

**Design Your Future:**  
**“Motivating Engineering  
Students towards better  
Career Opportunities”**



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**State Election Commissioner**  
Telangana

# Era of Engineers !!

- Aeronautical Engineer
- Biochemical Engineer
- Biomedical Engineer
- Chemical Engineer
- Civil Engineer
- Computer Hardware Engineer
- Computer System Engineer
- Electric Engineer
- Environmental Engineer
- Flight Engineer
- Industrial Engineer
- Marine Engineer
- Mechanical Engineer
- Mechatronic engineer
- Mining and Geological engineer
- Nanotechnology Engineer
- Nuclear Engineer
- Petroleum Engineer
- Robotics Engineer
- Software Engineer
- Water Engineer and **So on..**

# CAREER PATHWAYS...



# Career pathways



Sl. No.	Type of Job	Screen	Pathway
1	Campus placements	Interviews by companies	Bulk recruitment for various Jobs
2	Advanced degree	GATE	ME / M.Tech (India)
		GRE / ILTS / TOEFL	MS (International Universities)
3	MBA	CAT	Indian Institutes
		GMAT	International Universities
4	Jobs in Govt. or PSUs	Written / Interviews	Govt / PSU Jobs

# Career pathways (Contd.)



Sl. No.	Type of Job	Screen	Pathway
5	Becoming expert	Specific certified courses	Hiring by companies for in-house jobs
6	Teaching (Academic line)	PG / Ph.D.	College / Institutes / University
7	Defence services	Specific recruitments	Army and Merchant Navy
8	UPSC / State PSCs	Examination (Written/ interview)	IES. IFS. IAS / IPS / IFS Group-I Services Staff Selection Commissions

# Career pathways (Contd.)



Sl. No.	Type of Job	Screen	Pathway
9	RBI / Other Banks	Recruitment Boards	Probation officers / Technical officers
10	LinkedIn / Naukri.com Monster.com etc.	Different recruitment processes	Various private Jobs
11	Entrepreneurship & Start up	Individual / Group Incubator centres	Entrepreneur / Corporates



*“Inspiring Engineers of Tomorrow”*

**A Career in Engineering & its  
Branches: Opportunities Galore !!**

# Computer Science Engineering

- **Hardware and Software**
- **Plethora of opportunities-Next decade**
- **Demand will proliferate due to rapid advancements**
- **Digital Solutions in Banking, Finance, Insurance, Retail, Auto, Healthcare**
- **Software Engineers and Big data engineers**





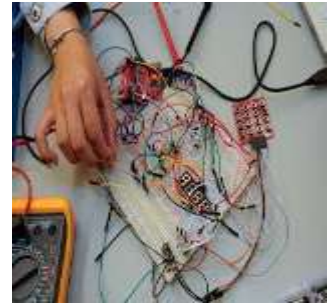
# Computer Science Engineering (Contd..)

- Emerging Specialized areas: AR/VR, IoT, AI, ML, Robotics, Mobile Apps, Ethical hacking, Data Science/Analytics
- Product based companies: Apple, Google, FB, Microsoft, Adobe
- Service based companies: TCS, Wipro, Cognizant, HCL
- Govt.: DRDO, ECIL, IB, CBI, NIA, CDAC, NPCC, BEL, SAIL, NCC



# Electronics & Communication Engineering

- Deal with electronic systems, equipment, machinery, Telecommunication systems like Radars, Sonars, ICs, Processors, Satellites
- Most ever growing field, Offer opportunities across industries (Pvt. & Govt.)
- Globally it has very high scope
- Play crucial role in Aerospace establishments like, ISRO in designing satellites, Channelling, Communications systems and Automations
- Major role in Indian Telecom Industry (1.3 Bill subscribers). Growing rapidly from 2G to 4G .. **5G**
- Top recruiters: Siemens, Bajaj electronics, Wipro, Tata



