

# BIOMEDICAL INSTRUMENTATION



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BIOMEDICAL ENGINEER

The background image is a photograph of the Yashodhara Superspeciality Hospital. It is a large, modern, multi-story building with a grey facade and many windows. The name 'YASHODHARA SUPER SPECIALITY HOSPITAL' is visible on the top of the building. There is a glass-enclosed tower on the right side. The sky is overcast. In the foreground, there is a paved area and some greenery.

# Internship Overview at Yashodhara

- **Organization: Yashodhara Superspeciality Hospital**

This prestigious hospital located in Solapur offers advanced medical services, focusing on patient care and specialized treatments.

- **Department: Biomedical Science**

Internship is conducted in the Biomedical Science department, which plays a critical role in medical technology and patient diagnostics.

- **Mentor: Mohan Jadhav**

Mohan Jadhav serves as the mentor, providing guidance and support throughout the internship, enriching the learning experience.

- **Location: Solapur, India**

The hospital is situated in Solapur, known for its healthcare facilities and commitment to medical excellence.

# Key Equipment in ICU Operations

The ventilator is essential for providing mechanical ventilation to patients who are unable to breathe adequately on their own, ensuring oxygenation and carbon dioxide removal.

**Ventilator: Vital for breathing support**



This device monitors multiple parameters such as heart rate, blood pressure, and oxygen saturation, providing real-time data to healthcare professionals for critical care decisions.

**Multipara Monitor: Continuous monitoring**



**Defibrillator: Life-saving device**

A defibrillator is used to deliver a dose of electric current to the heart to restore a normal rhythm in case of cardiac arrest, making it crucial in emergencies.



**Syringe Pump: Accurate medication delivery**

Syringe pumps are used to deliver precise amounts of medication to patients over time, enhancing safety and effectiveness in drug administration in critical care.





# Key Areas of Work in OT

## 01 **Equipment Handled: Quatry Machine**

The Quatry Machine is essential in the operating theatre for specific surgical procedures, ensuring precision and efficiency during operations.

## 02 **Equipment Handled: Laparoscopy System**

The Laparoscopy System allows for minimally invasive surgical techniques, reducing recovery time and improving patient outcomes in various procedures.

## 03 **AC Temperature Control**

Maintaining optimal AC temperature is crucial for patient comfort and equipment functionality in the operating theatre, ensuring a safe environment.

