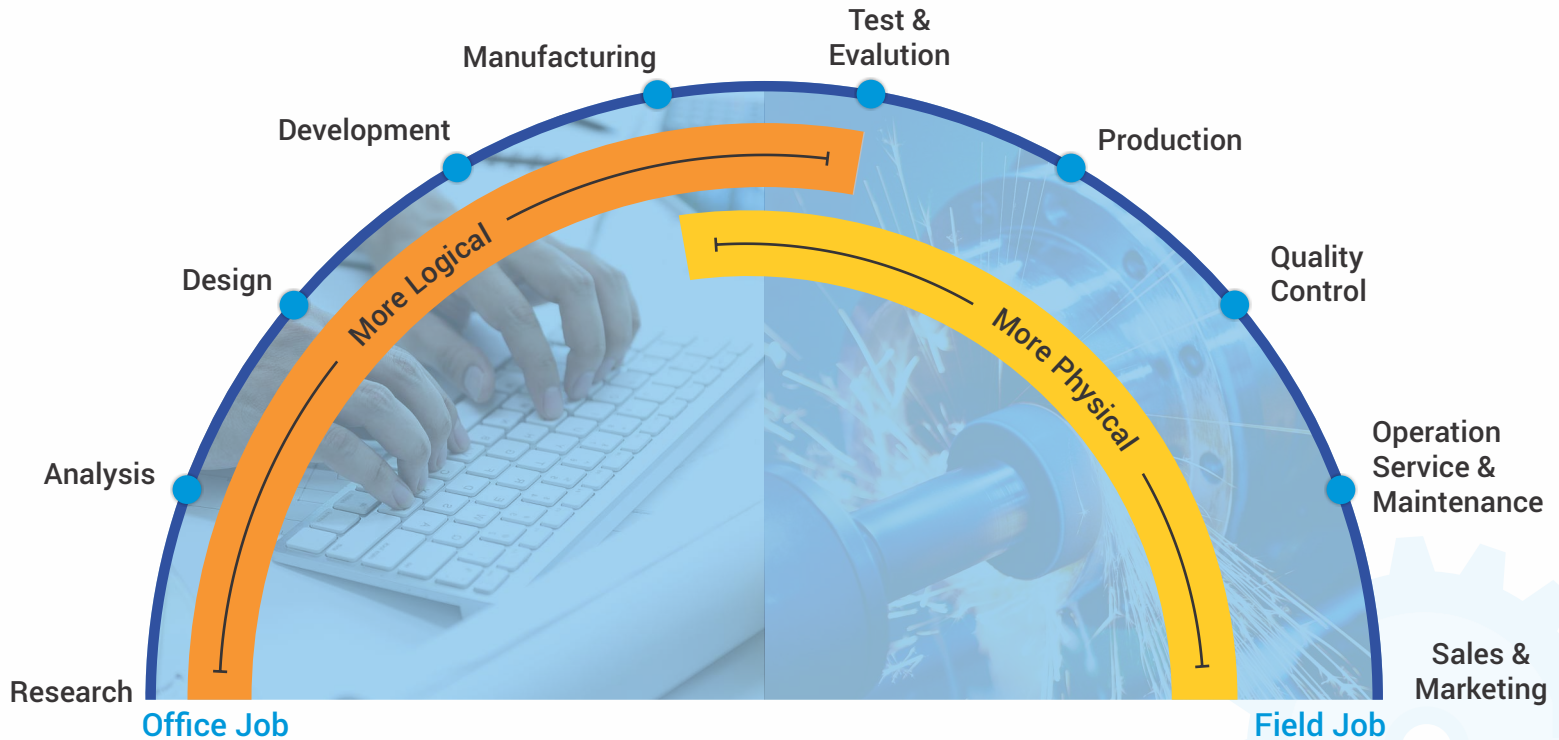


Salary per Month

Disclaimer: The salary depends on company, skill of a candidate, business environment, etc....



Job Roles



- Students can start their career by choosing any one of the job roles as per his interest and skill sets.



