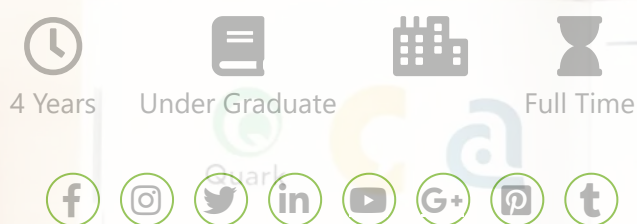


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Bachelor of Technology (B.Tech.) in Civil Engineering

[Shiksha 'O' Anusandhan University](#)



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Bachelor of Technology (B.Tech.) in Civil Engineering

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1) Bachelor of Technology (B.Tech) in Civil Engineering

Bachelor of Technology (B.Tech) Civil Engineering is a four years Undergraduate direction that specializes withinside the designing, making plans and building of buildings. It consists of the examine of fabric science, structural designs, creation materials & management.

The eligibility standards for Bachelor of Technology Civil Engineering publications calls for the applicants to have secured at the least 50% marks on the 10+2 degree (PCM/B). Apart from this, all folks who maintain a degree diploma in mechanical or allied sciences additionally stand eligible for the direction.

The admission approaches of B.Tech Civil Engineering recollect the marks scored through the applicants withinside the JEE Mains, JEE Advanced and different front exams. Some of the maximum famous faculties providing this direction encompass [IIT Delhi](#), [IIT Bombay](#), IIT Madras, [NIT Tiruchirappalli](#), and so on. The common direction price of **B.Tech Civil Engineering Courses** tiers among INR 2-6 lacs (approx.).

At the a success crowning glory of the direction, the graduates can search for specific activity possibilities as Structural Engineers, Transportation Engineers, Construction Engineers, Civil Engineers and so on. In distinguished **B.Tech civil engineering institutes** like NITs, IITs, and [VITVellore](#), normal placements variety among INR 3.5- 5 lakhs.

2) Table of Contents:

- Eligibility Criteria of B.Tech Civil Engineering

Students also visited



APPLY NOW



- B.Tech Civil Engineering Admission Process
- B.Tech Civil Engineering Popular Entrance Exams
- B.Tech Civil Engineering Top Colleges
- Why Choose B.Tech Civil Engineering?
- B.Tech Civil Engineering Fees Structure
- B.Tech Civil Engineering Preparation Tips
- B.Tech Civil Engineering Scope of Higher Education
- B.Tech Civil Engineering Salary
- B.Tech Civil Engineering Career Options

3) B.Tech Civil Engineering: Course Highlights Course

Course type	Undergraduate Course
Course Duration	4 years
Course Examination Type	Semester Based
Course Eligibility	50% marks at an average in 10+2 level with Mathematics, Physics, Chemistry/Biology as a compulsory subject
Course Admission process	Entrance Based
Course Fee	INR 2-6 lacs (approx.)
Course Average Salary	INR 3.5 -5 lacs (approx.)
Top Recruiters	L&T, Gammon India, Shapoorji Pallonji & Company, Tata Project, Hindustan Construction Company, etc.
Job Position	Structural Engineers, Transportation Engineers, Construction Engineers, Civil Engineers and so on.

4) About B.Tech Civil Engineering

Civil engineering is one of the center disciplines of engineering. According to the Cambridge English Dictionary, "Civil engineering is described because the making plans and constructing of factors now no longer used for non-secular or army purposes, which include roads, bridges, and public buildings."

Civil engineering topics, which include civil and architectural engineering, minerals and statics, geomechanics, and structural mechanics, offer the scholars with a strong basis to plan, build, oversee, and preserve long lasting systems in public and personal sectors.