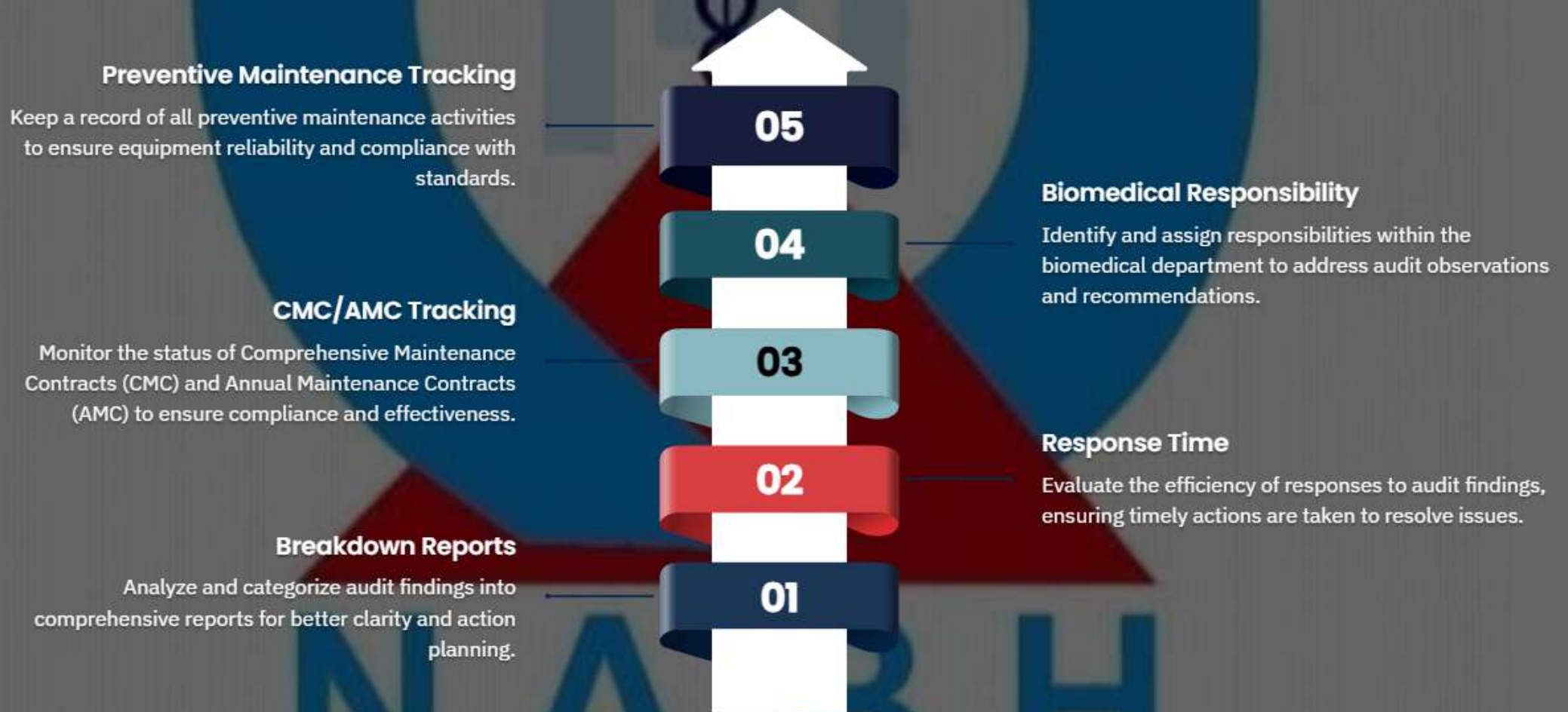
## 04 **Maintenance Types: Preventive**

Preventive maintenance is vital for ensuring all equipment functions properly, preventing unexpected failures during critical surgical procedures.

## 05 **Maintenance Types: Corrective**

Corrective maintenance addresses equipment failures after they occur, ensuring that all systems are restored to optimal function promptly.

# NABH Audit Overview



# Skills Acquired During Internship



## Technical Skills: Multimeter Usage

Gained hands-on experience with a **multimeter**, enhancing my understanding of basic electronics principles and troubleshooting techniques in biomedical applications.



## Technical Skills: Basic Electronics

Developed foundational knowledge in **basic electronics**, crucial for understanding biomedical devices and their functionalities, essential for future projects.



## Soft Skills: Communication

Refined **communication skills** through professional coordination with team members, facilitating smoother project executions and enhanced collaboration.



## Soft Skills: Quick Decision-Making

Enhanced my ability for **quick decision-making under urgency**, a vital skill in the fast-paced biomedical engineering environment to ensure timely responses.