Skill Set



Research & Analysis

- Strong Fundamentals
- Engineering Drawing
- Statistical & Analytical Skills
- CAD / CAE Softwares
- Critical Thinking



Design & Development

- Engineering Drawing
- Geometric Dimensioning & Tolerances (GD&T)
- Types of Materials
- CAD Softwares
- MS Office



Manufacturing & Production

- Engineering Drawing Reading
- Manufacturing Processes
- Types of Materials
- Measuring Techniques
- MS Office
- Good Physical Strength



Quality Control

- Engineering Drawing Reading
- Familiar with Materials
- Measuring Techniques
- NDT Testing
- MS Office



Operation, Service & Maintenance

- Knowledge of Joints, Consumables & Welding Techniques
- Types of Materials
- Various Tools
- Engineering Drawing
- MS Office
- Good Physical Strength



Sales & Marketing

- Good Communication Skills
- Leadership & Etiquettes
- MS Office
- Good Physical Strength



Major MNC Recruiters in India

OUT OF GUJARAT

- | | | | | |
|-----------------|----------------|--------------------|--------------|-----------------------|
| • 3M India Ltd. | • Athena India | • Daimler | • JK Tyre | • Shell |
| • Alstom | • Batliboi | • General Electric | • John Deere | • Tata Steel |
| • ANSYS | • Blue Star | • General Motors | • M&M | • The Sanmar Group |
| • Ashok Leyland | • Caterpillar | • Havells | • OSRAM | • Triveni Engineering |

GUJARAT

- | | | | | |
|----------------|-----------------|--------------------|-----------------|---------------|
| • ABB | • Bosch Rexroth | • Harsha Engineers | • Linde | • Siemens |
| • Apollo Tyres | • Elecon | • Ingersoll Rand | • Maruti Suzuki | • Tata Motors |
| • Bombardier | • Godrej | • L&T | • Schneider | • Thermax |

SAURASHTRA-KUTCH

- | | | | | |
|--------------------|----------|----------------|-----------------|--------------|
| • Adani Power | • Grasim | • Nyara Energy | • Suzlon | • Tata Power |
| • Asia Motor Works | • Nirma | • Reliance | • Tata Chemical | • Welspun |

Mode of Recruitment : On Campus or Apply directly through company website

Eligibility : B.E./B.Tech. in Mechanical Engineering with 60% aggregate from recognized university (without backlog is preferable)

Salary : ₹ 25,000 to 50,000 per month

Selection Procedure : Written Test + Interview (1-2 years of experience in MSME may help students to get selected in MNCs)



Major Recruiters in Gujarat

Aarti Industries	Berger Paints	Kirloskar	Sanghi Cement
ABC Bearings	Bharat Forge	Mamata Machinery	SKF Bearings
Adani Port	Cairn India	Man Turbo	Sun Pharma
Aerotherm Products	Dresser Rand	Mazda	TBEA Energy
Amul Dairy	Electrotherm	Omega Elevators	TEMA India
Anup Engineering	FAG Bearing	Parle Products	Torrent Pharma
Anupam Industries	Ferromatik Milacron	Patel Airtemp	Torrent Power
Apar Industries	IDMC	Prashant Industries	Transformer & Rectifier
Arvind	Inductotherm	Ratnamani Metals	United Phosphorous
Asahi India Glass	Inox Wind	Raymond	Vadilal Industries
Banco Products	Jaivel Aerospace	Rhino Machines	Voltamp Transformers
Bayer Cropscience	John Energy	Rockman Industries	Windsor Machines

Mode of Recruitment : On/Off Campus or Apply directly through company website

Eligibility : B.E./B.Tech. in Mechanical Engineering from recognized university

Salary : ₹ 15,000 to 25,000 per month

Selection Procedure : Written Test + Interview



Major Recruiters in Rajkot

Investment Casting

Hi-CON Investment Casting
Intricast
Nova Technocast
Prevail Casting
Shilpan Steelcast