# Electrical Engineering

- Deal with large scale Electrical systems, Machines, Motor control & Power transmission
- Innovation in Household appliances, Electrical power stations, Building & Satellites, Communication cables & Lighting
- Expression of IoT is windfall to Electrical Engineers, who will design the Circuits for IOT devices
- Specific roles in industry: Network Engineer, Electrical Engineer, System analyst, Electronics Engineer, Chief Engineer
- Top Recruiters: BHEL, PGCIL, IOCL, NFL, PGCI, AAI, TATA motors, State Electricity Boards
- Premier: DRDO & BARC



# Chemical Engineering

- **Chemical compounds, Electric Cars, Food, Pharmaceuticals, Plastic, Polymers, Paper, Fertilisers, Air conditioning & Refrigeration, Biotechnology, Steel , Coal**
- **Processes and Practical applications**
- **High Demand in coming years**
- **Companies & PSUs: BEL, BHEL, ONGC, IOCL, BPCL, CIL, GAIL, NTPC, SAIL, NALCO, DRDO, BARC, NFL**



# Material Science & Metallurgical Engineering

- Deals with the Metals and Minerals and their Processing and Alloys (Iron, Steel, Zinc, Copper, and Aluminium)
- Also deals with Ceramics and Polymers (plastics)
- They use complex Equipment like Electron Microscope and Spectro-graphs
- Opportunities are quite diverse
- They are in great demand in Industries, R & D labs, Govt., Universities and Factories (PSUs), Manufacturing of Metals or Metallic products



# Mechanical Engineering



- **Most sought after branch and has a tremendous scope from Computers to Energy & Power industry and Automobiles**
- **Advanced Professional work in Robotics, AI, ML**
- **Deals with Vehicles, Farm machinery, Construction machinery and Tools and Medical and Thermal devices**
- **Top trends include Digital Manufacturing, Bio-medical engineering, Green Manufacturing, Nano-technology (size 1 to 100 Nanometers) and Industry 4.0 (Smart Manufacture by using Sensors, IoT, AI, ML, Cloud Computing)**

# Specializing & evolving Mechanical Engineering

- Automobile Engineering
- Marine Engineering
- Aeronautical Engineering
- Aero Space Engineering
- Power Plant Engineering
- Industrial Engineering
- Renewal Energy (Solar, Wind, Bio-mass, Tidal etc.) Eng
- Nuclear Engineering



# Mechanical Engineering is mother of many new technologies

- Computer Aided Eng
- CAD / CAM
- 3 D printing
- Robotic Eng
- Mechatronics Eng
- Artificial Intelligence
- IoT (Most Potential & Promising)
- Opportunities (Private & PSUs)
- SAIL, BEL, BHEL, NTPC, Mahindra, HPCF, L&T, IOCL, NALCO, TATA, Ford, Boeing, NASA





# Civil Engineering



- It is everything you see that has been built around us
- Civil Engineers Design, Create & Connect up the world around us
- They make our Villages, Towns and Cities work for the people living there
- Specialisations in Civil Engineering
  - **Structural Engineering**
  - **Transportation Engineering**
  - **Hydraulics Engineering**
  - **Irrigation Engineering**
  - **Environmental Engineering**
  - **Maintenance Engineering..**



# Civil Engineering: Opportunities

- No. of Opportunities and Job roles in Private and Public sector (Ex: Construction/Structural/Nuclear /Consulting / Contracting Civil Engineers)
- Immense scope for Recruitment in various sectors: Major MNCs, Construction industry and Defence services
- Recently the demand for them increased in Australia, Singapore, New Zealand
- Top recruiters:
  - Construction companies like L&T, TATA, PWCI,
  - IOCL, BSNL, GAIL, SAIL, ISRO, NTPC, ONGC, HAL
  - Central and States Public Works Departments



# Civil Eng: Upcoming Technologies

- AI – ML
- Application of IoT
- AR/VR
- Sustainable Designs
- Green Buildings
- Building Modelling



# THANK YOU

