Department of Civil Engineering

"Sthapathya Vaartha"

(2022-2023)

Volume: 8 Issue: 2

Inside this issue

HOD Message

The culmination of the civil engineering department's endeavors throughout the course of the previous semester is this news bulletin, "Sthapathya Vaarta." The news bulletin's editorial team has put a lot of work into gathering and tastefully presenting it. Using it to communicate with all stakeholders makes me happy. I would like to thank Principal Dr. S.A. Khot and Executive Director Shri. Anil A. Bagane on behalf of the Civil Engineering department for your ongoing encouragement in bringing all the operations to a single level.

Mr. A.B. Jadhav

News Letter CoordinatorMessage

I'm incredibly happy to post the Civil Engineering Department's news release. It is a representation of the department's numerous activities as well as the personnel and students in the civil engineering department's contributions.

Mr. S.B. Chougule

News Letter Coordinator

News Letter Committee Members

1. MR. SHREYASH SHINDE - TY
2. MR. PRAGAT PACHORE - TY
3. MISS. SHRADDHA KOLI - TY

Vision, Mission and Quality Policy and PEO OF Department

The vision of the Department

To be a center of excellence in various sub-branches of Civil Engineering to prepare professionally competent engineers with a lifelong learning attitude for the accomplishment of ever-growing needs of society.

The Mission of the Department

- To prepare technically and professionally competent engineers by imparting quality education through effective teaching-learning methodologies and providing a stimulating environment for research and innovation
- To develop professional skills and the right attitude in students that will help them to succeed and progress in their personal and professional career
- To imbibe moral and ethical values in students with concern to society and the environment

The Program Educational Objectives (PEOs)

PEO I: Demonstrate capabilities to develop an optimal solution to the real-world engineering problems by applying the theory-based practical approach of civil engineering and related interdisciplinary fields.

PEO II: Exhibit professional skills, ethical attitude and sensitivity towards society and environment.

PEO III: Engage in life-long learning for successful adaptation to technological changes.

List of DAAB Members

Following are the DAAB members of the department for AY-2022-23

Sr. No.	Name of person	Designation
1	Mr. A. B. Jadhav	Head of Department and DAAB chairman
2	Mr. R. M. Garud	Secretary, DAAB and TY Class Teacher- B Div.
3	Dr. S. N. Tande	Other Academic Institute Faculty-Member
4	Dr. R. V. Raikar	Other Academic Institute Faculty-Member
5	Mr. S. S. Deshpande	Industry Person-Civil Engg-Member
6	Mr. Nitin Patil	Industry Person-Civil Engg-Member
7	Mrs. Kalyani Asmita	Parent-Member
8	Mr. Y. S. Patil	Programme Co-ordinator& NBA Coordinator
9	Mr. S. B. Chougule	B.Tech. Class Teacher A -Member
10	Mrs. M. V. Sabale	Academic Co-ordinator.
11	Mr. Yogesh U. Kulkarni	Senior faculty- Member
12	Ms. S. S. Ugare	SY Class Teacher – A Div
13	Mrs. Pranoti Shirole	TY Class Teacher A -Member
14	Mr. V. R. Nejkar	B.Tech. Class Teacher B -Member
15	Mr. Sourabh Shelke	Alumni- Member
16	Mr. Prasad Patil	Alumni- Member
17	Ms. Jugale Smruti Ramesh	Current student B. Tech- Member
18	Mr. Kunal D Shikalgar	Current student T. Y.- Member