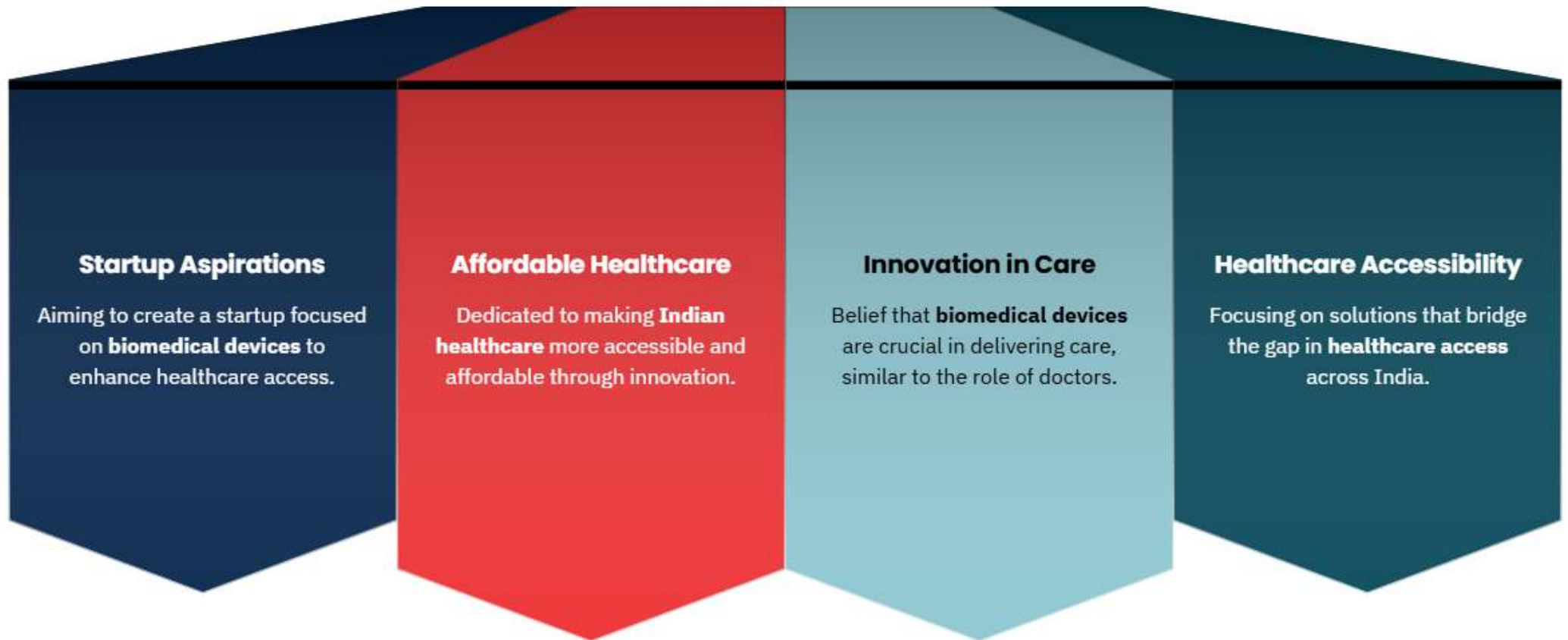


## Soft Skills: Flawless Working Culture Awareness

Cultivated an understanding of a **flawless working culture**, promoting professionalism and teamwork, which are essential in any engineering field.



# Vision for Accessible Healthcare



# The Significance of Biomedical Devices



## Crucial Role in Healthcare

Biomedical devices are essential in providing effective healthcare, improving patient outcomes through advanced technology.



## Enhancing Efficiency of Professionals

These devices streamline processes for medical professionals, allowing them to focus more on patient care and less on administrative tasks.



## Bridging Accessibility Gaps

Biomedical devices aim to make healthcare services more accessible and affordable, particularly in underserved regions.



## Innovative Technology in Medicine

The integration of cutting-edge technology in biomedical devices is transforming the landscape of modern medicine and treatment.



# Essential Professional Development



01

## Continuous Learning is Crucial

In the biomedical field, ongoing education is essential to keep up with advancements.

02

## Engaging with Mentors

Mentorship helps enhance skills and provides valuable industry insights.

03

## Workshops and Seminars Matter

Participation in workshops and seminars is vital to stay updated in the field.

# Overcoming Challenges in Internship



## Technical Difficulties

Faced challenges with equipment that required troubleshooting and adaptation to ensure project success.



## Time Management Skills

Learned to effectively prioritize tasks and manage time in a dynamic and fast-paced work environment.



## Resilience Development

Cultivated resilience and adaptability in high-pressure situations, crucial for personal and professional growth.



# Valuable Internship Insights

01

**Invaluable Experience:**  
Internship led to significant personal and professional development.

This experience has greatly enhanced my skills and confidence in my field.

02

**Practical Insights Gained:**  
Acquired hands-on knowledge in biomedical engineering.

The practical insights gained have deepened my understanding of the industry.

03

**Positive Contribution:** Ready to make a difference in the healthcare sector.

I feel equipped to contribute positively to healthcare innovations and solutions.





# THANK YOU

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