

Integrated Preventive Maintenance Checklist for Biomedical Equipment

Diploma in Biomedical Equipment Engineering (DBEE)
(Affiliated to CTEVT)



Government of Nepal
Ministry of Health & Population
National Health Training Centre
Teku, Kathmandu
2025

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Disclaimer

This Integrated Preventive Maintenance Checklist has been developed by National Health Training Center (NHTC) as an official reference document to support the preventive maintenance activities of biomedical equipment across healthcare institutions. The content of this document has been developed through the collective expertise and contributions of Biomedical Engineers, Biomedical Technicians, Lab Technologist, academic professionals, and institutional reviewers, with the aim of promoting uniformity, safety, and efficiency in biomedical equipment management.

While every effort has been made to ensure the technical accuracy and completeness of the information presented, the NHTC, authors, and associated institutions **do not assume any legal responsibility or liability** for errors, omissions, or outcomes resulting from the application of the procedures described in this publication.

Users of this manual are strongly advised to:

- Follow the **manufacturer's recommendations**, safety guidelines, and institutional policies when performing maintenance activities.
- Ensure that all **testing devices, tools, and instruments** used are properly calibrated and validated.
- Record and maintain documentation of the outcomes in compliance with institutional and regulatory requirements.

This document is intended as a **guidance and educational resource**. It does not replace official service manuals or technical documentation provided by equipment manufacturers. The NHTC reserves the right to update or revise this publication as required to reflect technological developments, updated standards, or policy changes.

Training Material Development Section

National Health Training Centre, Teku



Ref No.:

**Government of Nepal
Ministry of Health and Population
National Health Training Center
Teku, Kathmandu**



Tel:01-5355892
01-5362161
01-5316944
01-5356764



PREFACE

National Health Training Centre has been strengthening healthcare services through effective utilization of medical resources including medical equipment. In this process preventive maintenance of biomedical equipment is the critical element which ensures safety, reliability and continuity of healthcare services.

It is a great pleasure to introduce this Integrated Preventive Maintenance Checklist document developed by the National Health Training Centre (NHTC) in collaboration with Nick Simons Institute. This checklist book has been designed to serve as a practical tool for DBEE students to establish a system of preventive maintenance in their workplace. It provides standard procedures and guidance to carry out regular inspection, servicing, and upkeep of medical devices in line with national and international practices.

The development of this valuable resource reflects our continued commitment to strengthening the capacity of BMETs. By adopting systematic preventive maintenance tools in our curriculum, we aim to equip BMETs with a culture of accountability and professionalism in biomedical services.

I sincerely acknowledge the contributions of experts, institutions, and stakeholders who supported the preparation of this document. I hope that this checklist will be a valuable reference for students, practitioners, and all those engaged in the management of medical equipment. On behalf of NHTC, I encourage all users to apply this tool effectively and consistently, thereby contributing to safer, more reliable, and higher-quality healthcare delivery in Nepal.

Yeshoda Aryal
Director
Nov. 2025



Ref 428

Government of Nepal
Ministry of Health & Population

DEPARTMENT OF HEALTH SERVICES

5361768

Management Division

Pachali, Teku Kathmandu, Nepal



Foreword

Date: Nov 6, 2025

Medical Equipment is essential to ensure the safe, effective and uninterrupted healthcare services. Management Division always ensures availability of medical equipment across all levels of health facilities. It is also equally important that every piece of equipment procured and distributed is equally maintained and utilized.

Preventive maintenance is crucial to minimizing equipment downtime that extends equipment lifespan. Management Division highly appreciates the development of this checklist which serves as a practical tool to guide DBEE students, technicians, engineers and health institutions in maintaining their equipment effectively.

The Preventive Maintenance Checklist is an approach to maintaining equipment routinely, adhering to national and international protocols. This also promotes a culture of systematic and regular preventive maintenance. Management Division supports such initiatives that contribute to quality healthcare.

I extend my appreciation to the National Health Training Centre (NHTC) and all the technical experts involved in preparing this document. I believe this document will serve as a valuable resource in planning and maintaining activities.


Dr. Pawan Jung Rayamajhi
Director
Management Division
Department of Health Services (DoHS)



Message

The Council for Technical Education and Vocational Training (CTEVT) is pleased to acknowledge the development of **Integrated Preventive Maintenance (PM) Checklist** for the Diploma in Biomedical Equipment Engineering program. This document will serve as a practical tool to support the effective implementation of the prescribed learning outcomes.

CTEVT highly appreciates the National Health Training Centre (NHTC) and the Nick Simons Institute (NSI) for their leadership in this initiative and extends sincere thanks to all experts and contributors for their valuable efforts in preparing this important resource.

I believe this publication will serve as a milestone in producing competent graduates capable of managing biomedical equipment. I wish for the successful implementation of this document.

Binod Badal

Director

Curriculum Development and Equivalence Division, CTEVT



Ref No.:

Government of Nepal
Ministry of Health and Population
National Health Training Center
Teku, Kathmandu



Tel:01-5355892
01-5362161
01-5316944
01-5356764



Acknowledgement

Preventive Maintenance is an important step towards strengthening the functionality, safety and sustainability of medical equipment. The development of this material "**Integrated Preventive Maintenance Checklist for Biomedical Equipment**" aims to support both teaching and learning process as a standard tool which promotes maintenance practices.

The checklist encompasses qualitative and quantitative analysis, including visual inspection, functionality of the equipment, leakage current to ground resistance. The content has been developed based on national and international standards. Each checklist is designed in concise and easily understandable manner.

The Training Material Development Section extends its sincere appreciation to all experts and technical officers who contributed their knowledge and experience in preparing and reviewing this checklist. Special thanks to the Management Division for its continuous guidance and collaboration in the process. I would like to equally acknowledge the support of Nick Simons Institute for their support in developing this package. I highly appreciate the contribution of the hospitals providing internships to our DBEE students. Similarly, I would also like to thank DBEE students for implementing the piloted version as a part of their internship and heartfelt thanks to the allocated supervisor of the respective hospitals for making it a success. Your feedback was highly appreciated.

I hope this checklist will serve as a valuable tool for students, learners, technical officers and health institutions in periodically maintaining medical equipment effectively and safely.

.....
Chetan Nidhi Wagle
Section Chief
Training Material Development Section

November, 2025

Abbreviations

| | |
|------------------------|------------------------------------------------------------|
| AAMI | Association for the Advancement of Medical Instrumentation |
| AAMI | Association for the Advancement of Medical Instrumentation |
| AB Scan | Amplitude Scan |
| ABG Analyzer | Arterial Blood Gas Analyzer |
| AC | Assist/Control |
| ACT | Automated Coagulation Timer |
| AED | Automated External Defibrillator |
| APL valve | Adjustable Pressure Limiting valve |
| BERA | Brainstem Evoked Response Audiometry |
| BiPAP | Bilevel Positive Airway Pressure |
| BME | Biomedical Engineer |
| BMET | Biomedical Equipment Technician |
| BP | Blood Pressure |
| CD4 | Cluster of Differentiation |
| CLIA | Chemiluminescent Immunoassay |
| CPAP | Continuous Positive Airway Pressure |
| CPM | Continuous Passive Motion |
| CR | Computed Radiography |
| CSSD | Central Sterile Supply Department |
| CT | Computed Tomography |
| CTEVT | Council for Technical Education and Vocational Training |
| CTG | Cardiotocography |
| DBEE | Diploma in Biomedical Equipment Engineering |
| DR | Digital Radiography |
| DoHS | Department of Health Services |
| ECG | Electrocardiograph |
| ECMO | Extracorporeal Membrane Oxygenation |
| ECRI | Emergency Care Research Institute |
| EEG | Electroencephalogram |
| ELISA | Enzyme-Linked Immunosorbent Assay |
| EMG | Electromyogram |
| EMR | Electronic Medical Record |
| ENT | Ear, Nose and Throat |
| EPAP | Expiratory Positive Airway Pressure |
| ESU | Electro Surgical Unit |
| ETO | Ethylene Oxide |
| FEV₁ | Forced Expiratory Volume in 1 second |
| FHR | Foetal Heart Rate |
| FiO₂ | Fraction of Inspired Oxygen |
| FVC | Forced Vital Capacity |
| HFNC | High Flow Nasal Cannula |
| HT | High Tension |

| | |
|------------------------|-------------------------------------------------|
| IBP | Invasive Blood Pressure |
| ICU | Intensive Care Unit |
| IEC | International Electrotechnical Commission |
| IFT | Interferential Therapy |
| IOP | Intraocular Pressure |
| IOPA | Intra-Oral Periapical |
| IPAP | Inspiratory Positive Airway Pressure |
| LCD | Liquid Crystal Display |
| LED | Light Emitting Diode |
| MGPS | Medical Gas Pipeline System |
| NHTC | National Health Training Centre |
| NIBP | Non-Invasive Blood Pressure |
| NRV | Non-Return Valve |
| NSI | Nick Simons Institute |
| OPG | Orthopantomogram |
| OT | Operation Theatre |
| PCA | Patient-Controlled Analgesia |
| PCR | Polymerase Chain Reaction |
| PD | Pupillary Distance |
| PDP | Pressure Dew Point |
| PDU | Power Distribution Unit |
| PEEP valve | Positive End-Expiratory Pressure valve |
| PFT | Pulmonary Function Test |
| PM | Preventive Maintenance |
| PPM | Planned Preventive Maintenance |
| PSV | Pressure Support Ventilation |
| QC | Quality Control |
| REM | Return Electrode Monitoring |
| RO | Reverse Osmosis |
| RVG | Radiovisiography |
| SIMV | Synchronized Intermittent Mandatory Ventilation |
| SpO₂ | Peripheral Capillary Oxygen Saturation |
| TDS | Total Dissolved Solids |
| TENS | Transcutaneous Electrical Nerve Stimulation |
| TOCO | Tocodynamometer |
| UF | Ultrafiltration |
| USB | Universal Serial Bus |
| UV | Ultraviolet |
| VDRL | Venereal Disease Research Laboratory |
| WHO | World Health Organization |

List of Contributors

1. Yeshoda Aryal, Director, NHTC
2. Dr. Pawan Jung Rayamajhi, Director, Management Division, DoHS
3. Dr. Madhav Prasad Lamsal, Senior Health Administrator, NHTC
4. Mr. Chetan Nidhi Wagle, Senior Public Health Administrator, NHTC
5. Mr. Madhav Kumar Shrestha, Health Education Administrator, NHTC
6. Bijay Shrestha, Senior Health Education Officer, NHTC
7. Ms. Lila Devi Aryal, Section Officer, NHTC
8. Mr. Murari Dulal Upadhyaya, CTEVT
9. Ms. Kalpana Shrestha, CTEVT
10. Mr. Daya Krishna Pant, Management Division, DoHS
11. Dr. Archana Amatya, Executive Director, Nick Simons Institute
12. Dr. Arpana BC Kalaunee, Training Manager, Nick Simons Institute
13. Dr. Sumida Tiwari, National Public Health Laboratory
14. Er. Ashish Chauhan, BME, Management Division, DoHS
15. Er. Pranish Pradhan, BME, Curative Service Division, DoHS
16. Er. Suresh Maharjan, National Trauma Center
17. Er. Rusha Acharya, Tribhuvan University Teaching Hospital (TUTH)
18. Er. Saurav Sharma, National Institute of Engineering and Technology (NIET)
19. Er. Anuj Purush Dhakal, National Institute of Engineering and Technology (NIET)
20. Er. Ranjan Shah, Sahid Dharmabhakta National Transplant Centre (SDNTC)
21. Er. Sushil Timilsina, Grande International Hospital
22. Er. Sukriti Chandra Neupane, Tilganga Institute of Ophthalmology
23. Er. Narendra Sah, BME, RNA Biomedical
24. Er. Subidha Pathak, Upendra Devkota Memorial National Institute of Neurological and Allied Sciences
25. Er. Roshan Pokharel, KIST Medical College and Teaching Hospital
26. Er. Shailendra Yadav, PHLMC Madesh
27. Er. Barun Rauniyar, Biomedical Engineer Society Nepal (BES-Nepal)
28. Er. Dhurba Magar, GE Healthcare
29. Er. Riwaz Shrestha, GE Healthcare
30. Er. Daman Khadka, PHLMC, Surkhet
31. Er. Prasamsha Aryal, PHLMC Lumbini
32. Er. Kritika Bhandari, National Institute of Engineering and Technology (NIET)
33. Er. Rakshya Mahat, Patan Academy of Health Sciences
34. Er. Rajnish Shrestha, Kantipur Dental Collage Teaching Hospital & Research Center
35. Deependra Rai, NHTC
36. Shankar Yadav, PHLMC, Koshi Province
37. Ankit Kunwar, PHLMC, Gandaki Province

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National Health Training Center (NHTC) is the body of the Ministry of Health & Population (MOHP) that provides clinical training for health workers. The process includes the development of a curriculum, developing training sites when applicable, and conducting batches. **“The Integrated Preventive Maintenance Checklist for Biomedical Equipment”** materials, produced by NHTC with support of Nick Simons Institute (NSI), is the sole property of NHTC. All materials are accessible through the NHTC website and may be downloaded and used as it is. Any use of these materials must acknowledge NHTC as the owner and NSI as the developer of these materials. Any outside publications other than NHTC must request permission from NSI prior to publication.

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1. Nick Simons Institute, Sanepa, Laitpur for Technical and Financial support
2. The Council for Technical Education and Vocational Training (CTEVT) for technical support

Content experts

Er. Kushal Devkota

Consultant Biomedical Engineer
National Institute of Engineering and Technology (NIET), Lalitpur

Er. Suresh Shrestha

Team Leader
Biomedical Equipment Training Unit
Nick Simons Institute

Er. Sujata Bhattarai

Biomedical Engineer
Nick Simons Institute

Er. Sagar Singh

Biomedical Engineer
Nick Simons Institute

Er. Salomi Paudel

Electronics Engineer
Nick Simons Institute

Er. Nitisha Dahal

Biomedical Engineer
National Health Training Center, Teku

Instructional Design

1. Mr. Chetan Nidhi Wagle, NHTC
2. Dr. Ishwor Prasad Upadhyay, NHTC
3. Mr. Thalindra Pangeni, NHTC

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Introduction

Background

Medical equipment includes different instruments, equipment, machinery, or apparatus used for medical and para-medical applications requiring calibration, maintenance, repair, user training, and decommissioning. They play a vital role in modern healthcare by enabling accurate diagnosis, effective treatment, and patient care. However, the performance and safety of these devices depend heavily on routine maintenance and inspection. This makes Planned Preventive Maintenance (PPM) an essential skill for biomedical engineering professionals. To address this need, a structured set of PPM checklists has been developed specifically for Diploma in Biomedical Equipment Engineering students, covering 14 departments with PPM procedures for 124 biomedical equipment and including 6 testing and calibration forms.

This educational resource is designed to bridge the gap between classroom learning and real-world healthcare technology management. Each checklist covers practical aspects of routine maintenance and inspection for a wide range of medical devices, such as diagnostic machines, life-support systems, surgical tools, and laboratory analyzers. These devices are commonly found in hospital settings and require regular upkeep to ensure safe and efficient operation.

Checklist Description

Each checklist is designed to guide students through standard PPM tasks associated with specific medical devices. The format typically includes:

- **Visual Inspection** items (physical condition, labeling, connection integrity)
- **Functional Testing** steps (power-up, alarms, indicators)
- **Quantitative testing**
- **Test Equipment Required**
- **Remarks/Corrective Actions**

These checklists are based on international standards IEC 60601(Electrical safety), WHO Guidelines, AAMI/ECRI, ACRE (India), and manufacturer recommendations, adapted to the capabilities of educational institutions.

Objectives

- Standardize the approach to PPM in academic and internship settings.
- Help students identify critical components and parameters for various devices.
- Encourage the use of correct test equipment and documentation methods.
- Cultivate preventive maintenance habits and technical troubleshooting abilities.

- Support institutional readiness for accreditation and compliance reviews.

Application

These checklists can be used in:

- Practical lab sessions and demonstrations.
- Internship and hospital training programs.
- Technical skill assessments and internal evaluations.
- On-the-job training modules post-graduation.

By integrating this section into the training workflow, institutions can ensure that students are academically qualified and technically prepared to support healthcare systems through safe, reliable, and proactive medical equipment maintenance.

How to Use This Checklist

This checklist serves as a standardized tool to assist biomedical engineers, technicians, and healthcare professionals in performing **preventive maintenance (PM)** on various categories of medical equipment.

I. Structure:

The document is divided into **six modules**, each representing a group of related medical devices:

Module 1: General Equipment

Module 2: ICU, OT, and Oxygen Equipment

Module 3: CSSD, Delivery, Hemodialysis, and Neurology Equipment

Module 4: Laboratory Equipment

Module 5: Dental, ENT, and Ophthalmic Equipment

Module 6: Imaging and Physiotherapy Equipment

II. Checklist Components:

Each equipment checklist includes the following sections:

- **Identification Details:** Hospital name, equipment model, manufacturer, serial/inventory number, and PM frequency.

- **Qualitative Tests:**

- *Visual Inspection* – to check physical integrity, labeling, and general condition.
- *Functional Testing* – to verify proper operation of key functions.
- *Cleaning and Disinfection* – to ensure equipment hygiene and user safety.

Each parameter should be marked as **OK/Not OK (✓/✗)** and accompanied by **action needed/action taken** as applicable.

- **Quantitative Tests:**

Where applicable, reference values, readings, and remarks should be recorded to assess equipment performance against standards.

- **Spare Parts Section:**

Use this section to document **replaced or required spare parts**, including **description, quantity, and remarks**.

- **Status and Remarks:**

Indicate the overall status as **“Passed”** or **“Service Required”** based on the PM findings.

- **Performed by / Approved by:**

Signatures of the technician performing the PM and the supervisor approving the report must be included.

III. Frequency and Documentation:

PM frequency should follow the schedule recommended by the manufacturer or institutional policy. Each complete checklist should be properly filed and made available for periodic review and audit.

IV. Annexes:

Supporting materials such as lists of general tools, testing devices, supervision and feedback forms, and internship evaluation criteria are provided at the end of the document to guide practical implementation and reporting.