As for the activity scope, civil engineering graduates paintings in numerous interesting activity profiles and fields affecting each public and environmental health. Essential equipment and technology utilized by civil engineers:

- Prisms and Reflectors Grade Rods



- Auto Computer-aided Design Software
- Engineering Design Software Modelling Software’s
- Magnetic Locators
- MATLAB
- MS-Project

5) Admission Process

Admissions are a crucial step of getting to know a B.Tech Civil Engineering direction at any reputed university or university. The admission procedure for B.Tech Civil Engineering consists of 3 consecutive steps i.e., matching the eligibility standards, filling up packages and subsequently performing for front exams. Aspiring applicants who want to pursue **B Tech Civil Engineering** have to first entire the utility approaches. The applicants have to meet the eligibility standards first so that it will qualify for the in addition admission procedures, which include Entrance Exams.The distinct admission procedure has been indexed under to your convenience:

❖ Eligibility

The prescribed eligibility standards for B.Tech Civil Engineering in numerous reputed faculties and universities had been indexed under to your reference.

The aspiring candidate have to have secured at the very least 50% at their 10+2 qualifying examination.

The college students have to have compulsorily studied the topics of Mathematics, Physics, Chemistry/Biology so that it will stand as an eligible candidate for B.Tech Civil Engineering.

Apart from this, all folks who maintain a degree diploma in mechanical or allied sciences additionally stand eligible for the direction.

❖ B.Tech Civil Engineering: Distance Education

It is a famous truth that Civil Engineering is a rising area in India that has huge scope in phrases of destiny prospects.

Aspiring applicants who through any purpose do now no longer want to absorb an everyday direction can choose B.Tech Civil Engineering Distance Course from reputed faculties and universities.

The distance getting to know program is designed for folks who are running experts who discover it hard to do matters at once.

Private faculties account for 88% of all distance/ correspondence BTech in Civil Engineering faculties in India, even as authorities faculties account for the closing 12%.

B.Tech Civil Engineering Distance Education:

Name of College	Average Fees
IGNOU Ahmedabad, Regional Centre	-
IAS Academy, Kolkata	INR 2 lacs (approx.)
Aryabhatta Degree College, Delhi	INR 14,000
IIMT Studies, Pune	INR 84,000 (approx.)



IIMT Studies, Chennai	INR 84,000 (approx.)
IIMT Studies, Bangalore	INR 84,000 (approx.)

6) How to Get Admission for Bachelor of Technology B.Tech Civil Engineering?

Admission to the Bachelor of Technology Civil Engineering direction is performed in ways. Based on their front examination rankings college students are taken in thru benefit quota. Each university has its very own cut-off. The class a pupil belongs to is likewise one of the elements influencing admission. The different manner of admission to personal schools is thru control quota, seats of that are restricted in numbers. Therefore, after the statement of front examination results, universities and schools will announce their cut-off first of all the admission method. The direction falls below the umbrella of B.Tech and therefore, follows a comparable admission procedure. However, the admission method varies from one university to another, beneath neath stated are the stairs that one usually is going thru to get admission.

❖ **How to Apply?**

Considering the [COVID](#) situation, the faculties are taking admissions online. Students want to go to the university’s reliable internet site they need to use to and post their name, touch details, direction of interest, etc.; as according to the instructions.

For offline registration, the scholars want to go to the university, fill out the software shape and post the specified documents.

❖ **Selection Process**

Upon a success reputation of the software, there can be a very last spherical of interview or organization discussion. This step differs from one university to another.

❖ **Popular Entrance Exams**

Engineering is one of the enormously well-known guides via way of means of college students in India. The simple screening method involves countrywide and state-degree front tests in India. College students who have finished their grade 12 with physics, mathematics, and chemistry as obligatory topics are eligible to seem for those front tests. The front tests for **B.Tech Civil Engineering** are similar to the ones for different specializations of Engineering.

However, the rating cut-off standards range for every area and university. Students can pick the faculties they would really like to get admitted to primarily based totally on their front examination rankings. Students are predicted to steady precise ranks to get into top rate institutes of India.

After the test, a benefit listing of certified candidates is prepared, and aspirants are invited for the admission method via way of means of the respective college or university. After the admission method, the very last allotment of seats occurs, and the aspirants want to deposit the rate for the direction and sign up for the respective educational year.