FDP attended by Faculties

Sr. No	Name of Faculty	Title of the program	Duration
01	Mr. A. B. Jadhav	Advancement in Concrete Technology and Emerging Trends in Construction	03/01/2023 to 07/01/2023
		Basic Construction Materials	Jan-Apr 2023
		Design of Ballasted Railway Track: Current Practices and New Dev.	03/07/2023 to 07/03/2023
02	Dr. P. M. Shah	Advancement in Concrete Technology and Emerging Trends in Construction	03/01/2023 to 07/01/2023
03	Dr. R. M. Garud	Geographical Information Systems	Jan-Apr 2023
		Design of Ballasted Railway Track: Current Practices and New Dev.	03/07/2023 to 07/03/2023
04	Mr. Y. S. Patil	Advancement in Concrete Technology and Emerging Trends in Construction	03/01/2023 to 07/01/2023
		Basic Construction Materials	Jan-Apr 2023
		Design of Ballasted Railway Track: Current Practices and New Dev.	03/07/2023 to 07/03/2023
05	Mrs. M. V. Sabale	Advancement in Concrete Technology and Emerging Trends in Construction	03/01/2023 to 07/01/2023
		Basic Construction Materials	Jan-Apr 2023
06	Mr. Y. U. Kulkarni	Basic Construction Materials	Jan-Apr 2023
07	Mr. S. A. Dopare	Advancement in Concrete Technology and Emerging Trends in Construction	03/01/2023 to 07/01/2023
		Air Pollution and Control	Jan-Apr 2023
08	Mr. V. R. Nejkar	Air Pollution and Control	Jan-Apr 2023
		Design of Ballasted Railway Track: Current Practices and New Dev.	03/07/2023 to 07/03/2023
09	Mrs. A. D. Ware	Traffic Engineering	Jan-Apr 2023
		Recent Advancement in Composite Materials and Structures	08/05/2023 to 13/05/2023
		Sports & Higher Education and the Road Map of Sustainable Dev. Goal	13/05/2023
		Design of Ballasted Railway Track:	03/07/2023 to

		Current Practices and New Dev.	07/03/2023
10	Mrs. P. O. Shirole	Advancement in Concrete Technology and Emerging Trends in Construction	03/01/2023 to 07/01/2023
		Design of Ballasted Railway Track: Current Practices and New Dev.	03/07/2023 to 07/03/2023
11	Mrs. S. M. Patil	Advancement in Concrete Technology and Emerging Trends in Construction	03/01/2023 to 07/01/2023
		Current Research in Field of Civil Engineering	16/01/2023 to 20/01/2023
		Concrete Technology	Jan-Apr 2023
		Design of Ballasted Railway Track: Current Practices and New Dev.	03/07/2023 to 07/03/2023
12	Mrs. P. R. Patil	Design of Ballasted Railway Track: Current Practices and New Dev.	03/07/2023 to 07/03/2023
13	Mr. A. A.Hosurkar	Digital Land Surveying and Mapping(DLS&M)	Jan-Mar 2023
		Design of Ballasted Railway Track: Current Practices and New Dev.	03/07/2023 to 07/03/2023
14	Ms. P. T. Powar	Hydraulic Engineering	Jan-Apr 2023
		Design of Ballasted Railway Track: Current Practices and New Dev.	03/07/2023 to 07/03/2023
15	Mrs. S. A. Patil	Advancement in Concrete Technology and Emerging Trends in Construction	03/01/2023 to 07/01/2023
		Basic Construction Materials	Jan-Apr 2023
		Design of Ballasted Railway Track: Current Practices and New Dev.	03/07/2023 to 07/03/2023