Module 1: General Equipment

List of Equipment

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| 1.10 Suction Apparatus | 26 |

1. General Equipment

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| 1.8 Pulmonary Function Test (PFT) Machine | 22 |
| 1.9 Stethoscope | 24 |
| 1.10 Suction Apparatus | 26 |

1.1 BP Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------|------------|
| Multimeter | Spare cuff |
| Y- connector | Tubing |

| QUALITATIVE TEST | | |
|-------------------------------------|-------|-----------------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Chassis/ Housing/Casing | | |
| Cuff intact | | |
| Tubing flexible and crack free | | |
| Inflation bulb intact | | |
| Display and battery (if applicable) | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF (if applicable) | | |
| Cuff Inflate and deflate properly | | |
| Systolic and diastolic value | | |
| Pulse reading (if applicable) | | |
| Needle of manometer at zero | | |
| Battery charging (if applicable) | | |
| Reading deviation | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |

| QUANTITATIVE TEST | | |
|-------------------------------------------------|-----------|---------|
| Tests | Ref value | Remarks |
| Grounding Resistance | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | <100µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

1.2 CPAP Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|----------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Power cables, connectors, and wires for wear/damage | | |
| Humidifier chamber not cracked or leaking | | |
| Air inlet/outlet ports free of blockage | | |
| Pest Infestation | | |
| Strain Relief | | |
| Controls/Switches | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Airflow starts and stops as expected | | |
| Pressure ramp function operates correctly | | |
| Alarm system and visual/audible indicators functional | | |
| Display settings (pressure, ramp time, etc.) adjustable and accurate | | |
| Air filter clean or replaced | | |
| Humidifier heats properly (if included) | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| CLEANING and DISINFECTION | | |
| External surfaces disinfected | | |

| | | |
|-------------------------------------|--|--|
| Reusable parts disinfected properly | | |
| Disposables replaced per schedule | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

1.3 Defibrillator/Automated External Defibrillator (AED)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| Defibrillator Analyzer | |
| ECG Simulator | |

| QUALITATIVE TEST | | |
|-----------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Power cables, connectors, and wires for wear/damage | | |
| Labels, markings, and warning indicators visible | | |
| Paddle condition (manual) or pad connectors (AED) good | | |
| Electrode cables intact without fraying or cracks | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Self-test/automatic test passes | | |
| ECG display functional and accurate | | |
| Energy selection and charging operational | | |
| Charging time within manufacturer's limits | | |
| Audible/visual prompts functioning correctly | | |
| Synchronized cardioversion (manual defibrillators) tested | | |
| Discharge test performed with test load | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |

| | | |
|--------------------------------------------------------|--|--|
| Touchscreens/ buttons | | |
| Display screen | | |
| CLEANING and DISINFECTION | | |
| Device cleaned and disinfected | | |
| Electrodes and paddles cleaned (manual defibrillators) | | |
| No residue or fluid ingress in connectors or housing | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |
| Output power test (Joule) (Lo, Mi, Hi) | | ± 10 % | |
| Sync time | | < 20 msec | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

1.4 Electrocardiograph Multi channel (ECG)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| ECG Simulator | |

| QUALITATIVE TEST | | |
|------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Paper tray and feed mechanism operational | | |
| Patient cable and lead wires intact (no cracks or fraying) | | |
| Electrodes and connectors clean and corrosion-free | | |
| Power cable/adapter | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| ECG waveform displays clearly | | |
| Printout function working properly | | |
| Lead selection and signal switching accurate | | |
| Noise-free signal with proper filtering | | |
| Alarm/alert indicators functioning correctly | | |
| 1mV step Response | | |
| Paper speed and grid alignment accurate | | |
| Battery backup (if available) functional | | |
| Right paper used | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |

| | | |
|----------------------------------------------------|--|--|
| Screen calibration | | |
| CLEANING and DISINFECTION | | |
| Exterior cleaned with appropriate disinfectants | | |
| Cables, clips, and reusable electrodes disinfected | | |
| No residue or buildup in ports or connectors | | |
| Storage area clean and contamination-free | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

1.5 Examination Lamp/Light

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|---------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Controls/Switches/Fuses | | |
| Power cables, connectors, and wires for wear/damage | | |
| Arm movement smooth and stays in position | | |
| Base or mounting system stable | | |
| Protective covers and heat shields intact | | |
| Indicator lights (if any) working | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Light source intensity adjustable and functional | | |
| No flickering, dimming, or color change | | |
| Focus mechanism functional | | |
| Bulb/LED is clean and free of black spots or burn marks | | |
| Additional (if any) | | |
| CLEANING and DISINFECTION | | |
| All surfaces wiped down and disinfected | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

1.6 Mortuary Refrigerator

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | |
|----------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Controls/Switches | | |
| Fuses | | |
| Power cables, connectors, and lead wires for wear/damage | | |
| Racks/trays smooth and undamaged | | |
| Pest Infestation | | |
| Strain Relief | | |
| Door, Chamber/tray | | |
| Door alignment/gasket, seal | | |
| Locks/Brakes | | |
| Wheels (if mobile) | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Compressor operating smoothly | | |
| Evaporator and condenser coils clean | | |
| Refrigerant level checked (no leakage) | | |
| Fans and motors functional | | |
| Proper insulation around coils | | |
| Temperature sensor/probe functioning | | |
| Digital/analog temperature display accurate | | |

| | | |
|----------------------------------|--|--|
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| CLEANING and DISINFECTION | | |
| No fluid leakage or odor | | |
| Interior and trays disinfected | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

1.7 Nebulizer

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------|------------|
| Multimeter | Fuses |
| | Air filter |

| QUALITATIVE TEST | | |
|--------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Visible damage (cracks, loose parts, wear) | | |
| Labels/Safety Sticker | | |
| Power cable, plugs, and connectors secure | | |
| Air filter present and clean | | |
| Tubing and nebulizer cup intact, not discolored or cracked | | |
| Controls/Switches/Fuses | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Nebulization begins promptly when medication added | | |
| No unusual noises or vibrations during operation | | |
| Sufficient mist produced | | |
| Backpressure test performed (if applicable) | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| CLEANING and DISINFECTION | | |
| Exterior cleaned with disinfectant | | |
| Tubing, mask/mouthpiece, and nebulizer chamber cleaned/disinfected | | |
| Filter replaced or cleaned per schedule | | |

| | | |
|----------------------------|--|--|
| Storage area clean and dry | | |
|----------------------------|--|--|

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

1.8 Pulmonary Function Test (PFT) Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| Calibration Syringe (3 liters Syringe calibration) | |

| QUALITATIVE TEST | | |
|---------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Spirometer/mouthpiece holder secure | | |
| Printer (if attached) operational | | |
| Touchscreen/control buttons responsive | | |
| Pest Infestation | | |
| Strain Relief | | |
| Controls/Switches/Fuses | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Battery backup (if applicable) functioning | | |
| Flow sensor/spirometer functioning accurately | | |
| Volume calibration check with calibration syringe | | |
| Flow linearity test performed | | |
| Test curves (FVC, FEV1, etc.) recorded accurately | | |
| Additional (if any) | | |
| CLEANING and DISINFECTION | | |
| Device disinfected | | |
| Disposable items discarded after use | | |
| Patient interface cleaned properly | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100µA | |

SPARE PARTS

| S.No. | Description | Part No. | Quantity | Note |
|--------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

1.9 Stethoscope

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------|--------|
| Multimeter | Fuses |
| | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Ball and diaphragm intact | | |
| No leaks and cracks on tubing | | |
| Earpieces intact | | |
| Headset alignment | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Clear sound from chest piece | | |
| No distortion | | |
| Earpiece fit properly on ear | | |
| No residue on chestpiece | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Clean earpiece and chestpiece | | |

| QUANTITATIVE TEST | | |
|-------------------------------------------------|-----------|---------|
| Tests | Ref value | Remarks |
| Grounding Resistance | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

REMARKS

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

1.10 Suction Apparatus

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Power cable and plug in good condition | | |
| Suction jars/canisters intact and not cracked | | |
| Hoses, tubing, and connectors secure and undamaged | | |
| Wheels/casters roll smoothly (if applicable) | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Suction starts promptly when activated | | |
| Vacuum pressure builds up to required levels | | |
| Adjustable pressure control functional | | |
| Unusual noise or vibrations during operation | | |
| Overflow protection working properly (if applicable) | | |
| Airflow consistent and uninterrupted | | |
| Filters (if present) clean and effective | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Display/Switches / buttons | | |
| CLEANING and DISINFECTION | | |
| Canisters emptied and disinfected | | |

| | | |
|-------------------------------------------------------------|--|--|
| Filter and bacterial traps inspected and replaced if needed | | |
| Tubing replaced or sterilized (as per protocol if any) | | |
| Canisters emptied and disinfected | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|---------|--|
| | |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

Module 2: ICU, OT, and Oxygen Equipment

List of Equipment

| | |
|--------------------------------------------------------------|-----------|
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2. ICU Equipment

| | |
|--------------------------------------------------------------|----|
| 2.1 ACT Machine (Automated Coagulation Timer) | 31 |
| 2.2 Arterial Blood Gas Analyzer (ABG)..... | 33 |
| 2.3 BiPAP Machine..... | 35 |
| 2.4 Bronchoscope (flexible or rigid) | 37 |
| 2.5 Cardiac Monitor | 39 |
| 2.6 ECMO (Extracorporeal Membrane Oxygenation) Machine | 41 |
| 2.7 Handheld Pulse Oximeter | 43 |
| 2.8 High Flow Nasal Cannula (HFNC)..... | 45 |
| 2.9 Holter Machine..... | 47 |
| 2.10 ICU Bed, Electric | 49 |
| 2.11 Infusion Pump | 51 |
| 2.12 Patient Monitor..... | 53 |
| 2.13 Syringe Pump | 55 |
| 2.14 Ventilator..... | 57 |

2.1 ACT Machine (Automated Coagulation Timer)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|--------------------------------------------|-------|----------------------------|--|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken | |
| Chassis/Housing | | | |
| Mount / Fasteners | | | |
| Casters/Brakes | | | |
| AC Plug/receptacles | | | |
| Line Cord | | | |
| Strain Reliefs | | | |
| Fuses | | | |
| Tubes /Hoses | | | |
| Fittings/Connectors | | | |
| Control /switches | | | |
| Labels/Safety Sticker | | | |
| Pest Infestation | | | |
| Indicators/Display | | | |
| Strain Relief | | | |
| FUNCTIONAL TESTING | | | |
| Power ON/OFF | | | |
| Heating block temperature | | | |
| Sample insertion and detection sensor test | | | |
| Confirm cartridge lot | | | |
| Clotting time | | | |
| Temperature | | | |
| Battery status | | | |
| Charging indicator | | | |

| | | | |
|----------------------------------|--|--|--|
| CLEANING and DISINFECTION | | | |
| Wipe external surface | | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

2.2 Arterial Blood Gas Analyzer (ABG)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|---------------------------------------------------------------------|-------|----------------------------|--|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken | |
| Check visible damage (cracks, wear, loose components) | | | |
| Labels/Safety Sticker | | | |
| Fuses | | | |
| Power cable, plugs, and connectors secure | | | |
| Mount/Fasteners | | | |
| Controls/Switches/Fuses | | | |
| Pest Infestation | | | |
| Strain Relief | | | |
| Indicators/Display | | | |
| FUNCTIONAL TESTING | | | |
| Power ON/OFF | | | |
| pH, pCO ₂ , pO ₂ sensors clean and responsive | | | |
| Calibration and response time within limits | | | |
| Sample aspiration system clean and functioning | | | |
| No leaks or clogs in sample pathway | | | |
| Automatic or manual calibration performed routinely | | | |
| Additional (if any) | | | |
| DISPLAY AND INTERFACE | | | |
| Touchscreens/ buttons | | | |
| Display screen | | | |
| Printer (if any) | | | |
| CLEANING and DISINFECTION | | | |

| | | |
|--------------------------------------------------------|--|--|
| External and sample port cleaned | | |
| Disinfection procedure followed post-exposure to blood | | |
| Cleaned using manufacturer-recommended materials | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | µA | | |
| Leakage current patient leads acc. to IEC 60601 | µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

2.3 BiPAP Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|-----------------------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| Gas flow analyzer (with pressure gauge) | |

| QUALITATIVE TEST | | |
|----------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Chassis/Housing | | |
| Mount / Fasteners | | |
| Casters/Brakes | | |
| AC Plug/receptacles | | |
| Line Cord | | |
| Strain Reliefs | | |
| Fuses | | |
| Tubes /Hoses/ Circuit/Mask | | |
| Fittings/Connectors | | |
| Control /switches | | |
| Air filter | | |
| Labels/Safety Sticker | | |
| Pest Infestation | | |
| Indicators/Display | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Self-test | | |
| BiPAP mode (IPAP, EPAP delivery, etc.) | | |
| Air pressure | | |
| Operation of Humidifier | | |
| Alarm (high pressure, low pressure, power failure) | | |

| | | |
|-----------------------------------------|--|--|
| Pressure output | | |
| Flow sensor accuracy | | |
| Leak compensation | | |
| Circuit/tubing, mask leak check | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Disconnect reusable parts and disinfect | | |
| Clean humidifier (if applicable) | | |
| Replace / reuse filter, if needed | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

2.4 Bronchoscope (flexible or rigid)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| Leak test kit | |

| QUALITATIVE TEST | | |
|--------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Lights/ indicator | | |
| Angulation knob | | |
| Suction Bottles | | |
| Condition of lens | | |
| Insertion tube | | |
| Light guide | | |
| Fuse | | |
| Fittings/Connectors | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON, video processor and light source | | |
| Suction functionality | | |
| Insufflation function | | |
| light source brightness | | |
| Thermal system | | |
| Leak test | | |
| Verify image clarity/focusing | | |

| CLEANING and DISINFECTION | | | |
|----------------------------------|--|--|--|
| Wipe external surface | | | |
| Disinfection or sterilization | | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | µA | | |
| Leakage current patient leads acc. to IEC 60601 | µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

2.5 Cardiac Monitor

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|--------------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| Simulator(ECG/SPO2/NIBP,..etc) | |

| QUALITATIVE TEST | | |
|-------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Electrodes/Patient Cable | | |
| Printer Head | | |
| Roller | | |
| Paper | | |
| Display/touch | | |
| Fuse | | |
| Fittings/Connectors | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON | | |
| Paper feed | | |
| Trace quality | | |
| Printer Mechanism | | |
| Audible and visual alarms | | |
| Touch calibration/verify accuracy/check buttons | | |
| ECG/SP02/NIBP, etc performance | | |
| validation/verification | | |

| | | |
|----------------------------------------|--|--|
| Battery/ charger | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Disinfection probe and monitor surface | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | µA | | |
| Leakage current patient leads acc. to IEC 60601 | µA | | |
| ECG | ±1 bpm | | |
| SPO2 | ±2% | | |
| NIBP | ±5 mmHg | | |
| Temperature | ±0.2°C | | |
| IBP/EtCO2 | | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

2.6 ECMO (Extracorporeal Membrane Oxygenation) Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|------------------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| Gas flow analyzer, Oxygen Analyzer | |

| QUALITATIVE TEST | | |
|------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Chassis/Housing | | |
| Mount / Fasteners | | |
| Casters/Brakes | | |
| AC Plug/receptacles | | |
| Line Cord | | |
| Strain Reliefs | | |
| Fuses | | |
| Tubes /Hoses | | |
| Fittings/Connectors | | |
| Control /switches | | |
| Tubing, mask, connectors | | |
| Air filter | | |
| Labels/Safety Sticker | | |
| Pest Infestation | | |
| Indicators/Display | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Self-test | | |
| Pump Operation | | |
| Arterial and venous pressure | | |
| Flow sensor | | |
| Gas blender | | |

| | | |
|-----------------------------------------|--|--|
| Heater unit and safety cut off | | |
| Extracorporeal circuit | | |
| Air bubble detector | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Disconnect reusable parts and disinfect | | |
| Replace / reuse filter, if needed | | |

| QUANTITATIVE TEST | | |
|-------------------------------------------------|-------------------|----------------|
| Tests | Ref value | Remarks |
| Grounding Resistance | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | µA | |
| Leakage current patient leads acc. to IEC 60601 | µA | |
| Blood flow | ±10% of set value | |
| Pressure Monitoring | Within ±5 mmHg | |
| Temperature (compared to reference thermometer) | ±0.5°C | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

2.7 Handheld Pulse Oximeter

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| Spo2 Analyzer | |

| QUALITATIVE TEST | | |
|------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Chassis/Housing | | |
| Mount / Fasteners | | |
| AC Plug/receptacles | | |
| Line Cord | | |
| Strain Reliefs | | |
| Fuses | | |
| Tubes /Hoses | | |
| Fittings/Connectors | | |
| Control /switches | | |
| Probe | | |
| Display screen | | |
| Labels/Safety Sticker | | |
| Pest Infestation | | |
| Battery/Charger | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Self-test without error message | | |
| LED or Photodetector functionality | | |
| SPO2 reading | | |
| Pulse reading | | |
| Battery operation | | |
| Sensor detection | | |

| | | |
|------------------------------------------------------------|--|--|
| Alarm function | | |
| SPO2 simulator or calibrate/verify with reference oximeter | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Disconnect reusable parts and disinfect | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

2.8 High Flow Nasal Cannula (HFNC)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|-------------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| Flow analyzer/oxygen analyzer | |

| QUALITATIVE TEST | | |
|--------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Humidifier chamber | | |
| Oxygen inlet and tubing | | |
| Nasal cannula | | |
| Indicators/Display | | |
| Fuses | | |
| Fittings/Connectors/Leaks | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power On and self-test | | |
| Display screen | | |
| Flow rate output | | |
| Heating function of humidifier | | |
| FiO2 output | | |
| Battery backup | | |
| Fans and cooling system | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |

| | | |
|--------------------------------------|--|--|
| Disassemble and clean reusable parts | | |
| Rinse and dry humidifier | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | µA | | |
| Leakage current patient leads acc. to IEC 60601 | µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

2.9 Holter Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| ECG simulator | |

| QUALITATIVE TEST | | |
|---------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Chassis/Housing | | |
| Mount / Fasteners | | |
| Casters/Brakes | | |
| AC Plug/receptacles | | |
| Line Cord | | |
| Strain Reliefs | | |
| Fuses | | |
| Tubes /Hoses | | |
| Fittings/Connectors | | |
| Belt pouch | | |
| Harness | | |
| Electrode, lead wire | | |
| Display screen | | |
| Labels/Safety Sticker | | |
| Pest Infestation | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Self-test without error message | | |
| ECG leads, cables and signal | | |
| Electrode clips | | |
| Leads detection | | |

| | | |
|-----------------------------------------------|--|--|
| Recording time/ ensure accurate time and date | | |
| USB/ Bluetooth/ Wi-Fi connectivity | | |
| Memory card/ internal storage | | |
| Battery and charging | | |
| Verify ECG with simulator | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Disconnect reusable parts and disinfect | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

2.10 ICU Bed, Electric

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|----------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | √ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Frames | | |
| Wheels/ Brakes | | |
| Mattress condition | | |
| Side rails/ Buffers | | |
| Movement indicators, Screws | | |
| Fuses | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Check Movement modes | | |
| Battery backup test (if built-in) | | |
| Power cable and plug inspection | | |
| Unusual Noises during Movement, wheels | | |
| Sensors | | |
| Remote control | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Disassemble and clean reusable parts | | |
| Disinfect mattress | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

2.11 Infusion Pump

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| Infusion pump analyzer | |

| QUALITATIVE TEST | | |
|-----------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Chassis/Housing | | |
| Mount / Fasteners | | |
| AC Plug/receptacles | | |
| Line Cord | | |
| Strain Reliefs | | |
| Fuses | | |
| Tubes /Hoses | | |
| Fittings/Connectors | | |
| Control /switches | | |
| IV set path | | |
| Display | | |
| Labels/Safety Sticker | | |
| Pest Infestation | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Lockout Interval (PCA pumps only) | | |
| Pump Mechanism | | |
| Verify infusion modes | | |
| Alarm test (air-in-line) | | |
| Occlusion sensor | | |
| Air bubble detector | | |
| Bolus delivery | | |

| | | |
|-----------------------------------------|--|--|
| Battery run time | | |
| Door sensor | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Disconnect reusable parts and disinfect | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |
| Volume infused | | ±5% | |
| Flow accuracy | | ±5% | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

2.12 Patient Monitor

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|------------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| ECG/NIBP/SPO2, etc simulator | |

| QUALITATIVE TEST | | |
|-----------------------------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Electrodes/ Patient cables ECG, SpO ₂ , NIBP, Temp, IBP, EtCO ₂ , etc.) | | |
| Battery/ charger | | |
| Printer Head | | |
| Indicators/Display | | |
| Fuse | | |
| Fittings/Connectors | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power On and self-test | | |
| Display screen | | |
| Waveforms | | |
| NIBP cuff inflation and deflation | | |
| Alarm sound | | |
| Motor drive | | |
| Battery backup and run time | | |
| Validate/verify readings ecg/nibp/spo ₂ , etc | | |

| CLEANING and DISINFECTION | | | |
|--------------------------------------|--|--|--|
| Wipe external surface | | | |
| Disassemble and clean reusable parts | | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | µA | | |
| Leakage current patient leads acc. to IEC 60601 | µA | | |
| ECG | ±1 bpm | | |
| SPO2 | ±2% | | |
| NIBP | ±5 mmHg | | |
| Temperature | ±0.2°C | | |
| IBP/EtCO2 | | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

2.13 Syringe Pump

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| Infusion rate Analyzer | |

| QUALITATIVE TEST | | |
|-----------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Chassis/Housing | | |
| Mount / Fasteners | | |
| Casters/Brakes | | |
| AC Plug/receptacles | | |
| Line Cord | | |
| Strain Reliefs | | |
| Tubes /Hoses | | |
| Fittings/Connectors | | |
| Control /switches | | |
| Display | | |
| Labels/Safety Sticker | | |
| Pest Infestation | | |
| Fuse | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Lockout Interval (PCA pumps only) | | |
| Syringe lock | | |
| Syringe clamp | | |
| Plunger holder | | |
| Infusion modes | | |
| Syringe Recognition | | |
| Occlusion alarm | | |

| | | |
|-------------------------------------------------------------------------|--|--|
| Internal battery condition | | |
| Alarm audio and visual (air-in-line, empty container, open, nurse call) | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | µA | | |
| Leakage current patient leads acc. to IEC 60601 | µA | | |
| Flow rate | ±5% | | |
| Volume accuracy | ±5% | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