Sand Casting

Gautam Technocast
Gujarat Intrux
Hi-Mac Casting
Metflow Cast
Prashant Casting

Forging

Bhavani Forge
Echjay
Ganga Forging
Ravi Technoforge
Sun Forge

Machine Tools

Gujarat Lathe
Jyoti CNC
Macpower
Rajoo Engineers
Singhal Power Press

Pump & Motor

Angel Pumps & Motors
Doctor Pump
Falcon Pump
Impetus Turnomatics
Silver Pumps & Motors

Auto Parts

Amul Industries
Atul Auto
Bhavani Industries
Esteem Auto
Kishan Auto

Agriculture

Captain Tractors
Dharti Agro
Khedut Agro
Kishan Agro
Shaktiman

Gear

Mahindra Gears
Parajiya Gears
Rupkala Gears
Sudarshan Gears
Synnova Gears

Bearing

Galaxy Bearing
Orbit Bearing
Rolex Rings
Turbo Bearing
Vishal Bearing



Major Recruiters in Rajkot

Renewable

Delta Solar Heater
JJPV Solar
Radhe Energy
Redren Solar Water Heater
Uratom Solar

Calibration

Absolute Instruments
Creative Calibration
German Calibration
Krishna Instruments
Phoenix Calibration

Surgical Parts

Nebula Surgical
Samay Surgical
Sky Surgicals
Vishal Surgitech
Western Surgical

Diesel Engine

Advanced Diesel
Gujarat Forging
P.M. Diesel
Standard Agro
Topland

Miscellaneous

EPP Composites
G. M. Valve
Hi-bond Cement
Patel Brass Works
Ravi Metal Treatment

33,00,000+

MSMEs in Gujarat

20,000+

MSMEs in Rajkot

Mode of Recruitment : On/Off Campus or Apply directly through company website

Eligibility : B.E./B.Tech. in Mechanical Engineering from recognized university

Salary : ₹ 10,000 to 20,000 per month

Selection Procedure : Personal Interview (Few companies are conducting written exam)



Central Government & PSUs Jobs (GATE Based)

Bharat Earth Movers Limited (BEML)

Bharat Electronics Limited (BEL)

Bharat Heavy Electricals Limited (BHEL)

Bharat Petroleum Corporation Limited (BPCL)

Coal India Limited (CIL)

Engineers India Limited (EIL)

Gas Authority of India Limited (GAIL)

Hindustan Aeronautics Limited (HAL)

Hindustan Petroleum Corporation Limited (HPCL)

Indian Oil Corporation Limited (IOCL)

Institute for Plasma Research (IPR)

Mahanagar Gas Limited (MGL)

Mishra Dhatu Nigam Limited (MIDHANI)

National Aluminium Company Limited (NALCO)

National Fertilizers Limited (NFL)

National Hydroelectric Power Corporation (NHPC)

National Mineral Development Corporation (NMDC)

National Thermal Power Corporation (NTPC)

NLC India Limited

Nuclear Power Corporation of India Limited (NPCIL)

Oil and Natural Gas Corporation Limited (ONGC)

Oil India Limited (OIL)

Rail India Technical and Economic Service (RITES)

Rashtriya Ispat Nigam Ltd (RINL)

Steel Authority of India Limited (SAIL)

Visakhapatnam Steel Plant (VIZAG)

Eligibility : B.E./B.Tech. in Mechanical Engineering with 60% aggregate from recognized university

Salary : ₹ 65,000 to 1,00,000 per month (after probation)

Selection Procedure : Based on GATE score students are shortlisted for interview
(Few PSUs arranging Group Discussion prior to interview)



Central Government Jobs (Non-GATE Based)

Bhabha Atomic Research Centre (BARC)

Defense Research and Development Organization (DRDO)

Cochin Shipyard Limited (CSL)

Indian Space Research Organization (ISRO)

Indira Gandhi Centre for Atomic Research (IGCAR)

Railway Recruitment Board (RRB)

Eligibility : B.E./B.Tech. in Mechanical Engineering with 60% from recognized university

Salary : ₹ 55,000 to 80,000 per month (after probation)

Selection Procedure : Written Test + Personal Interview



Central Government Jobs in Indian Armed Forces (For Engineers only)