Guest Lecture Summary

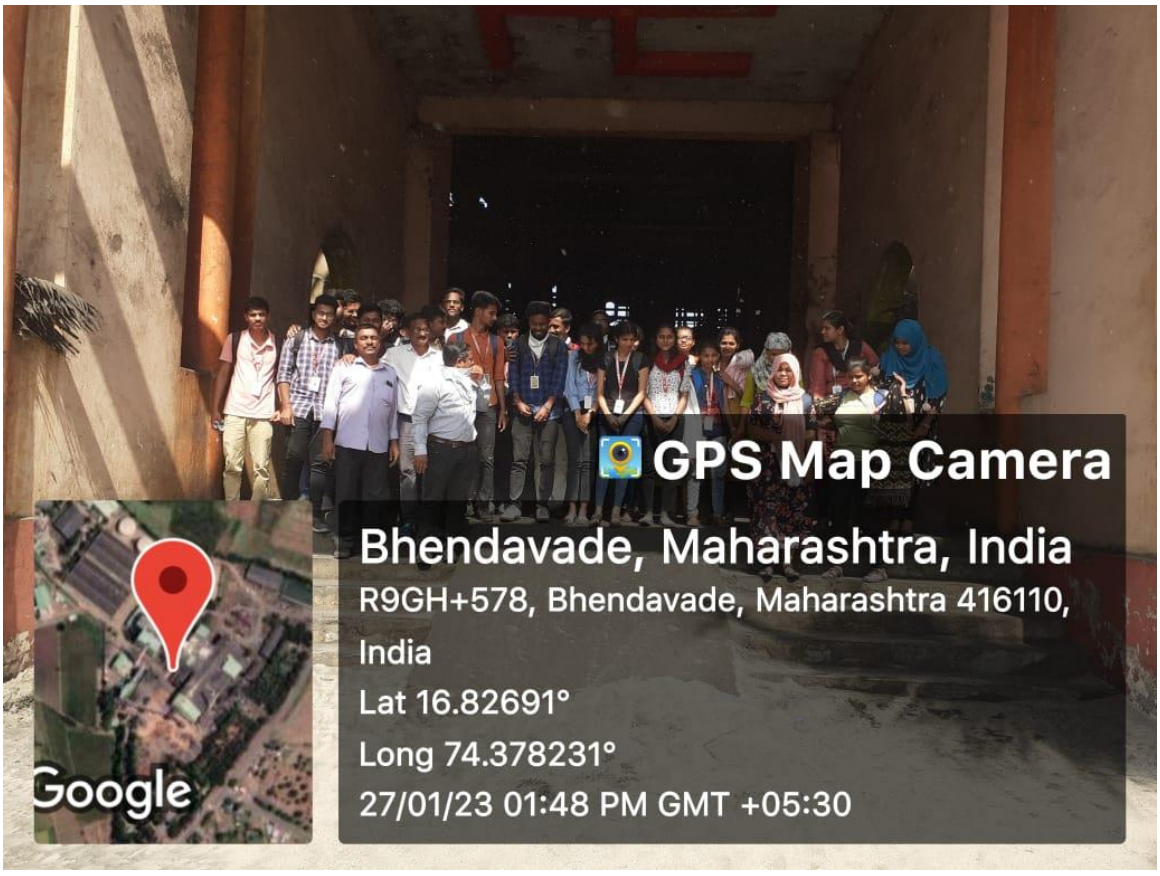
Sr. No.	Topic for Expert Talk	Expert Name & Designation	Date	Class
1	Gate Exam 2023and its preparation	Mr. Aniket Budhale,(career Counselor, Next level Gate Academy)	20/01/2023	TY
2	Town planning and BPMS System	Mr. Nitinji Desai (Assistant Town planner, Ichalkaranji Municipal Corporation)	21/01/2023	TY
3	Training on 4M Management	Mr. Rahul patil (Management Representative, Rohit Engineers, kolhapur)	30/01/2023	TY
4	Study of Foreign Language -German	Ms. Ankita Mane, Ichalkaranji	02/02/2023	TY
5	Aluminum formwork	Mr. Parag Joshi (Project Engineer, Purvankara Ltd)	02/08/2023	TY
6	Importance of civil software's and Internship	Mr. Pranav Bhandwalkar (Civil Engineering software Academy, Kolhapur)	23/2/2023	SY, TY
7	Soft computing techniques and career opportunities	Mr. Dhaval Bagawade (Business head of info Grow, Kolhapur)	13/3/2023	SY
8	Food is Medicine	Mrs. Manisha Anbupe	04-08-2023	TY
9	Introduction to CAD and its application in various fields	Mr. Nikhil pattanshetti	17/4/2023	SY
10	Transportation Engineering and Road construction	Mr. Sanjiv Vohra	05-09-2023	SY