2.14 Ventilator

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|-------------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| Gas Flow analyser/o2 analyzer | |
| Test lung | |

| QUALITATIVE TEST | | |
|---------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Chassis/Housing | | |
| Mount / Fasteners | | |
| Casters/Brakes | | |
| AC Plug/receptacles | | |
| Line Cord | | |
| Strain Reliefs | | |
| Fuses | | |
| Tubes /Hoses | | |
| Fittings/Connectors | | |
| Control /switches/Fuse | | |
| Air filter, exhalation valves, flow sensors | | |
| Labels/Safety Sticker | | |
| Pest Infestation | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Heater | | |
| Humidifier | | |
| Compressor | | |
| Oxygen sensor | | |
| Patient breathing circuit | | |
| Flow sensor, exhalation valve | | |
| Pressure relief mechanism | | |

| | | |
|------------------------------------------------------------|--|--|
| Modes (AC, SIMV, CPAP, PSV, etc.) | | |
| Alarm functionality (high, low, medium, apnea, disconnect) | | |
| Date/ Time setting | | |
| Fail-safe oxygen valve | | |
| Gauge and regulators | | |
| Verify Gas supply within pressure range | | |
| Lesk test | | |
| Touch screen, screen lock | | |
| Battery back up | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Disconnect reusable parts | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|-------------------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |
| Tidal Volume | | ±10% of set value | |
| Respiratory Rate | | ± 2bpm | |
| PEEP | | within ±2 cmH ₂ O | |
| FiO ₂ | | Within ±5% of set value | |
| Inspiratory Flow | | Within ±10% of expected value | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

REMARKS

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |

Approved By:

3. Operation Theatre Equipment

| | |
|--------------------------------------|----|
| 3.1 Anesthesia Machine | 60 |
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3.1 Anesthesia Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|-----------------------------|-------|----------------------------|--|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken | |
| Casing/Housing/Chassis | | | |
| Mount/Fasteners | | | |
| Labels/Safety Sticker | | | |
| Controls/Switches | | | |
| Strain Relief | | | |
| Castors/brakes | | | |
| Breathing circuit | | | |
| Humidifier | | | |
| Gas outlet/inlet | | | |
| Flowmeter | | | |
| Bellows | | | |
| Pest Infestation | | | |
| Fuse | | | |
| Door alignment/gasket, seal | | | |
| FUNCTIONAL TESTING | | | |
| Power ON/OFF | | | |
| Self-test | | | |
| Breathing system | | | |
| Pressure relief mechanism | | | |
| Audible signals | | | |
| Modes and settings | | | |
| Additional (if any) | | | |
| CLEANING and DISINFECTION | | | |

| | | |
|-----------------------|--|--|
| Wipe external surface | | |
|-----------------------|--|--|

| QUANTITATIVE TEST | | |
|-------------------------------------------------|-------------------------------------------------------------------------------|----------------|
| Tests | Ref value | Remarks |
| Grounding Resistance | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | µA | |
| Leakage current patient leads acc. to IEC 60601 | µA | |
| Oxygen flush valve | 35-75 L/min; O2 flow meter drop <1 L/min at 2 L/min; return to 2 L/min <2 sec | |
| Breathing system | ≥30 cm H2O, 30 sec | |
| APL Valve | ~1 to >30 cm H2O | |
| Minimum Oxygen Flow and Percentage | 100-250 mL/min | |
| Flow meters | ±10% | |
| PEEP Valve | System pressure <1 cm H2O and ±1.5 cm volume display | |
| Exhaled Volume Monitor | ±15% test lung value; ±15% minute volume display | |
| FiO2 Accuracy | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |

Approved By:

3.2 Arthroscopy tower

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | |
|---------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches/Fuse | | |
| Strain Relief | | |
| Pest Infestation | | |
| Fittings/Connectors | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Self-test | | |
| Audible Signals | | |
| Camera System | | |
| Camera head (zoom, focus, tilt) | | |
| White balance | | |
| Image clarity | | |
| Light Source | | |
| Lamp functionality | | |
| Brightness level | | |
| Monitor | | |
| Display clarity | | |
| Flickering | | |
| HDMI/DVI or equivalent | | |
| Recording Unit | | |
| Video/ audio recording | | |
| Storage device | | |
| Irrigation Pump | | |

| | | |
|---------------------------------------------------|--|--|
| Proper pressure setting | | |
| Flow rate accuracy | | |
| Tubing connection | | |
| RF Ablator | | |
| Power ON/OFF | | |
| Power output levels adjustable and stable | | |
| Monopolar and bipolar modes functional | | |
| Audible alarms and warning signals operational | | |
| Footswitch and handpiece tested | | |
| Patient return electrode monitoring (REM) working | | |
| Shaver System | | |
| Blade/Burr condition and expiration | | |
| Blade rotation/oscillation verification | | |
| Suction functionality | | |
| Shaver Handpiece and Footswitch tested | | |
| TELESCOPE | | |
| Optical clarity | | |
| Fiber optic light cable intact without breakage | | |
| Working channel | | |
| CLEANING & MAINTENANCE | | |
| Wipe down exterior surface | | |
| Clean lens and light connectors | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

REMARKS

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |

Approved By:

3.3 Blood and Fluid Warmer

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-----------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Controls/Switches | | |
| Fuses | | |
| Power cables, connectors, and wires for wear/damage | | |
| Fluid pathway free from blockages | | |
| Heating plate or warming chamber undamaged | | |
| Mount/Fasteners | | |
| Pest Infestation | | |
| Indicators/Display | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Temperature settings adjustable and functional | | |
| Heating element warms fluids to the desired range | | |
| Flow rate maintained without obstructions | | |
| Flow rate monitoring accuracy checked | | |
| Audible and visual alarms functional | | |
| Temperature accuracy verified | | |
| Overheating protection mechanism tested | | |
| Additional (if any) | | |

| DISPLAY AND INTERFACE | | |
|----------------------------------------------|--|--|
| Touchscreens/ buttons | | |
| Display screen | | |
| CLEANING and DISINFECTION | | |
| External surfaces disinfected | | |
| Fluid pathways flushed and cleaned | | |
| Tubing and accessories free of contamination | | |

| QUANTITATIVE TEST | | |
|-------------------------------------------------|------------------|----------------|
| Tests | Ref value | Remarks |
| Grounding Resistance | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | µA | |
| Leakage current patient leads acc. to IEC 60601 | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

3.4 Electro Surgical Unit (ESU)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|----------------------------------------------------|--|-------|-----------------------------------|
| VISUAL INSPECTION | | ✓ / X | Action needed/Action taken |
| No visible damage (cracks, wear, loose components) | | | |
| Labels/Safety Sticker | | | |
| Power cable and plug in good condition | | | |
| Footswitch, handpiece, and accessories intact | | | |
| Electrode holder free of corrosion or wear | | | |
| Ventilation grilles free of dust and obstruction | | | |
| Mount/Fasteners | | | |
| Pest infestation | | | |
| Indicators/Display | | | |
| Fuses | | | |
| Strain Relief | | | |
| FUNCTIONAL TESTING | | | |
| Power ON/OFF | | | |
| Power output levels adjustable and stable | | | |
| Monopolar and bipolar modes functional | | | |
| Audible alarms and warning signals operational | | | |
| Footswitch and handpiece tested | | | |
| Patient return electrode monitoring(REM) working | | | |
| Alarm activation verified | | | |
| Automatic power shutoff tested | | | |
| Additional (if any) | | | |
| DISPLAY AND INTERFACE | | | |
| Touchscreens/buttons | | | |
| Display screen | | | |

| CLEANING AND DISINFECTION | | |
|-------------------------------------------------|--|--|
| Handpiece and electrodes cleaned and sterilized | | |
| Footswitch and control panel disinfected | | |
| Storage area clean and contamination-free | | |

| QUANTITATIVE TEST | | |
|-------------------------------------------------|------------------|----------------|
| Tests | Ref value | Remarks |
| Grounding Resistance | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | µA | |
| Leakage current patient leads acc. to IEC 60601 | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

3.5 Laparoscopy Tower

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|--------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Power cables, connectors, and wires for wear/damage | | |
| Lens free from scratches, fogging, or cracks | | |
| Cart structure stable and wheels move smoothly | | |
| Footswitch (if applicable) in good condition | | |
| Mount/Fasteners | | |
| Pest Infestation | | |
| Indicators/Display | | |
| Fuses | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Light source operational and brightness adjustable | | |
| Optical Light Cable Inspection | | |
| Camera head and coupler functioning properly | | |
| Image quality sharp and free of distortion | | |
| Insufflator providing correct gas flow and pressure | | |
| Monitor displaying sharp and color-accurate images (White balance) | | |

| | | |
|-------------------------------------------------|--|--|
| Video recorder or capture system functional | | |
| CO ₂ Supply and Flow meter check | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| TELESCOPE | | |
| Optical clarity | | |
| Fiber optic light cable intact without breakage | | |
| Working channel | | |
| CLEANING and DISINFECTION | | |
| External surfaces disinfected | | |
| Camera and light cables cleaned properly | | |
| Light source filters cleaned or replaced | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

3.6 Lithotripsy Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | | |
|-----------------------------------------------------------|-------------------|--------------------------------|
| Hospital Name: | Inventory Number: | |
| Make/Model: | Manufacturer: | |
| PM Frequency: | Date of PM: | |
| Serial No.: | Next PM: | |
| TEST APPARATUS | SPARES | |
| Multimeter | Fuses | |
| Electrical Safety Analyzer | | |
| QUALITATIVE TEST | | |
| VISUAL INSPECTION | ✓ / X | Action needed/ Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Controls/Switches | | |
| Fuses | | |
| Power cables, connectors, and lead wires for wear/damage | | |
| Treatment table and patient positioning system functional | | |
| Shockwave generator intact with no signs of wear or leaks | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Footswitch and remote control operational | | |
| Focus and alignment system properly calibrated | | |
| Fluoroscopy or ultrasound guidance functioning | | |

| | | |
|--------------------------------------------------------------|--|--|
| Water cushion integrity and water level maintained | | |
| Shockwave energy levels adjustable and within specifications | | |

| | | |
|-----------------------------------------------|--|--|
| Emergency stop button working | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Water system free of contamination | | |
| Patient-contact surfaces properly disinfected | | |
| Ultrasonic gel or contact medium replaced | | |
| Disposable accessories properly discarded | | |

| | | |
|-------------------------------------------------|------------------|----------------|
| QUANTITATIVE TEST | | |
| Tests | Ref value | Remarks |
| Grounding Resistance | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | µA | |
| Leakage current patient leads acc. to IEC 60601 | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

3.7 Operating Table (OT Table)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|--------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Tabletop surface free from damage or corrosion | | |
| All moving parts (joints, hinges) inspected | | |
| Side rails, clamps, and accessories in good condition | | |
| Casters and brakes working properly | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Height adjustment functions properly | | |
| Trendelenburg & reverse Trendelenburg positions tested | | |
| Lateral tilt adjustments working | | |
| Head, leg, back, and Kidney bridge sections adjustable | | |
| Remote control or foot pedal operational | | |
| No oil or hydraulic fluid leakage | | |
| Actuators moving smoothly without resistance | | |
| All mechanical locks and safety stops operational | | |
| Battery backup (if available) functional | | |
| Additional (if any) | | |

| CLEANING and DISINFECTION | | | |
|-----------------------------------------------|--|--|--|
| Tabletop and frame disinfected after each use | | | |
| Straps and patient supports sanitized | | | |
| Upholstery and padding intact and cleaned | | | |
| Storage area clean and contamination-free | | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

3.8 OT Light (Ceiling)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-----------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Light head, arm, and suspension system intact | | |
| Joints and hinges move smoothly without resistance | | |
| Power cable, plugs, and connectors secure | | |
| Dome cover and protective glass clean and undamaged | | |
| Controls/Switches/Fuse | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Light source intensity adjustable and functional | | |
| Light focus and beam adjustment working properly | | |
| No flickering or unusual dimming | | |
| Backup battery (if available) operational | | |
| Handles and positioning mechanism working properly | | |
| Additional (if any) | | |
| CLEANING and DISINFECTION | | |
| Light dome and arm disinfected | | |
| Handles cleaned and sterilized | | |
| Filters and reflectors dust-free | | |
| No contamination or residue buildup | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

3.9 OT Light (Portable)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-----------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Wheels/Brakes | | |
| Joints and hinges move smoothly without resistance | | |
| Power cable, plugs, and connectors secure | | |
| Dome cover and protective glass clean and undamaged | | |
| Pest infestation | | |
| Controls/Switches/Fuse | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Light source intensity adjustable and functional | | |
| Light focus and beam adjustment working properly | | |
| No flickering or unusual dimming | | |
| Backup battery (if available) operational | | |
| Handles and positioning mechanism working properly | | |
| Additional (if any) | | |
| CLEANING and DISINFECTION | | |
| Light dome and arm disinfected | | |
| Handles cleaned and sterilized | | |
| Filters and reflectors dust-free | | |
| No contamination or residue buildup | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

4. Oxygen Generators and Storage Devices

| | |
|---------------------------------|----|
| 4.1 Oxygen Concentrator | 79 |
| 4.2 Oxygen Plant and MGPS | 81 |

4.1 Oxygen Concentrator

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| Oxygen Analyzer | |

| QUALITATIVE TEST | | |
|------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Controls/Switches/Fuses | | |
| Power cables, connectors, and wires for wear/damage | | |
| Wheels | | |
| Presence of accessories like (filters, humidifier bottles) | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Start up indicator | | |
| Alarms | | |
| Examine humidifier bottle | | |
| Verify flow rate setting | | |
| Compressor functioning | | |
| Check Nitrogen purge | | |
| Zeolite canister | | |
| Reservoir tank | | |
| Flow meter | | |
| Oxygen mask | | |
| Patient Bacterial filter | | |

| | | |
|----------------------------------------------------------|--|--|
| Check tubing, canula and connectors for leaks and cracks | | |
| Oxygen concentration (flow 5L/min) Should be > 90% | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface with damp cloth | | |
| Clean air filter | | |
| Clean humidifier bottle | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

4.2 Oxygen Plant and MGPS

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| | Manufacturer | Make/Model | Serial Number |
|---------------------------|--------------|------------|---------------|
| Air Compressor | | | |
| PSA Plant | | | |
| Oxygen Booster Compressor | | | |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| Oxygen analyzer | |

| Daily VISUAL INSPECTION | Sun | Mon | Tue | Wed | Thurs | Fri | Sat |
|--------------------------------------------------------|-----|-----|-----|-----|-------|-----|-----|
| Remove any combustible materials in or near plant | | | | | | | |
| Are all ventilation systems working? | | | | | | | |
| Empty Condensate Container(if equipped) | | | | | | | |
| Is the air dryer condensate draining correctly? | | | | | | | |
| Is the air tank condensate draining correctly? | | | | | | | |
| Is the in-line filters' condensate draining correctly? | | | | | | | |
| Is the compressor oil level acceptable? | | | | | | | |
| Sweep/Mop and dust surfaces | | | | | | | |
| Are there any oil leaks at the bottom of compressor? | | | | | | | |
| Pressure check (To be performed by operator) | | | | | | | |
| DAILY DATA COLLECTION | Sun | Mon | Tue | Wed | Thurs | Fri | Sat |
| PDP Temperature(°C) | | | | | | | |
| Oxygen Purity (%) | | | | | | | |
| Number of cylinders filled(time started/time filled) | | | | | | | |
| Air compressor hours | | | | | | | |
| Oxygen booster compressor hours | | | | | | | |
| PSA Plant hours(if applicable) | | | | | | | |
| Alarms code? (Please take picture of alarm) | | | | | | | |
| MGPS | | | | | | | |
| Montly check: Regulators, valves and outlets | | | | | | | |

| Component | Service | Recommended Frequency | Hours | Date | Initials |
|-------------------------------------------------|---------------------------------------------------------------|-----------------------|----------------|------|----------|
| Air Compressor | Change air filter | | | | |
| | Change oil | | | | |
| | Change oil filter | | | | |
| | Change oil separator element | | | | |
| | Inspect belt(if equipped) | | | | |
| | Clean air dryer condenser radiator | | | | |
| | Clean aftercooler and intercooler | | | | |
| | Change coalescing filter#1 | | | | |
| | Change coalescing filter#2 | | | | |
| | Change coalescing filter#3 | | | | |
| | Change coalescing filter#4 | | | | |
| PSA Plant | Change coalescing filter | | | | |
| RIX Booster Compressor | Check belt tension | | | | |
| | Check for bearing wear | | | | |
| | Clean cooling fans | | | | |
| | Clean in-line filter | | | | |
| | Change 1 st and 2 nd stage piston rings | | | | |
| QUANTITATIVE TEST | | | | | |
| Tests | | Ref value | Remarks | | |
| Grounding Resistance | | <0.5 Ohm | | | |
| Leakage current chassis to IEC 60601 | | µA | | | |
| Leakage current patient leads acc. to IEC 60601 | | µA | | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

REMARKS

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| |
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |

Approved By:

Module 3: CSSD, Delivery, Hemodialysis, and Neurology Equipment

List of Equipment

| | |
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5. CSSD Equipment

| | |
|-------------------------------------------|----|
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| 5.3 Flash Autoclave..... | 90 |
| 5.4 Microwave/ Frictional Heat | 92 |
| 5.5 Plasma Sterilizer..... | 94 |

5.1 Autoclave

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|---------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Indicators/ Display | | |
| Cable/electric wires | | |
| Labelling | | |
| Drum, trolley, tripod and accessories | | |
| Fuse | | |
| Fittings/ Connectors/ leaks | | |
| Door alignment/gasket, seal | | |
| Door, Chamber/Tray | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON | | |
| Rotary Switch | | |
| Air relief valve | | |
| Pressure relief valve | | |
| Water level | | |
| Heating element | | |
| Pressure switch/ relay switches | | |

| | | |
|----------------------------------|--|--|
| Timer Accuracy | | |
| Gasket | | |
| Door Mechanism | | |
| Air exhaust tube | | |
| Compressor | | |
| Water leakage | | |
| Steam Pressure leakage | | |
| Sterilization cycle | | |
| Check Sterility | | |
| Vacuum test | | |
| Check temperature and pressure | | |
| Check water quality | | |
| Check emergency switch button | | |
| Check motors | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Check drain line | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | ≤500µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

REMARKS

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

5.2 ETO Sterilizer (ethylene oxide)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|-----------------------------|-------|----------------------------|--|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken | |
| Casing/Housing/Chassis | | | |
| Mount/Fasteners | | | |
| Labels/Safety Sticker | | | |
| Controls/Switches | | | |
| Pest Infestation | | | |
| Indicators/ Display | | | |
| Cable/ Electric wires | | | |
| Accessories | | | |
| Fuse | | | |
| Fittings/ Connectors/ Leaks | | | |
| Door alignment/gasket, seal | | | |
| Door, Chamber/tray | | | |
| Strain relief | | | |
| FUNCTIONAL TESTING | | | |
| Power ON | | | |
| Check heat-up time | | | |
| Check pressure build up | | | |
| Check door, gasket/seal | | | |
| Emergency switch check | | | |
| Check eto gas leak | | | |
| Pressure relief valve | | | |
| CLEANING and DISINFECTION | | | |
| Wipe external surface | | | |

| | | |
|------------------|--|--|
| Check drain line | | |
|------------------|--|--|

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

5.3 Flash Autoclave

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-----------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Indicators/ Display | | |
| Cable | | |
| Accessories | | |
| Fuse | | |
| Fittings/ Connectors/ Leaks | | |
| Door, Chamber/tray | | |
| Door alignment/gasket, seal | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Check heat-up time | | |
| Check pressure build up | | |
| Pressure relief valve | | |
| Door gasket, check leak | | |
| Check Sterility | | |
| Check Heating element | | |
| Check water level/ quality | | |

| | | |
|----------------------------------|--|--|
| Check drainage system | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Check drain line | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