Indian Air Force	Indian Army	Indian Navy
<ul style="list-style-type: none"> Combined Defence Services Examination (CDSE) NCC Special Entry Air Force Common Admission Test (AFCAT) Ground Duty (Technical) Branches 	<ul style="list-style-type: none"> University Entry Scheme (UES) Technical Graduate Course (TGC) Short Service Commission (SSC) Army Educational Corps (AEC) 	<ul style="list-style-type: none"> Union Public Service Commission (UPSC) Direct Entry Permanent Commission /Short Service Commission University Entry Scheme (UES)
www.careerindianairforce.cdac.in	www.joinindianarmy.nic.in	www.joinindiannavy.gov.in



State Government & State PSUs Jobs

Gujarat Alkalies and Chemicals Ltd. (GACL)

Gujarat Energy Research & Management Institute (GERMI)

Gujarat Education Service (Lecturer in Govt. Polytechnic)

Gujarat Energy Transmission Corporation Ltd. (GETCO)

Gujarat Gas Company Ltd. (GGCL)

Gujarat Heavy Chemicals Ltd. (GHCL)

Gujarat Industrial Development Corporation (GIDC)

Gujarat Industries Power Company Ltd. (GIPCL)

Gujarat Maritime Board (GMB)

Gujarat Metro Rail Corporation Ltd. (GMRC)

Gujarat Mineral Development Corporation Ltd. (GMDC)

Gujarat Narmada Valley Fertilizers & Chem. Ltd. (GNFC)

Gujarat State Civil Supplies Corporation Ltd. (GSCSL)

Gujarat State Electricity Corporation Ltd. (GSECL)

Gujarat State Fertilizers & Chemicals Ltd. (GSFC)

Gujarat Water Resources Development Corp. (GWRDC)

Industrial Training Institute (ITI)

Labour and Employment Department

Municipal Corporations

Narmada & Water Resources, Water Supply & Kalpsar

Regional Transport Office (RTO)

Roads & Buildings Department (R&B)

Eligibility : B.E./B.Tech. in Mechanical Engineering from recognized university

Salary : ₹ 18,000 to 65,000 per month

Selection Procedure : Written Test + Personal Interview



Softwares

BASIC TOOLS

- AutoCAD
- MS Office
- Python

ANALYSIS

- ANSYS
- Abaqus
- HyperWorks

SOLID MODELING

- Creo Parametric
- SolidWorks
- Solid Edge

PIPING DESIGN

- SP3D
- CAESAR-2
- Smart Plant Review (SPR)

HEAT EXCHANGER DESIGN

- HTRI
- Aspen
- Hexact

CASTING SIMULATIONS

- FLOW-3D
- AutoCAST
- MAGMASoft

MANUFACTURING

- NX CAM
- DelCAM
- MasterCAM

STATISTICAL / LOGICAL

- MATLAB
- Minitab
- Mathcad



Online Learning Platforms

coursera

www.coursera.org



www.edx.org



HARVARD
UNIVERSITY

online-learning.harvard.edu



swayam.gov.in



ocw.mit.edu



Khan Academy

www.khanacademy.org



M.E./M.Tech.

- Admission through GATE @ IITs, NITs, IIITs, IISc, etc.
- Admission through PG CET @ Govt., GIA & SFI's of Gujarat.
- Admission through entrance exam @ Private Universities like Nirma, PDPU, etc.

M.B.A.

- Admission through CAT, GMAT, CMAT @ IIMs and different business schools like XLRI - Xavier School of Management, DMS - IIT Delhi, SJMSOM - IIT Bombay, MDI Gurgaon, NITIE Mumbai, etc.

M.S.

- Admission through GRE, TOEFL, IELTS @ Foreign Universities.
- Admission through GATE @ IISc and some other Indian Universities like Delhi University, University of Calcutta, etc.

Certification Courses

- One year professional certification courses like Piping Design, Marine Engineering, Welding Technology, Thermal Power Plant Engineering, CAD/CAE Software, etc.