Guest Lecture Pictures

Industrial Visits Summary

Sr. No.	Subject	Visit Location	Class	Date
1	Sharad Sahakari Sakhar Karkhana	Narande	TY All	27thJan2023
2	Ambika construction site	Ichalkaranji	TY & SY	24thFeb 2023
3	Rain gauge Station	Varnali ,Sangli	TY & SY	28thFeb 2023
4	RMC plant	Nimshirgaon	SY All	18th April 2023
5	M.E.R.I	Nashik	TY All	20 th April 2023
6	Samrudhi mahamarg	Nashik	TY All	21 st April 2023
7	Flyover construction	Nashik	TY All	21 st April 2023

Visit Pictures



Value Added Program

Sr. No.	Year	Name of Program	Class	No. of Students	Expert Name	Duration
1	2022/23	Building Information Modeling	TY	125	Mr. Dhaval Bagawade	04/04/2023 to 11/04/2023
2	2022/23	DGPS & Total Station	SY	75	Mr. Abhijieet Chavan	19/04/2023 to 21/04/2023

Student Achievement/Participation

Sr. No.	Student Name	Event Name	Date	Remark
1	Yash Bipin Patil	Project Competition	04-01-2023	1st Prize
2	Smruti Jugale	Paper Presentation	05-01-2023	1st Prize
3	Vinayk Mahatme	Plan Master	06-06-2023	1st Prize
4	Madwanna Athrav J.	Field Master	04-01-2023	Winner
5	Pachore Pragat D	Paper Presentation	04-01-2023	Winner
6	Aishwarya Uday Powar	Treasure Hunt		2nd Rank
7	Pruthviraj Nitin Varpe	Quiz Competition	27 to 29/03/23	2nd Rank
8	Pruthviraj Nitin Varpe	Treasure Hunt		2nd Rank
9	Prathmesh Chougule	Cad Master	04-01-2023	2nd Rank
10	Khillari Harish D	Bid 2 Build	04-02-2023	Runner Up
11	Madwanna Athrav J	Bid 2 Build	04-02-2023	Runner Up
12	Sanket Rajesh Bhode	Reel It Feel It	25/03/2023	Runner Up
13	Pachore Pragat D	Bid 2 Build	04-02-2023	Runner Up

Our Proud Toppers- 2022-23 (Sem-II)

Sr.No	Name Of Student	CGPA
B. Tech		
1	Jugale Smruti Ramesh	8.98
2	Joshi Mukta Nandkishor	8.84
3	Gudale Gouri Rajendra	8.71
TY (Civil)		
1	Patil Digvijay Damodar	8.67
2	Patil Sonali Shrikant	8.6
3	Biraje Aaditi Devendra	8.48
SY (Civil)		
1	Kurde Aditya Chandrakant	9.35
2	Shejal Prathamesh Sanjay	8.33
3	More Yash Vitthal	8.25

Personality

Karl von Terzaghi(October 2, 1883 – October 25, 1963)

Full Name: Karl von Terzaghi

Born: October 2, 1883, in Prague, Austria-Hungary (now in the Czech Republic)

Died: October 25, 1963, in Winchester, Massachusetts, USA

Nationality: Austrian-American

Education:

Karl Terzaghi obtained his civil engineering degree from the Technical University in Graz, Austria. He earned a doctorate in engineering from the Technical University of Vienna.