5.4 Microwave/ Frictional Heat

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|--------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Indicators/ Display | | |
| Cable | | |
| Accessories | | |
| Fuse | | |
| Fittings/ Connectors | | |
| Door alignment, gasket/seal | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON | | |
| Check control panel function | | |
| Inspect magnetron and waveguide for issues. | | |
| Monitor microwave generators for leaks. | | |
| Inspect, drain, and replace oil if necessary. | | |
| Replace filters, if necessary | | |
| Inspect grinding and shredding knives, motors, and wear bars | | |
| Sterilization cycle | | |

| | | |
|----------------------------------------|--|--|
| Inspect moving parts for misalignment. | | |
| Inspect door seals. | | |
| Emergency switch check | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Check drain line | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

5.5 Plasma Sterilizer

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|--------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Indicators/ Display | | |
| Cable/electric wires | | |
| Accessories | | |
| Fuse | | |
| Fittings/ Connectors | | |
| Locks/Brakes | | |
| Inspect Door gasket for debris, inside chamber | | |
| Visible damage | | |
| Door, loading tray | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON | | |
| Ensure cassette/cartridge properly/ liquid cup installed and not expired | | |
| Verify working of printer | | |
| Door locking mechanism | | |
| Vacuum pump | | |

| | | |
|-------------------------------------------------------------|--|--|
| Check filters | | |
| Run full system (if possible) | | |
| Review cycle count | | |
| Check for error codes, electrical connection, control panel | | |
| Check the working of pressure and temperature sensor | | |
| Check power backup and records of cycle | | |
| Check plasma generation | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Clean air intake and exhaust filter (if needed) | | |
| Clean interior chamber and trays with a lint-free cloth | | |
| Clean door | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

6. Maternity Equipment

| | |
|------------------------------------------|-----|
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| 6.2 Fetal Doppler..... | 99 |
| 6.3 Fetal Monitor..... | 101 |
| 6.4 Infant Incubator | 103 |
| 6.5 Phototherapy Unit (Infant) | 105 |
| 6.6 Radiant Warmer | 107 |

6.1 Cardiotocography (CTG) Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | |
|-----------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Power cables, connectors, and wires for wear/damage | | |
| Probe holders and paper tray in place | | |
| Mount/Fasteners | | |
| Controls/switches | | |
| Pest Infestation | | |
| Strain Relief | | |
| Fuse | | |
| Fittings/Connectors | | |
| Indicators/Display | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Indicator lights (power, alarm, battery) functional | | |
| FHR (Fetal Heart Rate) probe clean and functioning | | |
| TOCO (Tocodynamometer) probe working properly | | |
| FHR signal detection accurate on phantom/test mode | | |
| TOCO signal detection within expected range | | |
| Manual and automatic recording modes functional | | |
| Paper feed and printing quality verified | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |

| | | |
|----------------------------------------|--|--|
| Display screen | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Probes disinfected after use | | |
| All contact surfaces wiped and cleaned | | |
| Gel cleaned from probes and unit | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

6.2 Fetal Doppler

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|-----------------------------------------------------|--|-------|----------------------------|
| VISUAL INSPECTION | | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | | |
| Labels/Safety Sticker | | | |
| Battery/Charger | | | |
| Controls/Switches | | | |
| Fuses | | | |
| Power cables, connectors, and wires for wear/damage | | | |
| Mount/Fasteners | | | |
| Pest Infestation | | | |
| Indicators/Display | | | |
| Strain Relief | | | |
| FUNCTIONAL TESTING | | | |
| Power ON/OFF | | | |
| Audio output clear without distortion | | | |
| Volume control functioning | | | |
| Signal sensitivity test passed | | | |
| Probe detects fetal heart rate (FHR) reliably | | | |
| Additional (if any) | | | |
| DISPLAY AND INTERFACE | | | |
| Touchscreens/ buttons | | | |
| Display screen | | | |
| Backlight/display brightness functioning properly | | | |
| CLEANING and DISINFECTION | | | |
| External surfaces disinfected | | | |
| Probe cleaned and disinfected | | | |

| | | |
|------------------------------------|--|--|
| No gel residue or buildup on probe | | |
|------------------------------------|--|--|

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

6.3 Fetal Monitor

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|---------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Probes and cables in good condition (no fraying or damage) | | |
| Printer cover, paper tray, and connectors intact | | |
| Mount/Fasteners | | |
| Controls/Switches | | |
| Pest infestation | | |
| Indicators/Display | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| FHR (Fetal Heart Rate) and TOCO probes detect signal on phantom/test mode | | |
| Auto and manual modes operational | | |
| Alarm indicators and volume functional | | |
| Twin monitoring (if available) works correctly | | |
| Interface with EMR or external devices works properly | | |
| Event markers and manual annotation working | | |
| Paper feed smooth and no jams | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |

| | | |
|----------------------------------------------|--|--|
| Display screen | | |
| Printer | | |
| CLEANING and DISINFECTION | | |
| Probes cleaned and disinfected | | |
| Gel or residue removed from sensors | | |
| Patient-contact accessories replaced if worn | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

6.4 Infant Incubator

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-----------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Power cables, connectors, and wires for wear/damage | | |
| Incubator walls and hood free from cracks or damage | | |
| Wheels and brakes functional | | |
| Access ports, doors, and hinges working properly | | |
| Mount/Fasteners | | |
| Controls/Switches | | |
| Pest infestation | | |
| Indicators/Display | | |
| Fuse | | |
| Door, Chamber/tray | | |
| Door alignment/gasket, seal | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Temperature control system functioning correctly | | |
| Humidity control system functioning correctly | | |
| Oxygen delivery system working properly | | |
| Air circulation fan operating without noise | | |
| Alarm system tested (temperature, oxygen, humidity) | | |
| Humidity level calibration checked | | |

| | | |
|-----------------------------------------------|--|--|
| Air circulation performance tested | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| CLEANING and DISINFECTION | | |
| Interior and exterior surfaces disinfected | | |
| Mattress, bedding, and accessories cleaned | | |
| Humidifier reservoir cleaned and refilled | | |
| Air filters checked and replaced if necessary | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

6.5 Phototherapy Unit (Infant)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-----------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Controls/Switches/Fuses | | |
| Power cables, connectors, and wires for wear/damage | | |
| Wheels or stand stable and lockable (if applicable) | | |
| Mount/Fasteners | | |
| Pest Infestation | | |
| Indicators/ Display | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Light intensity within acceptable therapeutic range | | |
| Timer operates and resets properly | | |
| Audible/visual alarms functional (if applicable) | | |
| Fan cooling system working (if present) | | |
| Light uniformity across treatment area | | |
| Hours-of-use meter checked and recorded | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| CLEANING and DISINFECTION | | |

| | | |
|--------------------------------------------------|--|--|
| External surfaces disinfected | | |
| Lamp covers and patient-contact surfaces cleaned | | |
| Cooling fan/filter cleaned (if applicable) | | |
| Barrier protections applied where necessary | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

6.6 Radiant Warmer

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Power cables, connectors, and wires for wear/damage | | |
| Mattress and bed platform clean and undamaged | | |
| Side rails, drawers, and trays functional | | |
| Overhead heating element housing clean and crack-free | | |
| Stand/base stable with lockable wheels (if mobile) | | |
| Mount/Fasteners | | |
| Controls/Switches | | |
| Pest infestation | | |
| Indicators/Display | | |
| Fuse | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Manual and servo modes selectable and functional | | |
| Skin temperature probe functional | | |
| Heater turns ON/OFF as per temperature setting | | |
| Digital/ analog display accurate and readable | | |
| Timer/Alarm functions tested | | |
| Phototherapy unit (if attached) functions correctly | | |
| Oxygen blender and flowmeter (if integrated) tested | | |

| | | |
|-------------------------------------------------|--|--|
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| CLEANING and DISINFECTION | | |
| All surfaces disinfected | | |
| Skin probe and accessories cleaned per protocol | | |
| Mattress and linens clean and undamaged | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

7. Hemodialysis Equipment

| | |
|----------------------------------------|-----|
| 7.1 Dialyzer Reprocessing Machine..... | 110 |
| 7.2 Hemodialysis Machine..... | 112 |
| 7.3 Water Treatment System..... | 114 |

7.1 Dialyzer Reprocessing Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Visible damage | | |
| Power cable and plug in good condition | | |
| Water leakage from inlet and drainage pipe | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Control/Switches/Fuse | | |
| Pest Infestation | | |
| Strain Relief | | |
| Indicators/Display | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Self-test/automatic test passes | | |
| Check the water supply and drainage system | | |
| Perform a leak and pressure test to ensure there are no internal leaks. | | |
| Conduct a residual test to ensure effective rinsing and the absence of residual disinfectant or contaminants in the reprocessed dialyzer. | | |
| Alarm system and visual/audible indicators functional | | |
| Check printer/paper | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Disinfect the machine | | |

| | | |
|-------------------------|--|--|
| Clean air vent and fans | | |
|-------------------------|--|--|

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

7.2 Hemodialysis Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|--------------------------------------------------------------------------------|---------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | Filters |
| Measuring flask | |
| Dialysate Reference Meter | |
| Universal Calibration Kit (PH, temperature, conductivity, pressure, flow rate) | |

| QUALITATIVE TEST | | |
|----------------------------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Visible damage (cracks, wear, loose connectors) | | |
| Power cable and plug in good condition | | |
| Suctiontube, dialysate line and dialyzer couplings clean | | |
| Air inlet filter, water inlet filter and suction tube filter present and clean | | |
| Leakage from inlet and drainage pipe | | |
| Check wheels/lock | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches/Fuses | | |
| Pest Infestation | | |
| Indicators/Display | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Self-test/automatic test passes | | |
| Alarm system and visual/audible indicators functional | | |
| Display settings (pressure, conductivity, UF, blood leak time, etc.) adjustable and accurate | | |
| Check the blood delivery system | | |

| | | |
|----------------------------------------------------------------------------------------|--|--|
| Check the dialysate temperature | | |
| Check the blood pressure monitoring system | | |
| Check the blood leak detection system | | |
| Check the conductivity monitoring system | | |
| Check the heparin delivery system | | |
| Check Heating element,hydraulic,air leakage,check heat exchanger and balancing chamber | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Disinfect hydraulics of the machine | | |
| Clean air vent and fans | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 μA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 μA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

7.3 Water Treatment System

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|----------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Visible damage | | |
| Power cable and plug in good condition | | |
| Water leakage, gauge, indicator, control panel, flowmeter | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches/Fuses | | |
| Pest Infestation | | |
| Strain Relief | | |
| Indicators/Display | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Check the inlet and outlet pressures of the RO plant | | |
| Check adequate water flow and pressure from the source water. | | |
| Check membranes like micron filter | | |
| Inspect and clean the RO membrane, if necessary | | |
| Check the UV lamp | | |
| Verify that the RO plant is properly connected to the hemodialysis machine | | |
| Check and verify water according to AAMI standard | | |
| Conduct bacterial/chemical test | | |
| Check pumps and filters | | |

| CLEANING and DISINFECTION | | |
|----------------------------------|--|--|
| Wipe external surface | | |
| Clean flow meters | | |
| Backwash and Rinse | | |

| QUANTITATIVE TEST | | |
|-------------------------------------------------|------------------|----------------|
| Tests | Ref value | Remarks |
| Grounding Resistance | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

8. Neurology Equipment

| | |
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8.1 EEG

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|----------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Electrodes and caps in good condition | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Controls/Switches | | |
| Fuses | | |
| Mount/Fasteners | | |
| Indicators/Display | | |
| Strain Relief | | |
| Power cables, connectors, and lead wires for wear/damage | | |
| Electrode gel/cream available & not expired | | |
| Pest Infestation | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Recording functions correctly | | |
| Electrode impedance check passes within limits | | |
| Signal quality is clear with no excessive noise | | |
| Calibration performed and within acceptable range | | |
| Printing function working correctly | | |
| Additional (if any) | | |
| Emergency stop function operational | | |

| DISPLAY AND INTERFACE | | |
|------------------------------------------------------|--|--|
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer | | |
| CLEANING and DISINFECTION | | |
| Electrodes and caps properly cleaned and disinfected | | |
| Patient-contact surfaces sanitized | | |
| Gel, paste, or consumables stored correctly | | |

| QUANTITATIVE TEST | | |
|-------------------------------------------------|------------------|----------------|
| Tests | Ref value | Remarks |
| Grounding Resistance | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | <100 μ A | |
| Leakage current patient leads acc. to IEC 60601 | <100 μ A | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

8.2 EMG

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|----------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Electrodes and caps in good condition | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Controls/Switches | | |
| Fuses | | |
| Mount/Fasteners | | |
| Indicators/Display | | |
| Strain Relief | | |
| Power cables, connectors, and lead wires for wear/damage | | |
| Electrode gel/cream available & not expired | | |
| Needles | | |
| Pest Infestation | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Internal Battery(if equipped) | | |
| Recording functions correctly | | |
| Electrode impedance check passes within limits | | |
| Signal quality is clear with no excessive noise | | |
| Calibration performed and within acceptable range | | |
| Accuracy Rate of Stimulus | | |

| | | |
|------------------------------------------------------|--|--|
| Alarm Systems/Audible Signal | | |
| Printing function working correctly | | |
| Emergency stop function operational | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer | | |
| CLEANING and DISINFECTION | | |
| Electrodes and caps properly cleaned and disinfected | | |
| Patient-contact surfaces sanitized | | |
| Gel, paste, or consumables stored correctly | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 μA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 μA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

8.3 Intraoperative Neuro Monitoring System

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|------------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | Electrodes |
| | |

| QUALITATIVE TEST | | |
|-----------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Power cables, connectors, and wires for wear/damage | | |
| Electrodes/Lead wire damage inspection | | |
| Wheels and brakes functional | | |
| Mount/Fasteners | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Indicators/Display | | |
| Fuses | | |
| Strain Relief | | |

| FUNCTIONAL TESTING | | |
|-----------------------------------------------|--|--|
| Power ON/OFF | | |
| UPS/ Battery Backup | | |
| Check signal acquisition and waveform display | | |
| Stimulation current Duration | | |
| Check signal noise levels | | |
| Software | | |
| Alarm/Audible Signals | | |
| Printers (if present) | | |

| | | |
|-----------------------------------------------|--|--|
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| CLEANING and DISINFECTION | | |
| Interior and exterior surfaces disinfected | | |
| Mattress, bedding, and accessories cleaned | | |
| Humidifier reservoir cleaned and refilled | | |
| Air filters checked and replaced if necessary | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

8.4 Neuro Bone Drill

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|------------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | Drill bits |
| | |

| QUALITATIVE TEST | | |
|-----------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Controls/Switches | | |
| Fuses | | |
| Power cables, connectors, and wires for wear/damage | | |
| Tubes/hoses | | |
| Mount/Fasteners | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Motor Movements/Speed Testing | | |
| Attachments/hubs | | |
| Air pressure | | |
| Suction System | | |
| Footswitch | | |
| Emergency buttons(if any) | | |
| Additional (if any) | | |
| CLEANING and DISINFECTION | | |
| External surfaces disinfected | | |
| Use of cleaning solutions | | |

| | | |
|----------------------------------------------------------------|--|--|
| Use of Cleaning Caps attached on the cleaning solution bottles | | |
| Storage area clean and contamination-free | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

8.5 Surgical Neuro Microscope

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-----------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Control Switches | | |
| Power cables, connectors, and wires for wear/damage | | |
| Alignments of optical parts or lenses | | |
| Presence of lenses | | |
| Mount/Fasteners | | |
| Pest Infestation | | |
| Fuses | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Movement of Arms | | |
| Check light Intensity | | |
| Check zooms and focus | | |
| Check Image clarity | | |
| Verify working of magnification | | |
| Check Eyepiece and objectives adjustments | | |
| Check all buttons and knobs | | |
| Inspect Camera | | |
| Check connection of cables | | |

| | | |
|----------------------------------------|--|--|
| Check motor movements | | |
| Hand switch/Focusing Remote | | |
| Inspect Footswitch | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Wipe External Surface | | |
| All contact surfaces wiped and cleaned | | |
| Clean Lenses | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

Module 4: Laboratory Equipment

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9.1 Automatic Slide Stainer

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | |
|----------------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Fuses | | |
| Power cable, plugs, and connectors secure | | |
| Check and replace reagents (if required) | | |
| Check drainage hole of the tank is clogged and drainage pipe for kink and broken | | |
| Check loading pipe for bent or damage | | |
| Check and replace charcoal filter | | |
| Check for any residue present at the bottom of the reagent tank | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Use Teflon grease to grease the cams of the agitation shafts | | |
| Reagent loading system working | | |
| Pipetting system accurate (if present) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |

| | | |
|-------------------------------------------------------------------------------------------------------------------------------|--|--|
| Surfaces and sample holders disinfected | | |
| System free from odors or unusual noise | | |
| Clean glass lid with water-degreasing detergent (also look for manufacturer's guideline) | | |
| Clean painted structure/ housing surface with aviation spirit - degreasing detergent (also look for manufacturer's guideline) | | |
| Clean steel parts with detergent (for steel) (also look for manufacturer's guideline) | | |
| Clean aluminium parts with detergent - for aluminium (also look for manufacturer's guideline) | | |
| Clean tank with water and descaling product (as per manufacturer's recommendation) | | |
| Clean and wipe touchscreen / display with clean cloth | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.2 Bilirubinometer

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Check battery level | | |
| Rechargeable cable output | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| All keypads functional | | |
| All indicators functional | | |
| Reagents not expired and stored properly | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer functional (if any) | | |
| Check printer paper | | |
| CLEANING and DISINFECTION | | |
| Wipe the bilirubinometer with 70% alcohol using gauze (also look for manufacturer's guideline)) | | |
| System free from odors or unusual noise | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

REMARKS

| |
|--|
| |
|--|

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.3 Binocular Microscope

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|-----------------------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | Lenses Cleaning Paper |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Power cable, plugs, and connectors secure | | |
| Fuses | | |
| Strain Reliefs | | |
| Safety switch | | |
| Light Filters | | |
| Controls / Switches | | |
| All accessories present | | |
| Pest Infestation | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Check and change lamp if needed | | |
| Check the light intensity controller | | |
| Check the mechanical movement of stage | | |
| Check specimen holder | | |
| DISPLAY AND INTERFACE | | |
| Keypad | | |
| Display screen (if available) | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |

| | | |
|-------------------------------------------------------------------------------------------------------------------------------|--|--|
| Clean surface around microscope, Keep microscope away from window or dusty site, Always cover microscope when not in use. | | |
| Clean the eyepiece lens with lens cleaning paper and lens cleaning solution recommended by the manufacturer | | |
| Clean the objective lens with lens cleaning paper, lint free swab and lens cleaning solution recommended by the manufacturer. | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|---------|--|
| | |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.4 Biochemistry Analyzer (Fully Automated)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| TDS Meter | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Visible damage (cracks, loose parts, wear) | | |
| De-ionized water level | | |
| Check TDS of deionized water | | |
| Reagent Tray and Reaction Tray Temperature | | |
| Labels/Safety Sticker | | |
| Fuses | | |
| Power cable, plugs, and connectors secure | | |
| Hinges, doors, and access panels functional | | |
| Leakage from tubes, sample and reagent probe | | |
| Leakage from laundry probe (if present) | | |
| Water spillage from reaction tray | | |
| Water spillage from probe wash position | | |
| Waste leakage from machine due to waste line blockage | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Switch on and check basic function | | |
| Initialize pass | | |
| QC Pass | | |
| Liquid level sensing of reagent and sample probe | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |

| OPTICAL AND PHOTOMETRIC | | |
|------------------------------------------------------------------------------------------------------------------------------|--|--|
| Photometer status check | | |
| Check and change lamp (if needed) | | |
| Cell blank status check | | |
| REAGENT MANAGEMENT | | |
| Reagents stored properly (expiry dates checked) | | |
| Reagent levels monitored | | |
| Check reagent barcode | | |
| CLEANING and DISINFECTION | | |
| Run probe and tube cleaning from the system | | |
| External surfaces disinfected | | |
| Sample and reagent probe cleaning externally | | |
| Clean stirrer paddle (if available) | | |
| Waste containers emptied and clean | | |
| Check and change external tubing of distilled water can, cleaning solution can and waste bottle can from machine (if needed) | | |

| QUANTITATIVE TEST | | |
|-------------------------------------------------|------------------|----------------|
| Tests | Ref value | Remarks |
| Grounding Resistance | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.5 Biochemistry Analyzer (Semi-Automated)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|----------------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Visible damage (cracks, loose parts, wear) | | |
| Incubation Temperature | | |
| Labels/Safety Sticker | | |
| Power cable, plugs, and connectors secure | | |
| Fuses | | |
| Overheating or unusual noise | | |
| Check leakage from aspiration tube | | |
| Check proper if volume of sample is aspirated by the machine | | |
| Pest Infestation | | |
| Strain Relief | | |
| Controls/Switches | | |
| Check and replace peristaltic pump tube | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Switch on and check basic function | | |
| Initialize pass | | |
| Check photometer status and note down the gain value of lamp in every wavelength | | |
| Replace lamp (if required/as per manufacturer guideline) | | |
| Pump calibration status | | |
| QC Pass | | |
| DISPLAY AND INTERFACE | | |

| | | |
|--------------------------------------------------------------|--|--|
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| REAGENT MANAGEMENT | | |
| Reagents stored properly (expiry dates checked) | | |
| CLEANING and DISINFECTION | | |
| Internal and external surfaces wiped and disinfected | | |
| Waste containers emptied and clean | | |
| Clean flowcell with manufacturer's recommended wash solution | | |
| Waste containers emptied and clean | | |
| Sample spillage or residue around machine | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.6 Biosafety Cabinet

