



MGM's POLYTECHNIC, AURANGABAD



Department Of
CIVIL
ENGINEERING

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Nirman 2K18

**A magazine of Civil Engineering
Department**



MGM's Polytechnic, Aurangabad

Civil Engineering Department

Vision

To develop competent civil engineers with environmental awareness.

Mission

- To impart technical skills among students.
- To inculcate professional ethics, social and environmental awareness.

Message.....

MGM's POLYTECHNIC Aurangabad, Civil department is going to publish the magazine "NIRMAN 2K18" hearty congratulations for that.

In today's competition and technically excelled era, it's not sufficient for students to succeed or excel only in academics and science. Similarly the personality of student has to be developed fully in all manner. Such development of personality and knowledge of responsibility are fulfilled through literature.

The "NIRMAN 2K18" is an accomplishment of their interest in literature, cultural activities, talents, hobbies of students.

Hearty congratulation to the Principal, Teaching staff and all students.



A. N. Kadam

Secretary, Mahatma Gandhi Mission

Message.....

This new world youngsters have diverge there thinking towards a thoughtful and technical vision of making the world even better.

This new age of revolution towards the technical field from a reputed college of MGM's POLYTECHNIC A'BAD has proved to become even better in upcoming years.

This magazine "NIRMAN 2K18" is not just a magazine it is a way for the students to represent themselves with the help of their knowledge, talents and special skills.



Dr. B. M. Patil

Principal, MGM's Polytechnic

Message.....



Civil Engineering is a broad field of engineering which involves planning, Design, construction, maintenance and management of structures or public works.

MGM's polytechnic , Aurangabad is a well known technical diploma institute and it gives me immense pleasure to introduce this magazine "Nirman 2K18" as a pillar in the history of Civil department in institute.

This magazine involves the department "VISION & MISSION " in that various co-curricular, extra-curricular activities mentioned.

All works of magazine is carried out by students under the guidance of Principal and magazine coordinator Prof. Bhutekar S. B.

I congratulate the magazine committee for publishing "Nirman 2K18". I wish success to the magazine committee and I hope that magazine will also inspire other students in same way.

**— Prof. Salve U. L.
HOD, Civil Engineering**



Faculties of Civil Engineering Department



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Prof. Domale A. P.



Prof. Danish Ali



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Prof. Shaikh S. J.



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Nirman 2K18

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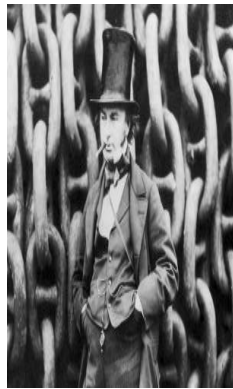
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T.Y. CIVIL



Best Thing about civil engineering

Most individuals would find it difficult to think of a life where civil engineers do not exist. Whether it is building roads, buildings, sewage systems, dams, bridges or airports, one would have to think of a civil engineer almost immediately. However, not all civil engineers end up working in these large, well-paying capacities. Some engineers may even just work in the smaller aspects of civil engineering like designing or looking into the research process or might even specialize in departments like structural construction, environment or even transportation. As the population grows around the world, the need for more civil engineers arises.

Top Civil Engineers in the world



Isambard Brunel



M. Visvesvaraya



Gustave Eiffel



George Stephenson



John Monash



John Smeaton



Emily Warren



Olive Dennis

“When You want to know how things really work, study them when they’re coming apart”

Engineering is not only study of 45 subjects but it is moral studies of intellectual life.

Best Civil Engineering Companies in India



Best Civil Engineering Companies in India



Top Most Impressive Civil Engineering Projects of All Time

1. Great Pyramid of Giza



The Great Pyramid of Giza is the oldest of the Seven Wonders of the Ancient World. It is the oldest and largest of the three pyramids in the Giza pyramid complex, bordering El Giza, Egypt. It is believed that the pyramid was built as a tomb for the fourth Dynasty Egyptian pharaoh, Khufu and was constructed over a twenty-year period. It is believed by many that Khufu's vizier, Hemon, or Hemiunu, is the architect who designed the pyramid.