❖ **Some of the maximum famous engineering front tests are indexed beneath neath:**

- JEE Main
- JEE Advanced
- BITSAT
- SET



Job Profile	Average Salary
Civil Engineer	INR 3.10 lacs (approx.)
Structural Engineer	INR 5 lacs (approx.)
Environmental Engineers	INR 4.5 lacs (approx.)
Transportation Engineer	INR 4.64 lacs (approx.)
Water Resource Engineer	INR 6.65 lacs (approx.)

9) About the Programme

1. Structural Engineering **Structural Engineers** face the assignment of designing systems that assist their very own weight and the masses they bring those systems must be in a role to face up to severe forces from wind earthquakes bombings temperature and others. Bridges homes Enjoyment Park rides and many different varieties of initiatives are protected inside this specialty. Structural Engineers expand suitable mixtures of metal concrete wooden plastic and new exceptional materials. They additionally plan and layout and go to assignment web web sites to ensure work is performed properly.

2. Environmental Engineering The talents of Environmental Engineers have turn out to be an increasing number of critical as we guard our fragile assets. Environmental Engineers translate bodily chemical and organic methods into structures to break poisonous materials do away with pollution from water lessen non-Â-risky stable waste volumes remove contaminants from the air and broaden groundwater supplies. Environmental Engineers are known as upon to remedy the issues of imparting secure consuming water cleansing up infected websites with risky substances eliminating wastewater and coping with stable wastes.

3. Geotechnical Engineering Geotechnical Engineering is needed in all components of Civil Engineering due to the fact maximum initiatives are supported via way of means of the floor. A Geotechnical Engineer might also additionally broaden initiatives beneath the floor along with tunnels foundations and offshore platforms. They examine the houses of soil, rock that guide, and have an effect on the behavior of those systems. They compare cap potential settlements of homes balance of slopes and fills seepage of floor water and consequences of earthquakes. They check out rocks and soils at an undertaking web page and decide the nice manner to guide a shape withinside the floor. They additionally participate withinside the layout and production of dam’s embankments and preserving walls.

4. Water Resources Engineering Water is critical to our lives and water assets engineers cope with the bodily manipulate of water. They paintings with others to save you floods deliver water for towns industries and agriculture to guard seashores or to manipulate and redirect rivers. They layout assemble and preserve hydroelectric electricity centers canals dams and pipelines pumping stations locks seaport centers or maybe waterslides.

5. Transportation engineering the high satisfactory of a network is at once associated with the high satisfactory of its transportation gadget. Transportation Engineer's paintings to transport human items and substances appropriately and efficiently. They locate methods to satisfy our ever-growing journey desires on land air and sea. They layout assemble and preserve all varieties of transportation centers together with airports highways railroads mass transit structures and ports. A critical part of Transportation Engineering is upgrading our transportation functionality via way of means of enhancing



site visitors' manipulate and mass transit structures and via way of means of introducing high pace trains humans movers and different intermodal transportation techniques.

6. Construction engineering the production segment of a undertaking represents the primary tangible end result of a layout. Using technical and control talents Construction Engineers flip designs into reality on time and inside budget. They practice their information of production techniques and system together with the ideas of financing making plans and coping with to show the designs of different Engineers into a hit centers.

7. Urban and Community Planning Planners are worried with the entire improvement of a network. They examine loads of facts to co-ordinate initiatives along with projecting avenue styles figuring out park and exercise regions and figuring out regions for commercial and home growth. They hire their technical and those talents to co-ordinate with different government to combine freeways airports and different associated centers.

❖ (PEO) Program Educational Objectives

Graduates will grow to be gifted assets withinside the basics of Engineering & Technology with analytical and quantitative reasoning and layout abilities to pursue better schooling and studies.

Graduates will practice the talents in growing secure, innovative, sustainable, environmentally aware and cost effective answers to Civil Engineering issues with the assist of contemporary-day device utilization and retaining the expert integrity and ethics.

Graduates will develop in my opinion and professionally withinside the careers thru persisted improvement of technical and managerial talents and could put together themselves to take numerous roles and obligations at worldwide stage to imprint their presence for the bigger precise of the society.

Graduates will excel as entrepreneurs, fantastic studies graduates thru non-stop enhancement of verbal exchange talents, studies capabilities, expert networking and life-lengthy getting to know.