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Power cable, plugs, and connectors secure | | |
| Controls/Switches/Fuses | | |
| Check downflow velocity from the cabinet | | |
| Check inflow velocity from the cabinet | | |
| Check proper functioning of indicators | | |
| Pest Infestation | | |
| Strain Relief | | |
| Door, Chamber/Tray | | |
| Door alignment/gasket, seal | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Check proper functioning of switches | | |
| Check UV light | | |
| Check Fluorescent light | | |
| Check UV interlock | | |
| Perform smoke flow test | | |
| Check sash height alarm | | |
| DISPLAY AND INTERFACE | | |
| Keypad | | |

| | | |
|---------------------------------------------------------------------------------------------------------------------------|--|--|
| Display screen (if available) | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Remove work surface panel and clean the negative pressure tray | | |
| Spray all stationary and removable internal components of the hood with surface disinfectant, such as screens and plenum. | | |
| Spray sterile ethanol on clean , lint free paper/cloth and wipe hood | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.7 CD4 counter

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-----------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Power cables, connectors, and wires for wear/damage | | |
| Sample holder/cartridge tray clean and undamaged | | |
| Controls/Switches/Fuse | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Optical sensors clean and aligned | | |
| Light source (laser/LED) functioning correctly | | |
| Reagent tubing and connections leak-free | | |
| Sample flow consistent and obstruction-free | | |
| Calibration with standard/control samples | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| REAGENTS AND CONSUMABLES | | |
| Reagents checked for expiry | | |
| Proper storage of reagents and control materials | | |

| | | |
|----------------------------------------------------------|--|--|
| Cuvettes, cartridges, or slides stored as per guidelines | | |
| CLEANING and DISINFECTION | | |
| Internal/External surfaces cleaned | | |
| Internal waste container emptied (if applicable) | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.8 Centrifuge Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|----------------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | Carbon Brushes |
| Tachometer | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Power cable, plugs, and connectors secure | | |
| Gasket not damaged | | |
| Rubber feet/stabilizers in place | | |
| Door/lid lock mechanism functions properly | | |
| Check base level | | |
| Controls/Switches/Fuses | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Rotor installed and seated correctly | | |
| Buckets and tubes balanced properly during use | | |
| Speed and time settings adjustable and accurate | | |
| Acceleration and deceleration working properly | | |
| Display/indicator lights functioning correctly | | |
| Safety interlock prevents opening during spin | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |

| | | |
|--------------------------------------------------------|--|--|
| Check latch mechanism, lid latch and emergency release | | |
| Check the lid spring, gas springs and lid shaft | | |
| Check the motor and the motor shaft | | |
| Check the motor suspension | | |
| Check the imbalance detection | | |
| Check the motor fan. device fan and ventilation slots | | |
| Display screen | | |
| CLEANING and DISINFECTION | | |
| Internal and external surfaces wiped and disinfected | | |
| Air vents dust-free | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.9 Coagulation Analyzer

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|--------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Fuses | | |
| Power cable, plugs, and connectors secure | | |
| Pest Infestation | | |
| Indicator/Display | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Sample loading and rotor mechanism operational | | |
| Reagent loading system working | | |
| Pipetting system accurate | | |
| Mixing and incubation system functional | | |
| End-point and clot detection systems working correctly | | |
| Test results print/display correctly | | |
| Reagent blank and system check performed | | |
| Reagents not expired and stored properly | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |

| CLEANING and DISINFECTION | | | |
|-----------------------------------------|--|--|--|
| Surfaces and sample holders disinfected | | | |
| System free from odors or unusual noise | | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.10 Colorimeter

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Power cable and plug in good condition | | |
| Cuvette holder intact and clean | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Indicators/Display | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Light source (lamp/LED) working properly | | |
| Optical filters clean and not damaged | | |
| Lens and light path free of dust and obstruction | | |
| Blank reading stable | | |
| Standard solution gives expected absorbance | | |
| Verified with standard solutions | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| SOFTWARE AND FIRMWARE | | |

| | | |
|--------------------------------------|--|--|
| Software | | |
| CLEANING and DISINFECTION | | |
| Internal/External surfaces cleaned | | |
| Cuvettes cleaned and stored properly | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.11 Cyto Centrifuge Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Power cable, plugs, and connectors secure | | |
| Gasket not damaged | | |
| Rubber feet/stabilizers in place | | |
| Door/lid lock mechanism functions properly | | |
| Machine is situated in flat surface | | |
| Pest Infestation | | |
| Strain Relief | | |
| Controls/Switches/Fuses | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Rotor installed and seated correctly | | |
| Buckets and tubes balanced properly during use | | |
| Keypads functional | | |
| Speed and time settings adjustable and accurate | | |
| Acceleration and deceleration working properly | | |
| Display/indicator lights functioning correctly | | |
| Safety interlock prevents opening during spin | | |
| Speed of the centrifuge is as mentioned in display | | |

| | | |
|--------------------------------------------------------|--|--|
| Check latch mechanism, lid latch and emergency release | | |
| Check the lid spring, gas springs and lid shaft | | |
| Check the motor and the motor shaft | | |
| Check the motor suspension | | |
| Check the imbalance detection | | |
| Check the motor fan. device fan and ventilation slots | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Wipe and disinfect external surfaces of the machine | | |
| Wipe and disinfect rotor and internal of the machine | | |
| Air vents dust-free | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.12 Deep Freezer

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Fuses | | |
| Power cable, plugs, and connectors secure | | |
| Unusual noise/vibration or heating | | |
| Inspect temperature daily and note | | |
| Inspect water accumulation at the bottom of the appliance, if present wipe with dry cloth | | |
| Inspect the lid gasket sealing is tight to frame when the lid is closed | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Initialization of machine passes | | |
| QC pass (if needed) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Clean the grille on side of freezer | | |

| | | |
|-----------------------------------------------------------------------|--|--|
| Clean compartment with lukewarm water and mild detergent | | |
| Ringe with clean water and dry | | |
| Clean exterior part of freezer with lukewarm water and mild detergent | | |
| Ringe with clean water and dry | | |
| Clean gasket around the lid | | |
| Clean filters | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.13 Dry Bath Incubator

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Fuses | | |
| Power cable, plugs, and connectors secure | | |
| Both main and heating indicator works properly | | |
| Pest Infestation | | |
| Door alignment/gasket, seal | | |
| Controls/Switches | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Heater functional | | |
| Temperature uniform across the bath | | |
| Thermostat/temperature control accurate | | |
| Over-temperature cut-off works (if applicable) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Clean external part of the incubator | | |

| | | |
|-----------------------------------------|--|--|
| Clean internal part of test tube holder | | |
|-----------------------------------------|--|--|

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.14 Electrolyte Analyzer

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|--------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Power cables, connectors, and wires for wear/damage | | |
| Reagent pack properly intact (if present) | | |
| Electrode connectors secure | | |
| Controls/Switches/Fuses | | |
| Pest Infestation | | |
| Indicators/Display | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Sample and reagent tubing checked for clogs/cracks | | |
| Initialization pass | | |
| Internal pumps functional and pump test pass | | |
| Reagent Calibration Pass and reagent slope value noted | | |
| QC pass | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| REAGENTS AND CONSUMABLES | | |
| Reagents checked for expiry and storage condition | | |

| | | |
|-------------------------------------------------------|--|--|
| Electrolyte standards and cleaning solution available | | |
| Waste container emptied (if present) | | |
| CLEANING and DISINFECTION | | |
| Internal/External surfaces cleaned | | |
| Daily cleaning cycles performed | | |
| Probe cleaned externally | | |
| Probe and tubing flushed and disinfected | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.15 Electrophoresis Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Power cable, plugs, and connectors secure | | |
| Fuses | | |
| Inspect for the gel residues on the glass plate or within the instrument | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Initialize pass | | |
| QC pass | | |
| DISPLAY AND INTERFACE | | |
| Keypad | | |
| Display screen (if available) | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Clean the surrounding of the machine. | | |
| Clean the apparatus using water and a mild soap or detergent - dry with a soft tissue or cloth (Avoid using abrasive cleaners and rough clothes or brushes) | | |

| | | |
|---------------------------------------------------------------------------------------------------|--|--|
| Grease and adhesive from the sealing tape may be removed by gently wiping with hexane or paraffin | | |
|---------------------------------------------------------------------------------------------------|--|--|

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.16 Extraction Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Power cable, plugs, and connectors secure | | |
| Fuses | | |
| Check motor function and axis calibration | | |
| Check air-tight status of piston units | | |
| Check and change UV light (annually or as instructed by manufacturer's) | | |
| Pest Infestation | | |
| Strain Relief | | |
| Indicators/Display | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Initialize pass | | |
| QC pass | | |
| DISPLAY AND INTERFACE | | |
| Keypad | | |
| Display screen (if available) | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Clean the surrounding of the machine. | | |

| | | |
|---------------------------------------------------------------------------------|--|--|
| Clean the sample tray with a soft paper tissue or soft cloth | | |
| Clean instrument body by removing dust and specks gently with a dry, soft cloth | | |
| Grease ball screws if required | | |
| Clean piston | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.17 Flow Cytometer

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|----------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Power cables, connectors, and wires for wear/damage | | |
| Sample probe, tray, and holders intact | | |
| Labels/Safety Sticker | | |
| Strain Reliefs | | |
| Controls / Switches/ Indicators/ Fuses | | |
| Inspect sample injection port- Ensure it is clean and straight | | |
| Inspect for reagent and sample spillage | | |
| Observe for smooth movement on up/down strokes of sample syringe | | |
| Inspect for leakage from the instrument | | |
| Pest infestation | | |
| FUNCTIONAL CHECK | | |
| Power ON/OFF | | |
| Pumps, valves, and mixers operational | | |
| Background check performed | | |
| QC Check | | |
| Check the proper functioning of all pumps and valves from the system | | |
| Check proper functioning of sample tray movement | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |

| | | |
|---------------------------------------------------------------------------------------------------|--|--|
| Display screen | | |
| Printer (if any) | | |
| REAGENTS AND CONSUMABLES | | |
| Check fluid levels - Empty waste and refill fluids as needed | | |
| Check reagent and sensor lines | | |
| Check waste sensor | | |
| CLEANING and DISINFECTION | | |
| Clean external surface of the instrument | | |
| Probe cleaning externally (wipe) | | |
| Probe cleaning using probe cleaner | | |
| Run daily cleaning cycle | | |
| Run weekly cleaning cycle | | |
| Deep clean if required | | |
| For optical filter , use compressed air or a bulb blower to gently blow away the dust (if needed) | | |
| Perform System Decontamination (as suggested by the manufacturers) | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |

Approved By:

9.18 GeneXpert

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|-------------------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | Disposable Gloves |
| Optical Brush | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Fuses | | |
| Power cable, plugs, and connectors secure | | |
| No unusual noise or heating | | |
| No used cartridge inside machine | | |
| Controls/Switches | | |
| Indicators/Display | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Initialization of machine passes | | |
| QC pass (if needed) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Clean work area with 70% ethanol | | |
| Discard used cartridge | | |
| Disinfect instrument surfaces | | |

| | | |
|-------------------------------------------------------------------------------------------------------|--|--|
| Disinfect cartridge bay interior | | |
| Immediately clean cartridge bay interior | | |
| Disinfect plunger rod (dissolved in lint free paper) | | |
| Clean optical part with optical brush carefully | | |
| Clean fan filter (If needed wash with soap water, completely let it dry and place it at the position) | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.19 Hematology Analyzer

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|----------------------------------------------------------------------|--|-------|----------------------------|
| VISUAL INSPECTION | | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | | |
| Labels/Safety Sticker | | | |
| Power cables, connectors, and wires for wear/damage | | | |
| Sample probe, tray, and holders intact | | | |
| Sample and reagent tubing clear and unclogged | | | |
| Leaks or air bubbles in tubing | | | |
| Pest infestation | | | |
| Strain Relief | | | |
| Controls/Switches/Fuse | | | |
| Indicators/Display | | | |
| FUNCTIONAL CHECK | | | |
| Power ON/OFF | | | |
| Pumps, valves, and mixers operational | | | |
| Background check performed | | | |
| Blank Check | | | |
| QC Check | | | |
| Check the proper functioning of all pumps and valves from the system | | | |
| Check proper functioning of sample tray movement (if present) | | | |
| DISPLAY AND INTERFACE | | | |
| Touchscreens/ buttons | | | |
| Display screen | | | |
| Printer (if any) | | | |

| REAGENTS AND CONSUMABLES | | |
|------------------------------------------------------------|--|--|
| Reagents checked for expiry and storage condition | | |
| Check expiry date of QC | | |
| Cleaning and diluent level | | |
| Lyse level | | |
| CLEANING and DISINFECTION | | |
| External surfaces cleaned | | |
| Probe cleaning externally (wipe) | | |
| Probe cleaning using probe cleaner | | |
| Run daily cleaning cycle | | |
| Run weekly cleaning cycle | | |
| Hard cleaning (if needed) | | |
| Change filter (if present) | | |
| Clean incubation bath (if present, if possible, if needed) | | |

| QUANTITATIVE TEST | | |
|-------------------------------------------------|------------------|----------------|
| Tests | Ref value | Remarks |
| Grounding Resistance | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.20 High Performance Liquid Chromatography (HPLC Analyzer)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Fuses | | |
| Power cable, plugs, and connectors secure | | |
| No unusual noise or heating | | |
| Check waste bottle is empty | | |
| Check and replace reagent bottles filters if needed | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Indicators/Display | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Initialization of machine passes | | |
| QC pass (if needed) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Surfaces and sample holders disinfected | | |

| | | |
|-----------------------------------------------------------------------|--|--|
| No leftover reagent spills or contamination | | |
| Perform a cleaning cycle procedure from system (every end of the day) | | |
| Sample probe cleaning | | |
| Enzymatic cleaning | | |
| Hot rinse (or high and low pressure cleaning) if required | | |
| Change kit and column (as per manufacturer guideline) | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.21 Hot Air Oven

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|--------------------------------------------------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Power cable, plugs, and connectors secure | | |
| Fuses | | |
| Strain Reliefs | | |
| Safety switch | | |
| Indicators | | |
| Controls / Switches | | |
| All accessories present | | |
| Door, Chamber/tray | | |
| Door alignment/gasket, seal | | |
| Pest Infestation | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Switch on power, check all indicators and control function | | |
| Check proper functioning of the heater; Cross check the temperature inside the oven against temperature controller | | |
| WORK | | |
| Tighten loose screws and check all parts fitted tightly and correctly | | |
| Lubricate moving door parts | | |

| | | |
|----------------------------------------------------------------------|--|--|
| Replace any broken hinges, handles gaskets etc | | |
| Clean any fan or ventilation inlet and outlet holes and filters | | |
| Remove any wire with insulation damage, bare wire or sharp bends | | |
| DISPLAY AND INTERFACE | | |
| Keypad | | |
| Display screen (if available) | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Remove any remaining samples and specimen from inside of the machine | | |
| Disinfect inside and outside of machine | | |
| Clean inside and outside of the machine | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.22 Immuno Assay Analyzer (CLIA)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|---------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Instrument shell and panel cleaning | | |
| Labels/Safety Sticker | | |
| Fuses | | |
| Power cable, plugs, and connectors secure | | |
| No unusual noise or heating | | |
| Check buffer solution level | | |
| Check waste bottle emptied | | |
| Check leakage form magnetic separation dispensing probe | | |
| Check and replace wash buffer filter (if needed) | | |
| Pest Infestation | | |
| Strain Relief | | |
| Controls/Switches | | |
| Indicators/Display | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Initialization of machine passes | | |
| Liquid level sensing of sample or reagent probe | | |
| QC pass | | |
| DISPLAY AND INTERFACE | | |

| | | |
|----------------------------------------------------------------------|--|--|
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Surfaces and sample holders disinfected | | |
| No leftover reagent spills or contamination | | |
| Washer nozzles clean and not clogged | | |
| Clean probe externally (wipe) | | |
| Empty and clean solid waste tray | | |
| Empty and clean biohazard waste can | | |
| Clean level sensor of biohazard waste can and buffer solution can | | |
| Wipe magnetic separation aspiration and dispensing probe (if needed) | | |
| Reagent tray cleaning | | |
| Sample tray cleaning | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.23 Immuno Assay Analyzer (ELISA-Reader)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|---------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Fuses | | |
| Power cable, plugs, and connectors secure | | |
| Unusual noise or heating | | |
| Movement of plate during reading is accurate | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Indicators/Display | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Initialization pass | | |
| Photometer status check and note down the gain values for each wavelength | | |
| Replace Lamp (if required) | | |
| Optical filter integrity (wavelengths) | | |
| Optical path clean and aligned | | |
| Plate loader operates smoothly | | |
| Blank, positive, and negative controls within expected ranges | | |
| Additional (if any) | | |

| DISPLAY AND INTERFACE | | | |
|-----------------------------------------|--|--|--|
| Touchscreens/ buttons | | | |
| Display screen | | | |
| Printer (if any) | | | |
| CLEANING and DISINFECTION | | | |
| Clean and disinfect external cabinet | | | |
| Clean dust form display using dry cloth | | | |
| Clean sample plate tray | | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.24 Immuno Assay Analyzer (ELISA-Washer)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Fuses | | |
| Power cable, plugs, and connectors secure | | |
| Unusual noise or heating | | |
| Movement of plate during washing is accurate | | |
| Check aspirate height | | |
| Check dispense height | | |
| Check Leakage from manifolds | | |
| Check reagents and insure empty waste bottle | | |
| Tighten the waste bottle cap | | |
| Plate loader operates smoothly | | |
| Check tubes connections intact | | |
| Check and replace tubing (if required) | | |
| Pest Infestation | | |
| Strain Relief | | |
| Controls/Switches | | |
| Indicators/Display | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Initialization pass | | |

| | | |
|-----------------------------------------|--|--|
| Pump and valve check from the system | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Clean and disinfect external cabinet | | |
| Clean dust form display using dry cloth | | |
| Clean sample plate tray | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.25 Immuno Assay Analyzer (FIA)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Instrument shell and panel cleaning | | |
| Labels/Safety Sticker | | |
| Fuses | | |
| Power cable, plugs, and connectors secure | | |
| Unusual noise or heating | | |
| Smooth operation of cartridge loading platform | | |
| Check Temperature status | | |
| Check Battery Level | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Initialization of machine passes | | |
| QC pass | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |

| | | |
|-------------------------------------------------------------------------------------------|--|--|
| Clean the surface of the analyzer using clean and dry cloth | | |
| Clean LCD screen/display of the analyzer using clean and dry cloth | | |
| Clean cartridge loading platform with cotton soaked in distilled water or soft wet paper. | | |
| Disinfect cartridge loading platform (as per manufacturer guideline) | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.26 Immuno Assay Analyzer (Fully Automated - ELISA)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | | |
|----------------------------------------------------------------------|-------------------|----------------------------|
| Hospital Name: | Inventory Number: | |
| Make/Model: | Manufacturer: | |
| PM Frequency: | Date of PM: | |
| Serial No. : | Next PM: | |
| TEST APPARATUS | SPARES | |
| Multimeter | Fuses | |
| Electrical Safety Analyzer | | |
| QUALITATIVE TEST | | |
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Power cable, plugs, and connectors secure | | |
| Optical path clean and aligned | | |
| Plate loader operates smoothly | | |
| Movement of plate during reading is accurate | | |
| Aspiration and dispensing functioning correctly | | |
| Leakage from manifolds | | |
| Manifold height correct | | |
| Leakage from tubes | | |
| Waste and wash bottles positioned correctly | | |
| Controls/Switches/Fuses | | |
| Indicators/Display | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Photometer check and note down gain values for all the wavelengths | | |
| Replace lamp (if needed) | | |
| Perform washer prime and check the flow of liquid from all the tubes | | |
| Optical filter integrity (wavelengths) | | |
| Blank, positive, negative controls within expected range | | |
| Additional (if any) | | |

| DISPLAY AND INTERFACE | | | |
|---------------------------------------------------------------------|--|--|--|
| Touchscreens/ buttons | | | |
| Display screen | | | |
| REAGENT AND CONSUMABLES | | | |
| Reagent level check | | | |
| Reagent stored properly | | | |
| CLEANING and DISINFECTION | | | |
| Surfaces and sample holders disinfected | | | |
| Clean sample plate tray | | | |
| Washer nozzles clean and not clogged | | | |
| Clean de-ionized water bottle | | | |
| Empty and clean the disposable tip container/ solid waste container | | | |
| Empty and clean bio-hazardous waste bottle | | | |
| Clean space around the machine, remove any unwanted samples | | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |

Approved By:

9.27 Incubator

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|-------------------------------------------------------------------------------------------------------------------------|-------|----------------------------|--|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken | |
| Check visible damage (cracks, wear, loose components) | | | |
| Labels/Safety Sticker | | | |
| Battery/Charger | | | |
| Power cable, plugs, and connectors secure | | | |
| Incubator walls and hood free from cracks or damage | | | |
| Wheels and brakes functional | | | |
| Access parts, doors and hinges working properly | | | |
| Mount/Fasteners | | | |
| Pest Infestation | | | |
| Strain Relief | | | |
| Controls/Switches/Fuse | | | |
| Indicators/Display | | | |
| Door, Chamber/Tray | | | |
| Door alignment/gasket, seal | | | |
| FUNCTIONAL TESTING | | | |
| Power ON/OFF | | | |
| Check | | | |
| Switch on power, check all indicators and control function | | | |
| Check proper functioning of the heater; Cross check the temperature inside the incubator against temperature controller | | | |
| WORK | | | |

| | | |
|-----------------------------------------------------------------------|--|--|
| Tighten loose screws and check all parts fitted tightly and correctly | | |
| Lubricate moving door parts | | |
| Replace any broken hinges, handles gaskets etc | | |
| Clean any fan or ventilation inlet and outlet holes and filters | | |
| Remove any wire with insulation damage, bare wire or sharp bends | | |
| DISPLAY AND INTERFACE | | |
| Keypad | | |
| Display screen (if available) | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Remove any remaining samples and specimen from the incubator | | |
| Disinfect inside and outside of machine | | |
| Clean inside and outside of the machine | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.28 Microtome

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Power cable, plugs, and connectors secure | | |
| Fuses | | |
| Strain Reliefs | | |
| Safety switch | | |
| Indicators | | |
| Controls / Switches | | |
| All accessories present | | |
| Check blade position | | |
| Pest Infestation | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Switch on power, check all indicators and control function | | |
| WORK | | |
| Disassemble the blade holder before cleaning | | |
| Lock handwheel before cleaning | | |
| DISPLAY AND INTERFACE | | |
| Keypad | | |
| Display screen (if available) | | |

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Clean exterior part of the instrument (Do not use solvent containing acetone and benzene) | | |
| Wipe the instrument using dry fabric with little detergent to clean surface of the instrument | | |
| Remove slice waste | | |
| Unload subassembly of blade holder and remove dirty paraffin from clamping part between disposable blade and blade holder carefully | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.29 PCR Cabinet

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Power cable, plugs, and connectors secure | | |
| Fuses | | |
| Check proper functioning of indicators | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Sample trays aligned and move smoothly | | |
| Door, Chamber/Tray | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Check proper functioning of indicators/Display | | |
| Check proper functioning of switches | | |
| Check UV light | | |
| Check UV light lifetime | | |
| Check Fluorescent light | | |
| Check UV interlock | | |
| Perform smoke flow test | | |
| Check sash height alarm | | |
| DISPLAY AND INTERFACE | | |

| | | |
|---------------------------------------------------------------------------------------------------------------------------|--|--|
| Keypad | | |
| Display screen (if available) | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Remove work surface panel and clean the negative pressure tray | | |
| Spray all stationary and removable internal components of the hood with surface disinfectant, such as screens and plenum. | | |
| Spray sterile ethanol on clean , lint free paper/cloth and wipe hood | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.30 PCR Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Power cable, plugs, and connectors secure | | |
| Fuses | | |
| Platform/tray clean and stable | | |
| Monitor temperature | | |
| Pest Infestation | | |
| Strain Relief | | |
| Controls/Switches | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Initialize pass | | |
| QC pass | | |
| DISPLAY AND INTERFACE | | |
| Keypad | | |
| Display screen (if available) | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Clean the surrounding of the machine. | | |
| Clean the outer lid of the machine | | |

| | | |
|----------------------------------------------------------------------------------------|--|--|
| Use a soft brush, damp cloth to remove the light dust from the vent | | |
| Use soft cloth to wipe dust from the display | | |
| Clean reaction module bay using a damp soft cloth to remove debris and spilled liquids | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.31 Protein Analyzer/Nephelometry

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Fuses | | |
| Power cable, plugs, and connectors secure | | |
| Smooth operation of cartridge loading platform | | |
| Check Waste container/bottle level | | |
| Check wash solution level (if available) | | |
| Check battery level | | |
| Check temperature | | |
| Specimen/sample spillage near analyzer | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Indicators/Display | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Switch on and check basic function | | |
| Initialize pass | | |
| QC Pass | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |

| | | |
|-----------------------------------------------------------------------------------------------|--|--|
| Printer (if any) | | |
| REAGENT MANAGEMENT | | |
| Cartridge and reagent stored in proper temperature (as specified by manufacturer's guideline) | | |
| CLEANING and DISINFECTION | | |
| Clean the surface of the analyzer using clean and dry cloth | | |
| Clean LCD screen/display of the analyzer using clean and dry cloth | | |
| Clean cartridge loading platform with cotton soaked in distilled water or soft wet paper. | | |
| Disinfect cartridge loading platform (as per manufacturer guideline) | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.32 Refrigerated Centrifuge Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|--------------------------------------------------------|-------|----------------------------|--|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken | |
| Check visible damage (cracks, wear, loose components) | | | |
| Labels/Safety Sticker | | | |
| Power cable, plugs, and connectors secure | | | |
| Gasket not damaged | | | |
| Rubber feet/stabilizers in place | | | |
| Door/lid lock mechanism functions properly | | | |
| Machine is situated in flat surface | | | |
| Pest Infestation | | | |
| Strain Relief | | | |
| FUNCTIONAL TESTING | | | |
| Power ON/OFF | | | |
| Rotor installed and seated correctly | | | |
| Buckets and tubes balanced properly during use | | | |
| Keypads functional | | | |
| Speed and time settings adjustable and accurate | | | |
| Acceleration and deceleration working properly | | | |
| Display/indicator lights functioning correctly | | | |
| Safety interlock prevents opening during spin | | | |
| Speed of the centrifuge is as mentioned in display | | | |
| Check rotor bowl | | | |
| Check latch mechanism, lid latch and emergency release | | | |
| Check the lid spring, gas springs and lid shaft | | | |

| | | |
|-------------------------------------------------------|--|--|
| Check the motor and the motor shaft | | |
| Check the motor suspension | | |
| Check the imbalance detection | | |
| Check the motor fan, device fan and ventilation slots | | |
| Check temperature sensors | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Wipe and disinfect external surfaces of the machine | | |
| Wipe and disinfect rotor and internal of the machine | | |
| Clean condensation water tray and the hose | | |
| Clean and grease the lid latch | | |
| Clean and grease the rotor bowl seal | | |
| Air vents dust-free | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |

Approved By:

9.33 Refrigerator

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|-----------------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | Optical Brush |
| | Lint Free Wipes |

| QUALITATIVE TEST | | |
|---------------------------------------------------------------------------------------------------|----------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Fuses | | |
| Power cable, plugs, and connectors secure | | |
| Unusual noise/vibration or heating | | |
| Inspect temperature daily and note | | |
| Check the evaporator coils and drain lines for ice buildup and blockage respectively | | |
| Look for signs of corrosion on various parts of the units | | |
| Make sure the drain pan is clear and the condensers are thoroughly vacuumed | | |
| Inspect the doors for torn gaskets and the evaporator fan blades for nicks | | |
| Verify that all fans rotate freely, quietly and securely fastened | | |
| Check the wiring for any signs of wear or damage, and make sure all connections are secure | | |
| Test the operation of fan cycle and defrost controls and adjust them if needed | | |
| Look for abnormal ice patterns and verify the defrost heater amp draw against the unit data plate | | |
| Measure the unit cooler superheat and ensure it matches your specific application | | |

| | | |
|-------------------------------------------------------|--|--|
| Check the coil for the even distribution | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Initialization of machine passes | | |
| QC pass (if needed) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Wipe down outside of freezer with soft cloth | | |
| Clean the filter and condenser coil | | |
| Remove ice from the gasket and doors with soft cloths | | |
| Clean filters | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

REMARKS

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| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |

Approved By:

9.34 Shaker (Mixer)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|--------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Power cable, plugs, and connectors secure | | |
| Fuses | | |
| Platform/tray clean and stable | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Shaking motion smooth and even (orbital/linear) | | |
| Speed control knob/display functions correctly | | |
| Timer functions properly (if applicable) | | |
| Motor and belt system checked and lubricated (if applicable) | | |
| Carbon brush | | |
| Vibration minimal at all speed settings | | |
| No unusual noise or overheating during operation | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Keypad | | |

| | | |
|------------------------------------------------------|--|--|
| Display screen (if available) | | |
| CLEANING and DISINFECTION | | |
| Internal and external surfaces wiped and disinfected | | |
| Clean chemical or biological residue present | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.35 Tissue Processor

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES | |
|----------------------------------------------------------------------|--------|----------------------------|
| Multimeter | Fuses | |
| Electrical Safety Analyzer | | |
| QUALITATIVE TEST | | |
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Power cable, plugs, and connectors secure | | |
| Strain Reliefs | | |
| Controls / Switches/Indicators/ Fuses | | |
| Check hinges | | |
| Check filter in the retort (if present / if necessary) | | |
| Check retort strainer for any tissue or wax debris | | |
| Inspect paraffin levels | | |
| Inspect reagent container fluid levels | | |
| Check reagent bottles are fully inserted in the connection manifolds | | |
| Inspect and empty condensate bottle (if needed) | | |
| Check drip tray (if present) | | |
| Pest Infestation | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Switch on power, check all indicators and control function | | |
| WORK | | |
| Remove any wire with insulation damage, bare wire or sharp bends | | |
| Lubricate reagent bottle O-rings and check for damage | | |
| Lubricate moving door parts | | |

| | | |
|---------------------------------------------------------------------------|--|--|
| Replace any broken hinges, handles gaskets etc | | |
| Scrape around the retorts lids and seals | | |
| DISPLAY AND INTERFACE | | |
| Keypad | | |
| Display screen (if available) | | |
| CLEANING and DISINFECTION | | |
| Clean exterior of instrument with soft cloth and minimal amount of xylene | | |
| Remove residual paraffin from inner surface of wax bath lid | | |
| Clean the lids of the paraffin baths | | |
| Clean the paraffin drip tray | | |
| Check and clean the filter in paraffin station | | |
| Clean retort/ retort lid seal/ retort's glass window | | |
| Clear dust from the wax bath air vent | | |
| Clean liquid level sensors with cleaning tool | | |
| Clean filter in the retort | | |
| Clean stirrer | | |
| Clean touchscreen | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

REMARKS

| |
|---------|
| REMARKS |
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |

Approved By:

9.36 Urine Analyzer (Semi Automated)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Fuses | | |
| Power cable, plugs, and connectors secure | | |
| Smooth operation of strip loading platform | | |
| Specimen/sample spillage near analyzer | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Switch on and check basic function | | |
| Initialize pass | | |
| QC Pass | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| REAGENT MANAGEMENT | | |
| Test Strips stored at room temperature. | | |
| CLEANING and DISINFECTION | | |

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Clean the surface of the analyzer using clean and dry cloth | | |
| Clean LCD screen/display of the analyzer using clean and dry cloth | | |
| Clean strip loading platform with cotton soaked in distilled water or soft wet paper. | | |
| If there are urine stains in loading platform clean the loading platform with 0.1 N sodium hydroxide or as per manufacturer's suggestion (avoid calibrated slice during this procedure) | | |
| Disinfect strip loading platform (as per manufacturer guideline) | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

9.37 Water Bath

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| Lab Thermometer | |

| QUALITATIVE TEST | | |
|----------------------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Fuses | | |
| Power cable, plugs, and connectors secure | | |
| Lid (if applicable) present and fits properly | | |
| Check for missing or damage of electrostatic paint, specially at the corners and edges | | |
| Pest Infestation | | |
| Strain Relief | | |
| Controls/Switches | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Heater functional and heats water to set temperature | | |
| Temperature uniform across the bath | | |
| Thermostat/temperature control accurate | | |
| Over-temperature cut-off works (if applicable) | | |
| Water clean and filled to appropriate level | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |

| | | |
|-------------------------------------------------------|--|--|
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Inner tank cleaned from deposits, algae, and residues | | |
| Drainage system checked and functional | | |
| Exterior wiped with appropriate cleaner | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| |
|----------------|
| REMARKS |
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

Module 5: Dental, ENT and Ophthalmic Equipment

List of Equipment

| | |
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10. Dental Equipment

| | |
|----------------------------------|-----|
| 10.1 Dental Chair | 209 |
| 10.2 Dental Unit, Complete | 211 |
| 10.3 Dental X-Ray Unit | 213 |
| 10.4 OPG Machine..... | 215 |

10.1 Dental Chair

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-----------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Check visible damage (cracks, wear, loose components) | | |
| Labels/Safety Sticker | | |
| Chair upholstery free from damage or tears | | |
| Armrests and headrest secure and adjustable | | |
| Foot control and hand controls functional | | |
| Hydraulic system free of leaks (non-Motorized chair) | | |
| Base and frame stable and secure | | |
| Mount/Fasteners | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Chair movement (up/down, recline) smooth and functional | | |
| Foot pedal and control panel working properly | | |
| LED/halogen dental light operational | | |
| Handpiece holders secure and working | | |
| Water and air supply operational (Min 3 Bar air Pressure) | | |
| Saliva ejector and suction system functioning | | |
| Spittoon flush and drainage system working properly | | |

| | | |
|----------------------------------------------------------------|--|--|
| Hydraulic oil level and pressure checked (non-Motorized chair) | | |
| Additional (if any) | | |
| CLEANING and DISINFECTION | | |
| Chair upholstery disinfected | | |
| Handpieces, suction tips, and spittoon cleaned | | |
| Foot pedal and control panel sanitized | | |
| Storage compartments clean and organized | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

10.2 Dental Unit, Complete

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|-------------------------------------|-------|----------------------------|--|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken | |
| Casing/Housing/Chassis/Moving parts | | | |
| Labels/Safety Sticker | | | |
| Controls/Switches/Fuses | | | |
| Pest Infestation | | | |
| Strain Relief | | | |
| Castors/brakes/ Mount/Fasteners | | | |
| Filters | | | |
| Tubing for cracks and leaks | | | |
| Spittoon Tumbler | | | |
| Mount/Fasteners | | | |
| FUNCTIONAL TESTING | | | |
| Chair movement | | | |
| Foot control | | | |
| Brake | | | |
| Noise free operation of motor | | | |
| Curing Light | | | |
| Light intensity | | | |
| Light focus | | | |
| Tip defects | | | |
| Bulb functionality | | | |
| Hand piece | | | |
| Air and water spray | | | |
| Handpiece intact | | | |
| Check for cracks and blockage | | | |
| 3-way syringe | | | |

| | | |
|-----------------------------------------------------------|--|--|
| Air/Water supply system | | |
| Air pressure (3-5 Bar) | | |
| Water Pressure | | |
| Drain water | | |
| Fluid backflow | | |
| Ultrasonic Scaler | | |
| Scaler tips | | |
| Water inlet connector | | |
| Water Spray valve | | |
| Water leakage | | |
| Tip vibration Intensity and its control | | |
| Dental Air Compressor | | |
| Compressors start and stop | | |
| No unusual noise | | |
| Pipes, joints, fittings intact, Overload protectors, NRVs | | |
| Oil level (if applicable) | | |
| CLEANING AND DISINFECTION | | |
| Wipe surface with non- corrosive disinfectant | | |
| Clean clogging or mineral buildup | | |
| Flush water lines | | |

| | | |
|-------------------------------------------------|------------------|----------------|
| QUANTITATIVE TEST | | |
| Tests | Ref value | Remarks |
| Grounding Resistance | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | µA | |
| Leakage current patient leads acc. to IEC 60601 | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

REMARKS

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| |
|--|

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |

Approved By:

10.3 Dental X-Ray Unit

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|------------------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger (if Portable Unit) | | |
| Controls/Switches/Fuses | | |
| Power cables, connectors, and wires for wear/damage | | |
| Articulating arm moves smoothly and locks properly | | |
| Warning labels and control markings intact | | |
| Proper shielding around tube head | | |
| Mount/Fasteners | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| X-ray exposure trigger working correctly | | |
| Timer settings accurate and responsive | | |
| Exposure indicators functioning (visual/audible alerts) | | |
| Proper alignment of tube head and image receptor (RVG or Phosphorus plate or IOPA) | | |
| Arm holds position without drifting | | |
| Digital image or film clarity verified | | |
| Beam alignment and collimation checked | | |

| | | |
|---------------------------------------------|--|--|
| Leakage radiation test performed | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| External surfaces disinfected | | |
| Handgrips and control surfaces cleaned | | |
| Tube head and exposure area dust-free | | |
| Barrier protections applied where necessary | | |
| SOFTWARE AND FIRMWARE | | |
| Software (RVG or Phosphorus plate viewer) | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

10.4 OPG Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|-----------------------------------------------|-------|----------------------------|--|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken | |
| Casing/Housing/Chassis | | | |
| Mount/Fasteners | | | |
| Labels/Safety Sticker | | | |
| Controls/Switches | | | |
| Pest Infestation | | | |
| Strain Relief | | | |
| Castors/brakes | | | |
| Fuses | | | |
| FUNCTIONAL TESTING | | | |
| Power ON/OFF | | | |
| Self-test | | | |
| Movement tube head and arm | | | |
| Chin rest, head rest | | | |
| Exposure button | | | |
| Indicator lights | | | |
| X- ray beam collimation and alignment | | | |
| Image contrast | | | |
| Image quality | | | |
| Image storage and retrieval | | | |
| Radiation shielding | | | |
| CLEANING AND DISINFECTION | | | |
| Wipe surface with non- corrosive disinfectant | | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 μ A | |
| Leakage current patient leads acc. to IEC 60601 | | <100 μ A | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