2. Great Wall of China



With a history of more than 2,000 years, many sections of the Great Wall of China are in ruins, but it is still one of the greatest wonders of the world, and an immensely popular tourist attraction. The Great Wall stretches from Dandong in the east to Lop lake in the west. The entire wall with all its different branches, measures out to be 13, 171 miles.

3. Aqueduct of Segovia



More precisely known as the aqueduct bridge, this Roman aqueduct is one of the most significant and best-preserved ancient monuments left on the Iberian Peninsula. It is located in Spain and is the symbol of Segovia, and has been kept in excellent condition over the centuries. It provided water to Segovia until the 19th century.

Top Most Impressive Civil Engineering Projects of All Time

4. Brooklyn Bridge



The Brooklyn Bridge is one of the oldest bridges in the United States, and it's both a suspension and cable-stayed bridge. Completed in 1883, it connects the boroughs of Manhattan and Brooklyn by spanning the East River. The bridge was initially designed by German engineer, John August Roebling, but due to his death, he was replaced by his son, Washington Roebling who took charge of the project.

5. Panama Canal



Panama Canal is a 48-mile waterway in Panama that connects the Atlantic Ocean with the Pacific Ocean. The canal consists of several artificial lakes and channels, and two locks at either end. The canal cuts across the Isthmus of Panama and is crucial for international maritime trade. Work on the canal began in 1881, and it was finally opened in 1914, costing the Americans \$375 million.

6. Hoover Dam



Constructed during the Great Depression, the Hoover Dam is a concrete arch-gravity dam in the Black Canyon of the Colorado River. The construction of the Hoover Dam claimed hundreds of workers' lives, and impounds Lake Mead, the largest reservoir in the United States. The dam is named after President Herbert Hoover, and it took five years to build and cost around \$49 million.

Top Most Impressive Civil Engineering Projects of All Time

7. Golden Gate Bridge



The Golden Gate Bridge is often considered one of the most beautiful bridges in the world. This \$27 million project is a suspension bridge that spans the golden gate strait, connecting the city of San Francisco to Marin County. It opened in 1937 and was until 1964, the longest suspension bridge in the world. The bridge is one of the most recognised and influential symbols of the United States.

8. Burj Khalifa



As the tallest structure in the world, standing at 829.8 meters, Burj Khalifa in Dubai was designed as the centrepiece for a new development called Downtown Dubai. The building was named in honour of the ruler of Dubai and president of the United States Arab Emirates. It was designed by Skidmore, Owings and Merrill (SOM), and the design is inspired by the patterns and structures in Islamic architecture. The structure cost \$1.5 billion to build. At the time of its opening in 2010, it had the highest observational deck in the world. The building has even featured in popular culture, as it can be seen in 2016 film, 'Independence Day: Resurgence'. Burj Khalifa has broken numerous other records, including building with most floors at 211 and it has received immensely positive reception.

“The
Most
important
thing
is
To
keep
the
Most
important
thing
The
Most
important
thing..”

Top Technology Trends to Watch in Civil Engineering

SELF-HEALING CONCRETE

Cement is one of the most widely used materials in construction, but also one of the largest contributors to harmful carbon emissions, said to be responsible for around 7 per cent of annual global emissions. Cracking is a major problem in construction, usually caused by exposure to water and chemicals. Researchers at Bath University are looking to develop a self-healing concrete, using a mix containing bacteria within microcapsules, which will germinate when water enters a crack in the concrete to produce limestone, plugging the crack before water and oxygen has a chance to corrode the steel reinforcement.



MODULAR CONSTRUCTION



Modular construction is increasingly popular where a building is constructed off-site using the same materials and designed to the same standards as conventional on-site construction. It limits environmental disruption, delivering components as and when needed, and turning construction into a logistics exercise.