M.E./ M.Tech. through GATE

- **Eligibility:** Final year student or Graduate in Engineering/Technology.
- GATE is mandatory to get financial assistance in M.Tech./Ph.D.
- The exam is usually conducted on 2nd Sunday of February.
- **IITs:** 800+ Seats with 50+ Specialization Courses. **NITs:** 1500+ Seats with 60+ Specialization Courses.
- **Major Areas of Specialization:**


 Aerospace

 Advanced Manufacturing

 Automobile

 CAD/CAM

 Energy Systems

 Industrial Engineering

 Machine Design

 Material Science

 Metrology

 Production

 Thermal

 Welding Technology



M.S. (Foreign Study)

DECISION MATRIX - Where to Study?

Country	Admission Requirements	Fees/Year	Work Visa	PR Chances
Germany	IELTS & German Language	₹60,000 to ₹1,00,000	18 months job search visa followed by EU Blue Card	Moderate
US	IELTS, TOEFL, GRE/GMAT IELTS - 6.5 to 7 Bands TOEFL : 90 or above	₹14,00,000 & onwards	1 year OPT + 2 years extra for STEM students	Less
Canada	IELTS / TOEFL IELTS: 6.5 - 7 Bands TOEFL : 90 or above	₹14,00,000 & onwards	1 year course = 1 year work visa, 2 or more years course = 3 years work visa	High
Australia	IELTS, TOEFL or PTE IELTS - 6.5 to 7 Bands	₹14,00,000 & onwards	2 years work visa	High



Design

- Product Design, Die Design, Machine Tool Design, etc.

Manufacturing

- Foundry, Forging, Conventional & Non-Conventional Machining, Sheet Metal Forming, Heat Treatment, Plastics and many more.

Testing

- Material Testing, Calibration, Inspection like Hydrostatic, Welding.

Consultancy

- CAD, CAE (FEA, CFD, etc.), Productivity & Quality Improvement, Maintenance, Project Management, 3D Printing and Scanning, etc.

Trading

- Product Retailers and Wholesalers.



Government Schemes & Programs

15% up to ₹ 15 lakh of loan in municipal areas and 20% up to ₹ 25 lakh of loan amount in other areas. (On capital investment up to ₹ 50 lakh)

Capital Investment Subsidy

Interest Subsidy

5% up to ₹ 25 lakh in municipal areas & 7% up to ₹ 30 lakh in other areas per annum for 5 years. 1% additional to youth, women, SC/ST & Physically Challenged.

75% up to ₹ 25 lakh for obtaining patent registration.

Patent Registration

Startups

₹ 10 lakh for raw material & components. ₹ 10,000/month to innovators. Marketing assistance up to ₹ 10 lakh after commercialization.

75% cost of energy or water audit upto ₹ 50,000.

Saving in Water or Energy

Technology Acquisition

65% assistance of up to ₹ 50 lakh including royalty payment for 1st two years.

100% reimbursement of fees to women, SC/ST, physically challenged entrepreneurs for service fees for availing collateral free loans up to ₹ 1 Crore.

Reimbursement of CGTMSE fees

Market Development

Exhibition through associations / federation / chamber. 60% of rent up to ₹ 4 lakh for International/National fairs outside Gujarat.

50% up to ₹ 50,000/annum in municipal areas and upto ₹ 25,000/annum in other areas for 3 years for MSEs.

Rent Assistance

R & D

60% of project cost for machinery & equipment, 50% up to ₹ 50 lakh of project research to AICTE approved and R&D institutions / colleges.

65% up to ₹ 1 lakh on ERP, 50% up to ₹ 50,000 for obtaining ISO including consulting fees, 50% up to ₹ 5 lakh on ISI / WHO GMP / Hallmark Certifications.

Quality Certification

Power Connection Assistance

Assistance in service line & power connection charges: 35% of charges up to ₹ 5 lakh.



योग: कर्मसु कोशलम्

Darshan UNIVERSITY

📍 Rajkot-Morbi Highway, Rajkot

📞 9712804466

✉️ mechanical@darshan.ac.in

📞 9727747319

🌐 www.darshan.ac.in