❖ Program Outcomes (PO's)

a) Engineering information: Apply the information of mathematics, technology, engineering basics, and an engineering specialization to the answer of complicated engineering issues.

b) Problem evaluation: Identify, formulate, evaluation studies literature, and examine complicated engineering issues attaining substantiated conclusions the usage of first ideas of mathematics, herbal sciences, and engineering sciences.

c) Design/improvement of answers: Design answers for complicated engineering issues and layout gadget additives or methods that meet the required desires with suitable attention for the general public fitness and safety, and the cultural, societal, and environmental considerations.

d) Conduct investigations of complicated issues: Use studies primarily based totally information and studies techniques together with the layout of experiments, evaluation and interpretation of data, and synthesis of the facts to offer legitimate conclusions. Modern device utilization: Create, select, and practice suitable techniques, assets, and contemporary-day engineering and IT gear together with prediction and modelling to complicated engineering sports with an information of the limitations.

e) The engineer and society: Apply reasoning knowledgeable via way of means of the contextual information to evaluate societal, fitness, safety, criminal and cultural problems and the resultant obligations applicable to the



expert engineering practice.

f) Environment and sustainability: understand the effect of the expert engineering answers in societal and environmental contexts, show the information of, and want for sustainable improvement.

g) Ethics: Apply moral ideas and decide to expert ethics, obligations, and norms of the engineering practice. Individual and group paintings: Function efficaciously as an individual, and as a member or chief in various teams, and in multidisciplinary settings.

h) Communication: Communicate efficaciously on complicated engineering sports with the engineering network and with society at large, along with, being capable of recognize and write powerful reviews and layout documentation, make powerful presentations, and provide and get hold of clean instructions.

i) Project control and finance: Demonstrate information and information of the engineering and control ideas and practice those to one's personal paintings, as a member and chief in a group, to manipulate initiatives and in multidisciplinary environments.

j) Life-lengthy getting to know: Recognize the want for and have the instruction and capacity to interact in unbiased and life-lengthy getting to know withinside the broadest context of technological change.

❖ Why Choose B.Tech in Civil Engineering?

For folks that surprise at well-constructed systems and structures and are inquisitive about getting to know how those are constructed, BTech Civil Engineering is a splendid choice. With the subsequent sub-questions, the solution to "Why Choose B.Tech Civil Engineering?" may be simplified.

❖ Why Choose B.Tech in Civil Engineering?

B.Tech Civil Engineering is a four-year-lengthy undergraduate path based on mathematics, technology and different middle civil engineering topics. Other topics along with verbal exchange, undertaking control, costing and evaluation assist the aspirant's advantage talents important to perform real-international engineering initiatives. Overall, this path prepares the aspirant to devise and layout long lasting designs, resolve issues, and manipulate initiatives primarily based totally on clinical ideas and engineering ideas with applicable talents.

❖ What is B.Tech Civil Engineering All About?

B.Tech Civil Engineering College students have many task possibilities to select from, and the maximum generally recognised purposeful region is production. Now let us dig deep into the features of a civil engineer:

Survey and Analysis: Civil engineers apprehend surveying, permitting them to investigate the land to devise an undertaking.

Planning: Civil engineers meticulously plan each lengthy-time period and short-time period initiatives with recognize to environmental fitness and safety, costing, regulations and regulations, etc.

Project Designing: Civil engineers cautiously layout critical structures that have an effect on public fitness at once. A few examples are delivery structures (roadways, airways, and waterways) and water deliver structures.

Management: The civil engineers oversee initiatives, manages assets, and coordinate with the group members, which incorporates architects and different personnel in order that the undertaking is achieved successfully.



Repair and Maintenance: Existing structures and systems are sure to undergo put on and tear. Civil engineers paintings on restoring those structures and systems and make certain that they carry out optimally.

Research: Developing new answers and checking out technology to remedy crucial issues is some other region in which civil engineers paintings.

10) Reasons Why Civil Engineering Can Fetch You a Rewarding Career?