Work and Achievements:

Karl Terzaghi is often referred to as the "father of soil mechanics" due to his groundbreaking work in the field.He made significant contributions to geotechnical engineering, including developing the concept of effective stress, which is fundamental for understanding how soils behave under different loads.Terzaghi's work in soil mechanics laid the foundation for modern geotechnical engineering and its applications in construction, foundation design, and soil slope stability.He authored numerous influential publications, including the book "Erdbaumechanik" (Soil Mechanics in Engineering Practice), which is considered a seminal work in geotechnical engineering.Terzaghi's research on soil consolidation and settlement became a fundamental part of the design process for foundations and structures built on soil.He developed the Terzaghi-

Wegmann earth pressure theory, which explains the lateral pressure exerted by soil on retaining walls.Karl Terzaghi was a professor at universities in Europe and the United States, and he taught and mentored many students who went on to become prominent geotechnical engineers.He played a key role in the development of geotechnical engineering as a distinct field of study and practice, and he helped establish the principles that are still used in the design and construction of civil engineering projects around the world.Karl Terzaghi's work and contributions have had a lasting impact on the field of geotechnical engineering, and he is remembered as one of the most influential figures in the history of civil engineering. His research and innovations continue to be applied in engineering practice, making him a highly respected and celebrated figure in the discipline.

Career and Professional Milestones:

After completing his education in Europe, Terzaghi began his career as a practicing engineer, gaining experience in various geotechnical projects, including tunnels, dams, and foundations. He conducted extensive research and field investigations, particularly in the area of soil mechanics, which significantly expanded the knowledge of soil behavior and its applications in engineering.

Immigration to the United States:

In the 1930s, Terzaghi immigrated to the United States, where he continued his influential work in geotechnical engineering. He took up a position at the Massachusetts Institute of Technology (MIT) and later became a professor at Harvard University.

Legacy:

Karl Terzaghi's research and teachings influenced generations of engineers and geotechnical scientists. He is considered a pioneer in the systematic study of soil behavior. His emphasis on rigorous field investigations and laboratory testing, as well as the development of analytical methods, revolutionized the practice of geotechnical engineering. The Terzaghi-Wegmann method for calculating earth pressures, the Terzaghi-Bjerrum method for analyzing stability of slopes, and the Terzaghi-Meyerhof bearing capacity equation are just a few of the enduring contributions he made to the field.

Honors and Awards:

Terzaghi received numerous honors during his lifetime, including being elected as a member of the National Academy of Engineering in the United States. In recognition of his significant contributions to the field, the American Society of Civil Engineers (ASCE) established the Karl Terzaghi Award, which is one of the most prestigious awards in geotechnical engineering. It is presented annually to individuals who have made exceptional contributions to the field.

Incredible Marvels of Civil Engineering

1. Palm Jumeirah, Dubai

"Palm Island" can refer to several different places and developments around the world, but one of the most famous and iconic examples is the Palm Jumeirah in Dubai, United Arab Emirates. Here is detailed information about the Palm Jumeirah:

Location:

The Palm Jumeirah is an artificial archipelago situated off the coast of Dubai in the United Arab Emirates. It is part of the larger Palm Islands project in Dubai.

Development:

The Palm Jumeirah is the first and most famous of the three Palm Islands in Dubai, the other two being Palm Jebel Ali and Palm Deira. It was developed by Nakheel Properties, a real estate developer in Dubai. The construction of the Palm Jumeirah began in 2001 and was completed in 2006. It involved extensive land reclamation and engineering work to create the palm-shaped island.

Shape and Layout:

The Palm Jumeirah is designed in the shape of a stylized palm tree, with a central trunk and 17 fronds extending outwards. The palm tree shape is surrounded by a crescent-shaped breakwater.

Each of the 17 fronds and the trunk contains residential, commercial, and leisure developments, including luxury villas, apartments, hotels, and resorts.

Landmarks and Developments:

Notable developments on the Palm Jumeirah include the Atlantis, The Palm resort, which is located at the top of the crescent and features an underwater aquarium and water park.

Other renowned properties on the island include the JumeirahZabeelSaray, the Waldorf Astoria Dubai Palm Jumeirah, and numerous private villas and apartments.

Amenities and Infrastructure:

The island is equipped with a range of amenities, including beaches, marinas, restaurants, shops, and leisure facilities. It is connected to the mainland of Dubai via a monorail, which provides access to the island's various attractions and developments.