11. ENT Equipment

| | |
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11.1 Audiometer

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|-----------------------------------------------------|-------|----------------------------|--|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken | |
| Casing/Housing/Chassis | | | |
| Labels/Safety Sticker | | | |
| Battery/Charger | | | |
| Controls/Switches/Fuses | | | |
| Power cables, connectors, and wires for wear/damage | | | |
| Headphones and inserts intact, no wear or damage | | | |
| Bone conduction vibrator and headband functional | | | |
| Mount/Fasteners | | | |
| Pest Infestation | | | |
| Indicators/Display | | | |
| Strain Relief | | | |
| FUNCTIONAL TESTING | | | |
| Power ON/OFF | | | |
| Frequency and intensity adjustments functional | | | |
| Tone presentation buttons working properly | | | |
| Speech audiometry functions correctly | | | |
| Masking noise output verified | | | |
| Response button functional | | | |
| Frequency accuracy checked | | | |
| Output intensity levels verified | | | |
| Background noise levels within acceptable limits | | | |
| Additional (if any) | | | |
| DISPLAY AND INTERFACE | | | |

| | | |
|-----------------------------------------------|--|--|
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer | | |
| CLEANING and DISINFECTION | | |
| Headphones and ear cushions cleaned/sanitized | | |
| Bone vibrator disinfected | | |
| Control panel and display screen cleaned | | |
| Storage case and cables organized | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

11.2 BERA Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|---------------------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | Lens Cleaning Paper |
| | Electrodes |

| QUALITATIVE TEST | | |
|-----------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Controls/Switches | | |
| Power cables, connectors, and wires for wear/damage | | |
| Mount/Fasteners | | |
| Pest Infestation | | |
| Indicators/Display | | |
| Fuse | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Display screen check | | |
| Keyboard/touchscreen check | | |
| Stimulus generation check | | |
| Stimulus intensity level accuracy check | | |
| Stimulus repetition rate check | | |
| Electrode checking | | |
| System self test (if any) | | |
| CLEANING and DISINFECTION | | |
| Clean with 70% isopropyl alcohol | | |
| Disinfect control panel and touchscreen | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

REMARKS

| |
|--|
| |
|--|

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

11.3 ENT Microscope

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|---------------------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | Lens Cleaning Paper |
| | Light Source |

| QUALITATIVE TEST | | |
|-----------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Controls/Switches | | |
| Power cables, connectors, and wires for wear/damage | | |
| Confirm proper alignment of optical parts | | |
| Presence of all types of lenses | | |
| Mount/Fasteners | | |
| Pest Infestation | | |
| Fuse | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Inspect movement of arms | | |
| Check light intensity | | |
| Check zoom and focus | | |
| Check image clarity | | |
| Verify working of magnification | | |
| Check eyepiece and objectives adjustment | | |
| Check all buttons and knobs | | |
| Inspect camera (if available) | | |
| Check connection of fiber optic cable | | |

| | | |
|----------------------------------|--|--|
| Check motor movement | | |
| Inspect footswitch | | |
| Additional (if any) | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Clean lenses for any deposition | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

11.4 ENT Treatment Unit

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | Light source |

| QUALITATIVE TEST | | |
|-------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Controls/Switches | | |
| Tubings, hoses, and suction connections intact | | |
| Power cables, connectors, and wires for wear/damage | | |
| Headlight and light sources secured and undamaged | | |
| Mount/Fasteners | | |
| Pest Infestations | | |
| Indicators/Display | | |
| Fuse | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Suction system operates efficiently | | |
| Otoscope light intensity is adequate | | |
| Nasal endoscope light source and camera working | | |
| Examination chair movement smooth and responsive | | |
| Micromotor and drill functioning correctly | | |
| Cautery unit operational (if any) | | |
| Footswitch working properly | | |
| Air pressure and suction levels tested | | |
| Light source brightness and color consistency checked | | |

| | | |
|-------------------------------------------------------|--|--|
| Endoscope optics and video display quality verified | | |
| Temperature settings of any heating elements verified | | |
| Additional (if any) | | |
| DISPLAY AND INTERFACE | | |
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer (if any) | | |
| CLEANING and DISINFECTION | | |
| Handpieces and attachments disinfected | | |
| Suction filters and tubing cleaned or replaced | | |
| Ear, nose, and throat instruments sterilized | | |
| Endoscope lens cleaned using proper materials | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | µA | | |
| Leakage current patient leads acc. to IEC 60601 | µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

12. Ophthalmic Equipment

| | |
|------------------------------------|-----|
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12.1 AB Scan Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | Probe |

| QUALITATIVE TEST | | | |
|------------------------------------------------------|-------|----------------------------|--|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken | |
| Casing/Housing/Chassis | | | |
| Labels/Safety Sticker | | | |
| Battery/Charger | | | |
| Controls/Switches | | | |
| Fuses | | | |
| Power cables, connectors, and wires for wear/damage | | | |
| Probe connectors clean and properly attached | | | |
| Mount/Fasteners | | | |
| Pest Infestation | | | |
| Indicators/Display | | | |
| Strain Relief | | | |
| FUNCTIONAL TESTING | | | |
| Power ON/OFF | | | |
| Image resolution and clarity acceptable | | | |
| A-Scan waveform displayed correctly | | | |
| B-Scan image acquisition smooth | | | |
| Gain, depth, and frequency controls working properly | | | |
| Freeze, store, and retrieve functions operational | | | |
| Emergency stop button and alarms working | | | |
| Probe movement and calibration within specifications | | | |
| Additional (if any) | | | |
| DISPLAY AND INTERFACE | | | |

| | | |
|---------------------------------------------------------|--|--|
| Touchscreens/ buttons | | |
| Display screen | | |
| Printer | | |
| CLEANING and DISINFECTION | | |
| Probes and transducers properly cleaned and disinfected | | |
| Patient-contact surfaces sanitized | | |
| Ultrasound gel properly stored and not expired | | |
| Disposable accessories replaced | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

12.2 Auto Ref-Keratometer

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|-----------------------------------------------------|-------|----------------------------|--|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken | |
| Casing/Housing/Chassis | | | |
| Labels/Safety Sticker | | | |
| Controls/Switches | | | |
| Fuses | | | |
| Power cables, connectors, and wires for wear/damage | | | |
| Chin rest and forehead rest intact and adjustable | | | |
| Pest Infestation | | | |
| Strain Relief | | | |
| FUNCTIONAL TESTING | | | |
| Power ON/OFF | | | |
| Auto-alignment system operational | | | |
| Measurement repeatability and accuracy verified | | | |
| Patient positioning and fixation target operational | | | |
| Keratometry readings consistent and within limits | | | |
| Refractive error measurement accuracy verified | | | |
| Keratometry curvature measurements tested | | | |
| Optical alignment and focus adjustments tested | | | |
| Emergency stop button working (not needed) | | | |
| Additional (if any) | | | |
| DISPLAY AND INTERFACE | | | |
| Touchscreens/ buttons | | | |
| Display screen | | | |
| Printer | | | |

| CLEANING and DISINFECTION | | |
|-------------------------------------------------|--|--|
| Lenses and optical components cleaned carefully | | |
| Patient-contact surfaces sanitized | | |
| Protective covers intact and clean | | |
| Disposable accessories replaced | | |

| QUANTITATIVE TEST | | |
|-------------------------------------------------|------------------|----------------|
| Tests | Ref value | Remarks |
| Grounding Resistance | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | µA | |
| Leakage current patient leads acc. to IEC 60601 | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

12.3 Direct Ophthalmoscope

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | Light Source |

| QUALITATIVE TEST | | |
|---------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Controls/Switches | | |
| Handle and head securely attached | | |
| Aperture dial moves freely and adjusts settings | | |
| Lens selection dial rotates smoothly | | |
| Pest Infestation | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Light intensity adjustable and functioning properly | | |
| Beam quality clear and focused | | |
| All lens options provide clear vision | | |
| Red-free, cobalt blue, and other filters operational | | |
| Light pathway unobstructed | | |
| Additional (if any) | | |
| CLEANING and DISINFECTION | | |
| Device exterior cleaned and disinfected | | |
| Lens and optical surfaces cleaned with proper materials | | |
| Storage case clean and protective | | |
| Disposable accessories replaced | | |

| QUANTITATIVE TEST | | |
|-------------------|--|--|
| | | |

| Tests | Ref value | Remarks |
|-------------------------------------------------|-----------|---------|
| Grounding Resistance | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | µA | |
| Leakage current patient leads acc. to IEC 60601 | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

12.4 Green Laser

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------|------------------------|
| Multimeter | Air Filter |
| | Fuse, Light Source |
| | Laser protective Glass |

| QUALITATIVE TEST | | |
|--------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Controls/Switches | | |
| Fuses | | |
| Power cables, connectors, and wires for wear/damage | | |
| Chin rest and forehead rest intact in proper position. | | |
| Pest Infestation | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Beam quality functional alignment | | |
| Laser acquisition parameters check | | |
| Laser output verification check | | |
| Self-checks (if any) | | |
| Check the bulb of the slit lamp attached | | |
| DISPLAY AND INTERFACE | | |
| Check whether there is screen distortion or not | | |
| Check for any error messages | | |
| Control buttons test | | |
| CLEANING and DISINFECTION | | |
| Laser handpiece and optical components cleaned | | |

| | | |
|----------------------------------------|--|--|
| Patient-contact surfaces sanitized | | |
| Filters and vents cleaned or replaced | | |
| Protective eyewear clean and available | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | µA | | |
| Leakage current patient leads acc. to IEC 60601 | µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

12.5 Indirect Ophthalmoscope

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | Light Source |
| | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Controls/Switches | | |
| Headband and adjustment straps secure | | |
| Optical components free from scratches or dust | | |
| Light source secure and properly aligned | | |
| Cables and connections secure and undamaged | | |
| Pest Infestation | | |
| Indicators/Display | | |
| Fuses | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Light intensity adjustable and functioning properly | | |
| Beam quality clear, bright and focused | | |
| Optical alignment correct for proper visualization | | |
| Filters (red-free, cobalt blue, etc.) operational | | |
| Lens tilt mechanism working smoothly | | |
| Light pathway unobstructed | | |
| Stereopsis and depth perception unaffected (Stereoscopic View Check) | | |

| | | |
|---------------------------------------------------------|--|--|
| Magnification adjustments functional | | |
| Additional (if any) | | |
| CLEANING and DISINFECTION | | |
| Device exterior cleaned and disinfected | | |
| Lens and optical surfaces cleaned with proper materials | | |
| Storage case clean and protective | | |
| Headband padding sanitized or replaced if necessary | | |
| Disposable accessories replaced | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | µA | |
| Leakage current patient leads acc. to IEC 60601 | | µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

12.6 Lensometer

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | Light Source |

| QUALITATIVE TEST | | |
|------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Controls/Switches | | |
| Lens holder and nose cone intact | | |
| Cables and connections secure and undamaged | | |
| Pest Infestation | | |
| Indicators/Display | | |
| Fuse | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Lens marking system operational | | |
| Measurement repeatability and accuracy verified | | |
| Sphere, cylinder, and axis readings correct | | |
| Prism measurement accurate and consistent | | |
| PD (Pupillary Distance) measurement functional | | |
| UV and blue light measurement (if applicable) tested | | |
| Optical alignment verified | | |
| Lens graticule clear and correctly aligned | | |
| Additional (if any) | | |
| CLEANING and DISINFECTION | | |
| Lenses and optical components cleaned carefully | | |

| | | |
|-----------------------------------------------|--|--|
| Lens holder and external surfaces disinfected | | |
| Protective covers clean and in place | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | µA | | |
| Leakage current patient leads acc. to IEC 60601 | µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

12.7 Non-Contact Tonometer

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|-----------------------------------------------------------|-------|----------------------------|--|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken | |
| Casing/Housing/Chassis | | | |
| Labels/Safety Sticker | | | |
| Battery/Charger | | | |
| Controls/Switches | | | |
| Fuses | | | |
| Power cables, connectors, and wires for wear/damage | | | |
| Air nozzle and tubing clean and undamaged | | | |
| Chin rest and forehead rest intact and adjustable | | | |
| Pest Infestation | | | |
| Indicators/Display | | | |
| Strain Relief | | | |
| FUNCTIONAL TESTING | | | |
| Power ON/OFF | | | |
| Air puff mechanism functional and properly aligned | | | |
| Auto-alignment system operational | | | |
| Measurement repeatability and accuracy verified | | | |
| Patient positioning and fixation target operational | | | |
| Intraocular pressure (IOP) accuracy confirmed(11-22 mmHg) | | | |
| Emergency stop button working(not needed) | | | |
| Additional (if any) | | | |
| DISPLAY AND INTERFACE | | | |
| Touchscreens/ buttons | | | |

| | | |
|---------------------------------------------------------|--|--|
| Display screen | | |
| Printer | | |
| CLEANING and DISINFECTION | | |
| Air nozzle and surrounding area cleaned and disinfected | | |
| Patient-contact surfaces sanitized | | |
| Protective covers intact and clean | | |
| Disposable accessories replaced | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

12.8 Slit Lamp

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|-------------------------------------------------|-----------|
| Multimeter | Fuse |
| Luxmeter | Bulb/ LED |
| Lens cleaning kit | |
| Measuring tape to measure slit width and height | |

| QUALITATIVE TEST | | |
|-----------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Labels/Safety Sticker | | |
| Battery/Charger | | |
| Controls/Switches | | |
| Locking Mechanism | | |
| Check for cracks if any | | |
| Pest Infestation | | |
| Fuses | | |
| Strain Relief | | |
| Check power cable if any damage is seen | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Light intensity adjustable and functioning properly | | |
| Beam quality clear, bright and focused | | |
| Optical alignment correct for proper visualization | | |
| Check Filters | | |
| Check Applanation Tonometer | | |
| Check Illumination | | |
| CLEANING and DISINFECTION | | |
| Device exterior cleaned and disinfected | | |

| | | |
|---------------------------------------------------------|--|--|
| Lens and optical surfaces cleaned with proper materials | | |
| Storage case clean and protective | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

Module 6: Imaging and Physiotherapy Equipment

List of Equipment

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13. Imaging Equipment

| | |
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| 13.8 Stationary X-ray Machine | 260 |
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13.1 C-Arm Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES | |
|------------------------------------------------|--------|----------------------------|
| Multimeter | Fuses | |
| Electrical Safety Analyzer | | |
| QUALITATIVE TEST | | |
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Cables | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Locks/Brakes | | |
| Pest Infestation | | |
| Backup power | | |
| Physical damage | | |
| Indicators/Display | | |
| Fuse | | |
| Fittings/Connectors | | |
| Strain Relief | | |
| Wheels | | |
| FUNCTIONAL TESTING | | |
| Start up / Boot up | | |
| Network connectivity | | |
| Hand and paddle switch | | |
| Front and rear drive | | |
| Emergency Stop buttons | | |
| Rotation from 0° to 360° | | |
| All movements check | | |
| Vertical movement check | | |
| Locks and brakes | | |
| Exposure switch (Fluoro and High Level Fluoro) | | |

| | | |
|---------------------------------------|--|--|
| Check storage space | | |
| II Monitor | | |
| II Memory device | | |
| Battery Check | | |
| Lubrication of moveable parts | | |
| Optional feature check (if available) | | |
| Check Audible / visible alarm | | |
| Check Mode test | | |
| Check Movement test | | |
| Check interconnection cable | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Clean Laser optics | | |
| CPU | | |
| Filter | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |
| Input Voltage | | | |
| mAs | | ± 10 % | |
| Exposure Reproducibility | | ±10 % | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

REMARKS

| |
|--|
| |
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

13.2 CR Printer

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|----------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Grounding | | |
| Backup power | | |
| Physical damage | | |
| Indicators/Display | | |
| Cable | | |
| Fuse | | |
| Strain Relief | | |
| Fittings/Connectors | | |
| Environmental Control | | |
| Temperature (18-25°C) | | |
| Humidity (between 40–60%) | | |
| FUNCTIONAL TESTING | | |
| Printing/Checking Conveyance/Checking Images | | |
| Checking the Interlock Function | | |
| Checking the Fan Operation | | |
| Final Operation Checks/Checking Images | | |
| Setting Date and Time | | |

| | | |
|-----------------------------------------------------------------------|--|--|
| Connectivity of PACS/RIS | | |
| CLEANING and DISINFECTION | | |
| Cleaning/Replacing the Cleaning Roller | | |
| Cleaning the Air Filter | | |
| Cleaning the Removal Unit, Cleaning Inside the Equipment | | |
| Cleaning the Rubber Belt, Cleaning the Sub-scanning Conveyance Roller | | |
| Cleaning the Density Measurement Section | | |
| Cleaning the Heat development Unit | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |
| Input Voltage | | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

13.3 CT Scan

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | |
|-----------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | √ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Grounding | | |
| UPS and Battery status check | | |
| Pest Infestation | | |
| Indicators/Display | | |
| Cables | | |
| Fuse | | |
| Fittings/Connectors | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Line to Line voltage check | | |
| Image Quality Assessment | | |
| Beam Alignment and Collimation | | |
| Table Movement and Positioning Accuracy | | |
| X-ray On indication | | |
| Self-test | | |
| Dose Monitoring | | |
| Radiation Shielding | | |
| Temperature and Humidity Sensors | | |
| Emergency Stop | | |
| Gantry Rotation | | |

| CLEANING and DISINFECTION | | |
|----------------------------------|--|--|
| Wipe external surface | | |
| Clean dust filters | | |
| Gantry Fans and Filters | | |
| Console CPU Fans and Filters | | |

| QUANTITATIVE TEST | | |
|--------------------------------------------------------------------------|----------------------------------|----------------|
| Tests | Ref value | Remarks |
| Grounding Resistance | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | |
| Input Voltage | | |
| Earthing | <1 Ohm | |
| Contrast and Density Calibration | within ±2% | |
| Tube Output and Stability | within ±5% over a 24-hour period | |
| CT Image Uniformity | within ±3 Hounsfield Unit | |
| Noise Level Analysis | below 1% | |
| Patient Dose Calculation | within ±2% | |
| Note: To be performed under supervision of company representative | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

13.4 DR System (Flat Panel Detector)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | |
|--------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Physical damage | | |
| Backup power / UPS (if available) | | |
| Controls/Switches/Fuse | | |
| Pest Infestation | | |
| Strain Relief | | |
| Indicators/Display | | |
| Cables | | |
| Fittings/Connectors | | |
| Environmental Control | | |
| Temperature (18-30°C) | | |
| Humidity (between 20–75%) | | |
| FUNCTIONAL TESTING | | |
| Start up | | |
| Motion of detector | | |
| Battery Status | | |
| Resolution of image | | |
| Contrast of image | | |
| Detector deviation | | |
| Detector Calibration(every 6 months) | | |

| | | |
|------------------------------------------------------|--|--|
| Check communication wire of detector (if applicable) | | |
| CLEANING and DISINFECTION | | |
| Surface Cleaning | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |
| Input Voltage | | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| |
|----------------|
| REMARKS |
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

13.5 ECHO/ Ultrasound Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Probes | | |
| Pest Infestation | | |
| Grounding | | |
| Backup power | | |
| Physical damage | | |
| Wheels, Locks and brakes (if applicable) | | |
| Covers and shielding | | |
| Indicators/Display | | |
| Cables | | |
| Fuse | | |
| Fittings/Connectors | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power up / Boot up | | |
| Transducer / Probe | | |
| Monitors | | |
| Touch Panel (if available) | | |
| Control Panel buttons | | |

| | | |
|-----------------------------------------|--|--|
| Keypad | | |
| Trackball | | |
| Footswitch | | |
| Audible signals | | |
| Modes test | | |
| Basic Function test | | |
| Patient data space | | |
| Printer function | | |
| ECG function check for echocardiography | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Clean dust filters | | |
| Monitor, Console and Probe Holder | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |
| Input Voltage | | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