B.Tech Civil engineering is one of the maximum famous engineering streams with a strong task market. Let's discover why civil engineers have a worthwhile profession withinside the task market.

a) Salary: According to Pay scale, the common profits of a **B.Tech Civil Engineer in India** is INR 3.08 LPA and the best package deal being INR 7.7 LPA. The profits will increase with a growth in revel in of the civil engineer. The profits package deal additionally relies upon on extra elements along with verbal exchange talents and expertise of applicable gear and technology.

b) Job Growth: Civil engineers take 3 not unusual place paths. Civil engineers who paintings as undertaking engineers can develop to senior undertaking engineers, undertaking managers, or senior software program engineers. Serving as a senior civil engineer will in the result in an agreement supervisor or production undertaking supervisor position. In contrast, production-undertaking managers can be promoted to better features, along with senior undertaking managers (production).

c) The Requirement for Civil Engineers: According to a piece of writing via way of means of the [Vellore Institute of Technology](#), there may be a massive deliver and call for hole for proficient experts withinside the civil engineering industry. In short, incredibly professional civil engineers are positive to get a worthwhile task and make a splendid profession.

Preparation Tips for B.Tech in Civil Engineering For aspirants inquisitive about reading B.Tech Civil Engineering, right here are a few professional guidelines to put together for the same:

Plan: Knowing strengths and weaknesses and making plans the take a look at the timetable will make certain better possibilities of fulfillment in B.Tech Civil Engineering.

Syllabus: Being acquainted with the syllabus will assist pick out and plan the topics that want greater attention.

Fundamentals: B.Tech Civil Engineering aspirants need to make certain to bolster their basics, particularly Maths and Physics shape the inspiration for the Civil Engineering syllabus.

11) Scope for Higher Education

For the ones inquisitive about taking over in addition schooling, B.Tech Degree in Civil Engineering will function the idea for specializing and getting to know in a selected region. B.Tech Civil engineering graduates can pursue each lengthy-time period and short time period courses. Some of them are indexed beneath

- M.Tech Civil Engineering
- M.Tech Environmental Engineering
- M.Tech Earthquake Engineering
- M.Tech Construction Engineering



- M.Tech Transportation Engineering

Job-oriented short-run courses are another choice for BTech engineering science graduates. For instance, software system coaching like STAAD professional training and TEKLA. B.Tech engineering science graduates who have an interest in following a career abroad will choose a 2-year Masters (MS) in engineering science. Alternatively, B.Tech applied engineering graduates can opt for Management programs such as:

12) Salary of a B.Tech Civil Engineer

B.Tech engineering science recent graduates get a median salary of federal agency 2.4 LPA. However, this package might vary regarding the city, company, job title, and so on. For instance, the typical salary for the civil engineer title is federal agency three LPA. In comparison, a structural engineer attracts INR 6.1 LPA on average, and therefore the same for a construction project manager is INR 9.4 LPA.

13) Career opportunities after B.Tech Degree engineering

Science are masses owing to the sheer range of accessible sub-specializations and the way exacting these roles are. On roaring completion of B.tech in Civil Engineering, graduates can favor to take up government jobs. A number of them are:

- Asian nation Services Bharat serious Electricals restricted (BHEL)
- Bharat Sanchar Nigam restricted (BSNL)
- Geographic area fossil oil Corporation restricted (HPCL)
- Oil and gas Corporation restricted (ONGC)
- Indian Oil Corporation (IOCL)

14) B.Tech Civil Engineering: FAQs

Ques. will we be saying that Civil Engineers are in demand within the close to future.

Ans. From 2020 to 2030, employment of civil engineers is predicted to expand at a rate of 8% that is roughly average for all occupations.

Ques. do I have to be smart at Maths and Science for this course?

Ans. If you are smart at Maths and Science then it would persuade be quite useful for you. It should be noted that if the willdidate is fascinated by determining solutions to sophisticated problems in conjunction with a powerful hold of maths and science, then they must approach this specific course.

Ques. that is that the best field to travel once BTech engineering science?

Ans. a number of the simplest fields that the BTech Civil Engineering graduates can want are Geotechnical engineer. Environmental engineer. Marine engineer. Engineering manager. Style engineer. Water resource engineer. Civil engineer.