Tourism and Real Estate:

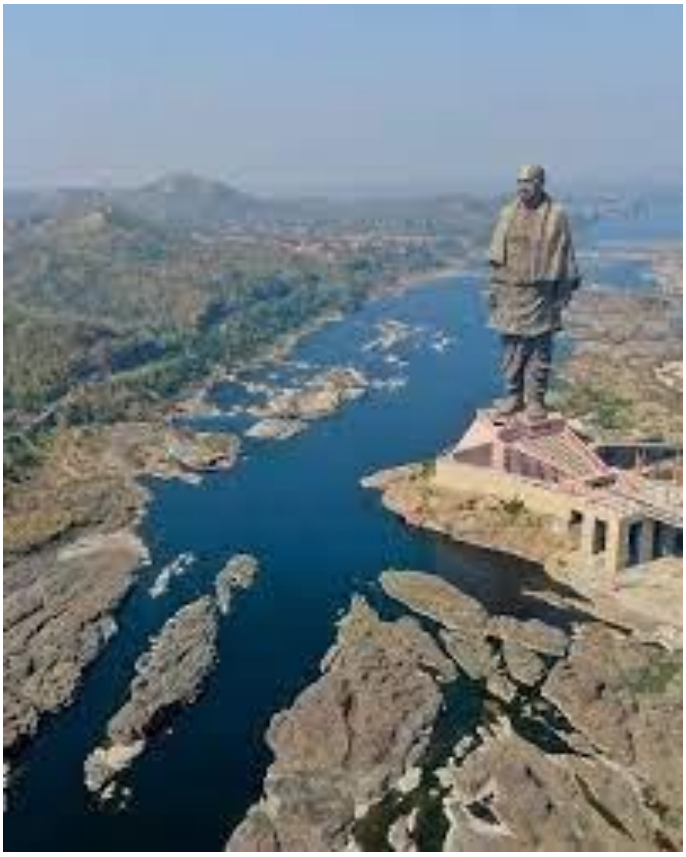
The Palm Jumeirah has become a major tourist destination and a sought-after residential and commercial area in Dubai. Its luxurious properties and iconic design have made it a symbol of Dubai's opulence and ambition.

Challenges and Environmental Concerns:

The construction of the Palm Jumeirah and other artificial islands in Dubai has raised environmental concerns due to its impact on marine ecosystems and water circulation in the area.

Efforts have been made to mitigate these concerns through various environmental initiatives and conservation measures. The Palm Jumeirah in Dubai stands as an engineering marvel and an iconic symbol of Dubai's rapid urban development and luxury lifestyle. It is a testament to human innovation and ambition in reshaping the environment to create unique and highly desirable real estate and tourism destinations.

2. Statue of Unity, Gujrat



Statue of Unity, Gujrat

The "Statue of Unity" is a colossal statue located in the Indian state of Gujarat. It is a tribute to SardarVallabhbhai Patel, a prominent political leader in India's struggle for independence and the country's first Deputy Prime Minister and Minister of Home Affairs. Here is detailed information about the Statue of Unity:

Location:

The Statue of Unity is located in the Narmada district of the Indian state of Gujarat, along the banks of the Narmada River. It is situated near the SardarSarovar Dam, which is one of the largest dams in India.

Dimensions:

The statue is an imposing figure, and it stands at a height of 182 meters (597 feet), making it the tallest statue in the world at the time of its inauguration in 2018. It is almost twice the height of the Statue of Liberty in the United States.

Design and Symbolism:

The statue depicts SardarVallabhbhai Patel, who is often referred to as the "Iron Man of India" for his pivotal role in the unification of India after gaining independence from British colonial rule.

The statue portrays Patel in a standing posture, wearing a traditional Indian dhoti and a shawl. It is designed to capture his dignified and resolute character. The statue's design emphasizes unity and integration, reflecting Patel's significant role in unifying the diverse princely states into a single, unified India following independence in 1947.