PLASTIC ROAD

Plastic is one of the most commonly recycled products, with plastic materials often being recycled into bottles, bags, toys, containers, and much more. But now, a Dutch company is attempting to recycle plastic into something much larger: Roads. VolkerWessels is a Dutch construction firm that is preparing to build a PlasticRoad in Rotterdam. While VolkerWessels' PlasticRoad is still only a concept, it's becoming quite popular in Holland, where 96 million tons of carbon dioxide are released into the air through road building and maintenance alone. VolkerWessels expects that its PlasticRoad will reduce greenhouse gas emissions while making roads stronger and increasing their lifespan.





Departmental Event—Visio Polytech 2k17

Civil Engineering department has organized a state level technical event on 23rd Feb 2017. It includes Paper Presentation, Project Competition and Quiz Competition.

In this event many of the students has secured various prizes as follows.

Sr. no.	Name of students	Type of competition
1.	Jadhav shrikrishna	Quiz competition
2.	Snehal marathe	Project competition
3.	Gaurav Sharma	Paper presentation
4.	Shaikh Danish	Paper presentation
5.	Renuka kekan	Project competition

*“ Perfection
Is
Not
attainable,
But
If
We
Chase
Perfection
we can catch
excellence”*

Social Activity



Departmental Staff and students done the Tree Plantation at Bhagatsingh Junior College, Ranjangaon

Industrial Visits



Visit to Sewage treatment Plant



Visit to Retaining wall construction



Visit to Steel Structures

Technical workshops Arranged by Department

Solid Waste Management Program



Sir. M. Visvesvaraya

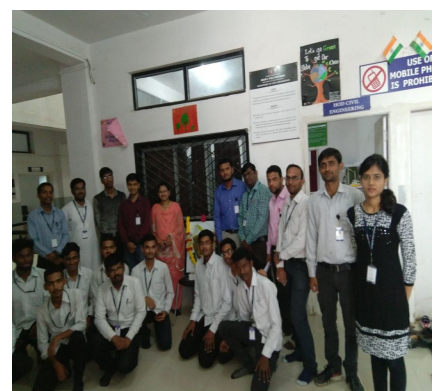
India's Greatest Civil Engineer

Personality Development Workshop



*“Believe
you
can
and
you’re
Halfway
There”*

Engineers Day Celebration



Faculty Development Program



Prof. Salve U. L.
M. E. (Structures)
Head of Department

Attended one week training program on Advances in Engg. Materials & Testing Techniques at Government Polytechnic, Pune.



Prof. Bhutekar S. B.
Lecturer

Attended one week training program at L & T Ltd. Panvel, Mumbai



Prof. Vaijwade S. M.
Lecturer

Attended one week training program on Watershed Management at P. L. Government Polytechnic, Latur.



Prof. More S. A.
Lecturer

Attended one week training program on Watershed Management at P. L. Government Polytechnic, Latur.

Faculty Research Paper



Prof. Bhutekar S. B.
Lecturer

Improving Soil Stability By Using Polyethylene Geogrid

Soil performance plays vital role in road construction as the sub grade of road is the most important element for the designed life of road. In this paper we have made an attempt to enhance soil stability by using polyethylene geogrid which made from the waste material. The present study investigates the improvement in the CBR value of lateritic soil by using geogrids at different depths. We have conducted CBR test (unsoaked) on lateritic soil specimen. The result shows the significant improvement in CBR value as it predicts better performance of road pavement with economical approach.



Prof. Danish Ali
Lecturer

Comparative Study of Estimate between conventional Building and Green Building

Multi-storey R.C.C. residential buildings require large amount energy during construction and its life time compared to green buildings. In present we have done Estimate and cost comparison between G+1 R.C.C. Conventional Building and Green Building by using central line method of estimate. Our quantities of material in this estimate are same for both G+1 Conventional Building and Green Building only the cost has been changed because of different material use in both cases. Finally we have concluded that the green building is economical as well as ecofriendly.

*Thank You
So Much!*

All staff of Civil Engineering
Department for their support to
complete the magazine.