Ques. Do any foreign universities offer a B.Tech engineering science course?

Ans. Yes, there are foreign universities that provide **B.Tech engineering science** that are listed below for your reference: BITS Pilani, Dubai field University of Toronto, Canada the University of British Columbia, Canada Northeastern University, USA Ludwig Maximilians University Munich, Deutschland



Ques. What are the present growths of the sphere of Civil Engineering?

Ans. engineering science could be a chop-chop growing discipline in recent years. As a result, there is a growing demand for professionals during this industry. As far as their job is involved, engineering science Courses have a good alternative of options.

Ques. ought to I want an M.Tech to induce good opportunities?

Ans. it's positive that once a M.Tech gets accessorial to your profile then you sure as shooting get far more opportunities within the concerned field. During this case, you will opt for the **M.Tech engineering science course** at the roaring completion of B.Tech applied scientisting.

Ques. What are the abilities needed to become associate economical Civil Engineer?

Ans. the foremost vital skills required to become an efficient Civil Engineer embrace creativeness Skills, drawback finding Skills, Understanding of Mathematics, Science, Computers and Technology; Communication Skills, Leadership Skills, so on.

Ques. Why ought to one want an engineering science course?

Ans. Civil engineers have invariably confronted the issues of the long run - developing civilization and increasing our quality of life - from the Egyptian pyramids to house exploration. The planet is dynamical dramatically now, with technological advancements, population increase, environmental concerns, and alternative factors all sitting new problems. Therefore, it will be finished that civil engineers can have their most innovative, demanding, and pleasing decades within the returning decades.

Ques. ought to we have a tendency to contemplate engineering science a tough course?

Ans. engineering science could be a broad and difficult field in general. However, as compared to alternative core branches in Indian institutions, it is one in the entire better and fewer feverish branches. Consistent with most metal students, the sole difficult half is Engineering Drawing.

Ques. Is B.Tech civil engineering smart for girls?

Ans. affirmative, civil engineering is appropriate for women, as there is no drawback for girls as feminine civil engineers are simply obtaining jobs within the gift day.

 Campus	 University	 Delivery Mode
Bhubaneswar	Shiksha 'O' Anusandhan University	
Eligibility	 Duration	 Type of Course
Class 10th with a min. of 45% marks in Science and Mathematics	4 Years	Under Graduate



Syllabus of Bachelor of Technology (B.Tech.) in Civil Engineering

Year 1

S.No	Subjects
1	Fundamentals of Mechanical Engineer
2	Engineering Mathematics I
3	Engineering Physics
4	Engineering Mathematics II
5	Environmental Studies
6	Technical Communication
7	Engineering Chemistry
8	Fundamentals of Electrical Engineering
9	Fundamentals of Electronics Engineering
10	Professional Communication
11	Fundamentals of Computer
12	Engineering Drawing

Year 2

S.No	Subjects
1	Strength of Material
2	Geotechnical Engineering
3	Fluid Mechanics
4	Electronics and Instrumentation
5	Open Channel Hydraulic Machinery
6	Building Technology
7	Civil Engineering Drawing
8	Transportation Engineering
9	Structural Analysis
10	Engineering Geology

Year 3

S.No	Subjects
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1	Transportation Engineering
2	Engineering Economics and Principles of Management
3	Irrigation Engineering
4	Design and Drawing of RC Structures
5	Design of Hydraulic Structures
6	Advanced Structural Design
7	Ground Water Hydrology
8	Numerical Methods and Operations Research
9	Advanced Foundation Design
10	Environmental Engineering

Year 4

S.No	Subjects
1	Building Maintenance
2	Environmental Pollution Control Engineering
3	Quantity Surveying and Valuation
4	Advance Surveying and Remote E-Sensing
5	Finite Element Method
6	Construction Engineering and Management
7	Transportation Engineering
8	Advanced Mathematics
9	Earth and Rockfill Dam Engineering
10	Coastal Engineering and Marine Structures

Shiksha ‘O’ Anusandhan University Highlights

Established in	2007
University Type	Deemed University
Recognized by	UGC , AICTE , BCI , PCI , DCI ,
Courses	63