Construction:

The Statue of Unity was constructed as part of a government-led initiative to honor Sardar Patel's legacy. The construction project began in October 2013 and was completed in October 2018. It involved a massive engineering effort, including significant land reclamation, foundation work, and the assembly of the statue itself.

Tourism and Amenities:

The statue has become a major tourist attraction in India, drawing visitors from across the country and around the world.

A visitor's center, museum, exhibition hall, and audio-visual gallery are located at the site, providing visitors with information about Sardar Patel's life and the history of India's independence movement.

The surroundings of the statue are beautifully landscaped, and there are also various recreational and entertainment facilities, including a large plaza and a riverfront promenade.

Impact and Legacy:

The Statue of Unity is seen as a symbol of India's unity and its commitment to preserving the memory of its founding leaders. It has contributed to the economic development of the region, boosting tourism and generating employment opportunities. The project also served to increase awareness of SardarVallabhbhai Patel's contributions to the nation. The Statue of Unity is not only a remarkable engineering and artistic achievement but also a symbol of India's rich history and the vision of its founding leaders. It stands as a testament to the enduring legacy of SardarVallabhbhai Patel and his instrumental role in shaping modern India.

3. **Pyramid of Khufu**

Pyramid of Khufu

The Pyramid of Khufu, also known as the Great Pyramid of Giza or the Pyramid of Cheops, is one of the most iconic and well-known structures in the world. It is located in the Giza Plateau, on the outskirts of Cairo, Egypt. Here is detailed information about the Pyramid

Historical Background:

The Pyramid of Khufu was built during the Fourth Dynasty of the Old Kingdom of Egypt, around 2580-2560 BCE. It was constructed as a tomb for Pharaoh Khufu (also known as Cheops), who was the second pharaoh of the Fourth Dynasty.

Dimensions:

The Pyramid of Khufu is the largest of the three pyramids in Giza and one of the Seven Wonders of the Ancient World.Originally, it stood at 146.6 meters (481 feet), but due to the loss of its outer casing stones over time, it now measures approximately 138.8 meters (455 feet) in height.The base of the pyramid covers an area of about 5.3 hectares (13.1 acres).It was the tallest man-made structure in the world for over 3,800 years until the construction of the Lincoln Cathedral in England in the 14th century.

Construction:

The construction of the pyramid is a remarkable feat of ancient engineering and architecture.It is estimated that it took around 20 years to complete the construction of the pyramid.The exact methods and tools used for construction are still debated by Egyptologists, but it is believed that a

combination of ramps, sleds, and a large workforce of skilled laborers and slaves were involved in the process.The limestone casing stones, originally covering the pyramid, were finely polished and made the structure shine brightly in the sun.

Interior:

The pyramid's interior consists of a series of chambers and corridors, including the King's Chamber, the Queen's Chamber, and various passageways.The King's Chamber contains the granite sarcophagus where it is believed that Khufu was buried, although no mummy or significant treasures have been found inside.

Alignment:

The Pyramid of Khufu is remarkably aligned with the cardinal points of the compass, with only a very small deviation from true north.This precise alignment is a testament to the ancient Egyptians' astronomical and engineering knowledge.

Purpose and Significance:

The primary purpose of the Pyramid of Khufu was to serve as a monumental tomb for the pharaoh, providing him with a secure and grand resting place for the afterlife.It also symbolized the pharaoh's power and the divine nature of the Egyptian kings.The construction of the pyramid and the surrounding complex required a significant portion of Egypt's resources and labor force.

Conservation and Restoration:

Over the centuries, the Pyramid of Khufu, like other ancient Egyptian monuments, has suffered from natural decay, vandalism, and removal of casing stones.Efforts have been made to conserve and restore the pyramid, including reinforcing some of its structural elements and implementing protective measures.The Pyramid of Khufu remains an enduring symbol of ancient Egyptian civilization, a testament to the engineering and architectural achievements of its time, and one of the most visited and studied archaeological sites in the world. It continues to inspire awe and fascination for its sheer size, precision, and historical significance.