13.6 Mammography System

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|------------------------------------|-------|----------------------------|--|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken | |
| Casing/Housing/Chassis | | | |
| Mount/Fasteners | | | |
| Labels/Safety Sticker | | | |
| Controls/Switches | | | |
| X-ray tube | | | |
| Collimator | | | |
| Emergency stop button | | | |
| Footswitch/ paddle and hand switch | | | |
| Pest Infestation | | | |
| Grounding | | | |
| Backup power | | | |
| Physical damage | | | |
| Indicators/Display | | | |
| Cables | | | |
| Fuse | | | |
| Fittings/Connectors | | | |
| Strain Relief | | | |
| FUNCTIONAL TESTING | | | |
| Power ON | | | |
| Detector | | | |
| Display / Control Panel buttons | | | |
| Movement (Column Up/Down) | | | |
| Collimator and Light Field | | | |

| | | |
|-----------------------------------------------|--|--|
| Interlocks and balance (counterweight) | | |
| Arm Rotation and brakes | | |
| Compression mechanism | | |
| Compression Release check | | |
| Lead Glass shield | | |
| Artifacts, noise on images | | |
| Contrast and resolution details | | |
| KVp, mAs | | |
| Exposure switch and compressor release switch | | |
| Emergency stop button | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Clean air vent and fans | | |
| Cassette roller | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |
| Input Voltage | | | |
| KVP | | ±5% | |
| mAs | | ±10% | |
| Compression force | | 11-20kg | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

13.7 Portable X-ray Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|---------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Cables / Cable Holder | | |
| Film Cassette holder | | |
| Control panel indicator | | |
| Radiation shielding | | |
| Exposure switch | | |
| Wheels | | |
| Any loose screws | | |
| Locks/Brakes (if applicable) | | |
| Exposure switch holder | | |
| Collimator mount inspection | | |
| Fuse | | |
| Fittings/Connectors | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| mA, kv, exposure time selection | | |
| Display (kV, mA, exposure time) | | |
| Collimator test adjustment | | |

| | | |
|------------------------------------------------------------------------------------|--|--|
| Arm movement and balance | | |
| Exposure Switch (Ready, Exposure and Exposure cut off) | | |
| Rotor sound while pressing Ready on Exposure Switch | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Dust and clean X-ray tube housing, break assembly, collimator, and cassette holder | | |

| QUANTITATIVE TEST | | |
|---------------------------------------------------|------------------|----------------|
| Tests | Ref value | Remarks |
| Grounding Resistance | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | |
| Input Voltage | | |
| kvp | ± 5% | |
| mA | ±10% | |
| Exposure accuracy | ±5% | |
| Collimator accuracy from source to image distance | 2% | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

13.8 Stationary X-ray Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES | |
|------------------------------------------------------------------------|--------|----------------------------|
| Multimeter | Fuses | |
| Electrical Safety Analyzer | | |
| QUALITATIVE TEST | | |
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Pest Infestation | | |
| HT Cables / Cable Holder | | |
| System cables and connections | | |
| Film Cassette holder | | |
| Control panel indicator | | |
| Radiation shielding | | |
| Exposure switch | | |
| Any loose screws | | |
| Locks/Brakes (if applicable) | | |
| Lead Glass, Door for radiation safety | | |
| Fuse | | |
| Strain Relief | | |
| Check for bearings, tracks, wires for counter balance, movements, grid | | |
| FUNCTIONAL TESTING | | |
| mA, kv, exposure time selection/ switch | | |
| Display (kV, mA, exposure time) | | |
| Collimator test adjustment | | |
| Mode test | | |
| Examination table movements and locks (Manual/Electromagnetic) | | |

| | | |
|----------------------------------------------------------------------------------------|--|--|
| Exposure Switch (Ready, Exposure and Exposure cut off) | | |
| Rotor sound while pressing Ready on Exposure Switch | | |
| Tube and Tube stand movement and balance (Manual/Electromagnetic) | | |
| Chest stand movement and lock (Manual/Electromagnetic) | | |
| Grid | | |
| CLEANING and DISINFECTION | | |
| Wipe external surface | | |
| Dust and clean X-ray tube housing, break assembly, collimator, PDU and cassette holder | | |

| QUANTITATIVE TEST | | | |
|---------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |
| Input Voltage | | | |
| kvp | ± 5% | | |
| mA | ±10% | | |
| Exposure accuracy | ±5% | | |
| Collimator accuracy from source to image distance | 2% | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

REMARKS

| |
|---------|
| REMARKS |
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |

Approved By:

13.9 X-ray Cassette Reader

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|---------------------------------|-------|----------------------------|--|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken | |
| Casing/Housing/Chassis | | | |
| Mount/Fasteners | | | |
| Labels/Safety Sticker | | | |
| Controls/Switches | | | |
| Pest Infestation | | | |
| Grounding | | | |
| Backup power | | | |
| Physical damage | | | |
| Indicators/Display | | | |
| Fuse | | | |
| Strain Relief | | | |
| Environmental Control | | | |
| Temperature (18-25°C) | | | |
| Humidity (between 40-60%) | | | |
| FUNCTIONAL TESTING | | | |
| Cassette insertion and ejection | | | |
| Image processing time | | | |
| Image acquisition process | | | |
| Image resolution and contrast | | | |
| PSP for scratch, dust, etc | | | |
| Connectivity of PACS/RIS | | | |
| Imaging Software | | | |
| CLEANING and DISINFECTION | | | |

| | | |
|-----------------------------------|--|--|
| Clean Cassette insertion slot | | |
| Clean Intake Vent, Exhaust outlet | | |
| Clean light collection unit | | |
| Clean filter and fan | | |
| Clean Cassette | | |
| Clean Imaging plate | | |
| Clean Rollers | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |
| Input Voltage | | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
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| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

14. Physiotherapy Equipment

| | |
|---------------------------------------------------------------|-----|
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14.1 Continuous Passive Motion (CPM)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Power Cable, plugs and connectors secure | | |
| Pest Infestation | | |
| Indicators/ Display | | |
| Accessories | | |
| Fuse | | |
| Fittings/ Connectors | | |
| Castors/Wheels | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON | | |
| Straps, support and padding intact | | |
| Range of motion (ROM)setting | | |
| Flexion / Extension | | |
| Speed control | | |
| Force/Torque resistance | | |
| Noise levels | | |
| Timer setting | | |

| | | |
|--------------------------------------------------------|--|--|
| Start/Stop and emergency buttons | | |
| Motion range (0°–120° for knee) | | |
| CLEANING and DISINFECTION | | |
| Clean external surface with non-corrosive disinfectant | | |
| Strap clean and free from dirt | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

14.2 Diathermy

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|--------------------------------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Indicators/ Display | | |
| Electrodes/Applicator worn out | | |
| Fuse | | |
| Fittings/ Connectors | | |
| Castors/Wheels | | |
| RFI interference to nearby devices | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON/OFF | | |
| Electrodes/Applicators | | |
| Confirm output intensity according to the frequency setting and time response. | | |
| Audible alert | | |
| Heating when output is off | | |
| Sparking from electrode | | |
| CLEANING and DISINFECTION | | |
| Clean external surface with non-corrosive disinfectant | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

REMARKS

| |
|--|
| |
|--|

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

14.3 Interferential therapy Machine (IFT)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Power Cable, plugs and connectors secure | | |
| Pest Infestation | | |
| Indicators/ Display | | |
| Cable | | |
| Labelling | | |
| Accessories | | |
| Fuse | | |
| Fittings/ Connectors | | |
| Castors/Wheels | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON | | |
| Timer operates and counts properly | | |
| Amplitude increases | | |
| Frequency setting | | |
| Treatment modes | | |
| Sweep/modulation setting | | |
| Electrode connection test | | |

| CLEANING and DISINFECTION | | | |
|--------------------------------------------------------|--|--|--|
| Clean external surface with non-corrosive disinfectant | | | |
| Clean electrodes | | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|------------------|----------------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS | |
|----------------|--|
| | |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

14.4 Muscle Stimulator

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|-----------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Power Cable, plugs and connectors secure | | |
| Pest Infestation | | |
| Indicators/ Display | | |
| Accessories | | |
| Fuse | | |
| Fittings/ Connectors | | |
| Castors/Wheels | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON | | |
| Electrodes connection | | |
| Treatment head | | |
| Stimulation modes | | |
| Timer Function | | |
| Intensity/amplitude adjust smoothly | | |
| Output waveform | | |
| Contraction/Rest Cycle Functionality(if applicable) | | |
| CLEANING and DISINFECTION | | |

| | | |
|--------------------------------------------------------|--|--|
| Clean external surface with non-corrosive disinfectant | | |
| Clean electrodes | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

14.5 Traction Unit

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| Dynamometer | |

| QUALITATIVE TEST | | |
|------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Indicators/ Display | | |
| Cable | | |
| Accessories | | |
| Fuse | | |
| Fittings/ Connectors | | |
| Castors/Wheels | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON | | |
| Intensity controller | | |
| Force accuracy and calibration | | |
| Timer accuracy | | |
| Intermittent cycle functionality (if applicable) | | |
| Over-Force Protection/Limit Switches (if applicable) | | |
| Motor | | |
| Moving parts | | |
| Alarm | | |

| | | |
|--------------------------------------------------------|--|--|
| Mode test | | |
| Emergency stop | | |
| CLEANING and DISINFECTION | | |
| Clean external surface with non-corrosive disinfectant | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

14.6 Transcutaneous Electrical Nerve Stimulation (TENS)

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| Oscilloscope | |

| QUALITATIVE TEST | | |
|-------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Indicators/ Display | | |
| Accessories | | |
| Fuse | | |
| Fittings/ Connectors | | |
| Castors/Wheels | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON | | |
| Mode selection works (Burst, Normal, Modulated, etc.) | | |
| Intensity control | | |
| Stimulation from all channels | | |
| Output waveform | | |
| Timer function | | |
| No abnormal heating or spark | | |
| TENS frequency accuracy (1-200Hz) | | |
| Pulse width duration accuracy: 0–250 µs | | |
| CLEANING and DISINFECTION | | |

| | | |
|--------------------------------------------------------|--|--|
| Clean external surface with non-corrosive disinfectant | | |
| Clean electrodes | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

14.7 Treadmill Test Machine

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |
| | |

| QUALITATIVE TEST | | |
|--------------------------------------------------------|-------|----------------------------|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken |
| Casing/Housing/Chassis | | |
| Mount/Fasteners | | |
| Labels/Safety Sticker | | |
| Controls/Switches | | |
| Pest Infestation | | |
| Indicators/ Display | | |
| Fuse | | |
| Fittings/ Connectors | | |
| Castors/Wheels | | |
| Strain Relief | | |
| FUNCTIONAL TESTING | | |
| Power ON | | |
| Treadmill start and stop as per command | | |
| Belt and hand rail intact | | |
| Motor movement | | |
| Inclination functionality | | |
| Emergency stop switch functioning | | |
| Speed function | | |
| Print out system | | |
| CLEANING and DISINFECTION | | |
| Clean external surface with non-corrosive disinfectant | | |

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|--|------------------|----------------|
| Tests | | Ref value | Remarks |
| Grounding Resistance | | <0.5 Ohm | |
| Leakage current chassis to IEC 60601 | | <100 µA | |
| Leakage current patient leads acc. to IEC 60601 | | <100 µA | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|---------------|--------------------|-----------------|-----------------|-------------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

REMARKS

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| |
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| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

14.8 Wax Bath

| PREVENTIVE MAINTENANCE (PM) CHECKLIST | |
|---------------------------------------|-------------------|
| Hospital Name: | Inventory Number: |
| Make/Model: | Manufacturer: |
| PM Frequency: | Date of PM: |
| Serial No.: | Next PM: |

| TEST APPARATUS | SPARES |
|----------------------------|--------|
| Multimeter | Fuses |
| Electrical Safety Analyzer | |

| QUALITATIVE TEST | | | |
|--------------------------------------------------------|-------|----------------------------|--|
| VISUAL INSPECTION | ✓ / X | Action needed/Action taken | |
| Casing/Housing/Chassis | | | |
| Mount/Fasteners | | | |
| Labels/Safety Sticker | | | |
| Controls/Switches | | | |
| Pest Infestation | | | |
| Indicators/ Display | | | |
| Power Cable, plugs and connectors secure | | | |
| Wax Labeling | | | |
| Accessories | | | |
| Fuse | | | |
| Fittings/ Connectors | | | |
| Castors/Wheels | | | |
| Strain Relief | | | |
| FUNCTIONAL TESTING | | | |
| Power ON | | | |
| Temperature control | | | |
| Heating element | | | |
| Wax melts evenly | | | |
| Thermostat working | | | |
| Safety Thermal cutoff | | | |
| Lid fits properly | | | |
| CLEANING and DISINFECTION | | | |
| Clean external surface with non-corrosive disinfectant | | | |

| | | |
|----------------------|--|--|
| Change Wax if needed | | |
|----------------------|--|--|

| QUANTITATIVE TEST | | | |
|-------------------------------------------------|-----------|---------|--|
| Tests | Ref value | Remarks | |
| Grounding Resistance | <0.5 Ohm | | |
| Leakage current chassis to IEC 60601 | <100 µA | | |
| Leakage current patient leads acc. to IEC 60601 | <100 µA | | |

SPARE PARTS

| S. No. | Description | Part No. | Quantity | Note |
|--------|-------------|----------|----------|------|
| 1) | | | | |
| 2) | | | | |

Status: Passed Service Required

| REMARKS |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By :

Criteria of Internship Institution

To ensure effective student training, internship institutions should meet the following minimum criteria:

| Criteria | Description |
|-----------------------------------------|------------------------------------------------------------------------------|
| Accreditation/Approval | Institutions must be recognized by government or regulatory health bodies. |
| Internship Site | Should be at least 50-bedded hospital |
| Functional Biomedical Department | Should have a dedicated team for equipment maintenance and support. |
| Device Variety | Must have a range of diagnostic, therapeutic, and life-support devices. |
| Supervision Capability | Should provide supervision by qualified biomedical engineers or technicians. |
| Access to Tools & Equipment | Basic tools should be available for learning. |
| Willingness to Mentor | Should allow students to participate in maintenance tasks under guidance. |

Annex I

List of General Tools

| S.N. | Tools | Qty | Unit |
|------|-----------------------------------|-----|------|
| 1 | Wire Stripper | 1 | Nos |
| 2 | Combination Plier | 1 | Nos |
| 3 | Nose Pliers | 1 | Nos |
| 4 | Snub Nose Pliers | 1 | Nos |
| 5 | Thumb Screw Driver | 1 | Nos |
| 6 | Cutting Pliers | 1 | Nos |
| 7 | Adjustable Wrench 10" | 1 | Nos |
| 8 | Spanner Set Double Operner 8 pcs | 1 | Set |
| 9 | Screw Driver 11 pcs | 1 | Set |
| 10 | Precision Screw Driver 5 pcs | 1 | Set |
| 11 | Allen Key Set 9 pcs BA/Metric | 1/1 | Set |
| 12 | Half Round File | 1 | Set |
| 13 | Measuring Tape 3M | 1 | Nos |
| 14 | Hammer 300 g | 1 | Nos |
| 15 | Tweezers | 1 | Nos |
| 16 | Hacksaw with Blade | 1 | Nos |
| 17 | Dust Cleaning Brush | 1 | Nos |
| 18 | Line Tester | 1 | Nos |
| 19 | Soldering Iron | 1 | Nos |
| 20 | Multi Meter (Unit of equivalent) | 1 | Nos |
| 21 | Disordering Pump (Big Size) | 1 | Nos |
| 22 | Monkey Wrech (Vice Wrench) | 1 | Nos |
| 23 | Paper Knife | 1 | Nos |
| 24 | Diff Size of Rating Fuse | 1 | Pcs |
| 25 | Padlock | 1 | Nos |
| 26 | Tool Box | 1 | Nos |

Annex II

Form 1

उपकरण मर्मत अनुरोध फारम

फारम नं.....

मिति:

श्री.....

उपकरण मर्मतका लागि निम्न उपकरण र त्यसमा प्रयोग भएका सामानहरू पठाईएको छ।

| क्र.सं. | उपकरण आई.डि. नं. (EIN) | उपकरण विवरण | परिमाण | मोडेल | सिरियल नं. |
|---------|------------------------|-------------|--------|-------|------------|
| | | | | | |

अतिरिक्त सामग्रीहरू (Accessories)

| क्र.सं. | विवरण | परिमाण |
|---------|-------|--------|
| | | |

पठाउनेको तर्फबाट:

दस्तखतः

नामः

पदः

सम्पर्क नं.

मिति:

बुझिलिनेकोः

दस्तखतः

नामः

पदः

सम्पर्क नं.

मिति:

Form 2

उपकरण मर्मतका लागि प्राप्ति फारम

फारम नं.....

श्री.....

मर्मतका लागि पठाईएका निम्न वमोजिमका उपकरण र त्यसमा प्रयोग हुने सामानहरू यस बायोमेडिकल कार्यशालामा प्राप्त भयो।

| क्र.सं. | उपकरण आई. डि. नं. (EIN) | उपकरण विवरण | परिमाण | मोडेल | सिरियल नं. |
|---------|----------------------------|----------------|--------|-------|------------|
| | | | | | |

| सहायक सामग्रीहरू (Accessories) | | |
|--------------------------------|-------|--------|
| क्र.सं. | विवरण | परिमाण |
| | | |

प्राप्त गर्नेको नामः

पदः

सम्पर्क नं.

मिति:

ल्याउनेको नामः

पदः

सम्पर्क नं.

मिति:

Form 3

उपकरण मर्मत सम्बन्धी विस्तृत विवरण फारम

फारम नं.....
मिति:

उपकरण मर्मतका लागि अनुरोध फारम नं.....

| क्र.सं. | उपकरण आई.डि. नं. (EIN) | उपकरण विवरण | परिमाण | मोडेल | सिरियल नं. |
|---------|------------------------|-------------|--------|-------|------------|
| | | | | | |

उपकरणको विवरण:

Operation Voltage.....Current.....Power.....

| |
|------------------------|
| मर्मत पूर्व अवस्था: |
| |
| मुख्य समस्या: |
| |
| मर्मत विवरण: |
| |
| मर्मत पश्चातको अवस्था: |
| |

मर्मत गर्ने प्राविधिक:

दस्तखत:

नाम:

पद:

Form 4

मर्मत भएका उपकरण प्रेषण (Dispatch) फारम

फारम नं.....

मिति:

श्री.....

फारम नं..... वमोजिमका निम्न उपकरण र त्यसमा प्रयोग भएका सामानहरू फिर्ता पठाईएको छ।

| क्र.सं. | उपकरण आई.डि. नं. (EIN) | उपकरण विवरण | परिमाण | मोडेल | सिरियल नं. |
|---------|------------------------|-------------|--------|-------|------------|
| | | | | | |

| सहायक सामग्रीहरू (Accessories) | | |
|--------------------------------|-------|--------|
| क्र.सं. | विवरण | परिमाण |
| | | |

मर्मत गर्ने प्राविधिक

बुझिलिनेको:

दस्तखत:

दस्तखत:

नाम:

नाम:

पद:

पद:

सम्पर्क नं.

सम्पर्क नं.

मिति:

मिति:

Annex III

Supervision Form

National Health Training Center

Diploma in biomedical Equipment Engineering (DBEE)

(Affiliated to CTEVT)

Internship feedback form

Name of participants:

1.

2.

Competency

| S.N. | Number of repairs | Number of PM | Remarks |
|------|-------------------|--------------|---------------------------------------------------------------------------------------------------|
| 1 | | | <i>(Total numbers of the repair and the PM should be verified with the help of form provided)</i> |
| 2 | | | |
| 3 | Attendance | | <i>(Out of total working days)</i> |

Supervisor remarks

Feedbacks and suggestion for the organization

Signature of the supervisor:

Signature on behalf of BMET unit:

Date:

Date:

Annex IV

Testing Device formats

1. Defibrillator Testing Device

MANUFACTURER: _____
SERIAL NO: _____

MODEL: _____
TEST CARRIED ON: _____

Test Equipment Used: Electrical Safety Analyzer (ESA) and Defibrillator Analyzer
Equipment details:

| Testing Equipment details | Model | Make | Serial No | Calibration Valid Till |
|-----------------------------------------------------------------------|----------------------|-----------------|-------------|-------------------------|
| Electrical Safety Analyzer | | | | |
| Defibrillator Analyzer | | | | |
| Electrical Safety Test for Defibrillator As per IEC60601/62353 | | | | |
| Parameter | Permitted Values | Measured Values | Deviation % | Remarks (PASS /FAIL/NA) |
| Ground wire resistance | < 0.3 Ω | | | |
| Chassis leakage | < 100 µA NC | | | |
| | < 500 µA SFC | | | |
| Patient leakage current | < 100 µA B and BF | | | |
| | < 10 µA CF | | | |
| Patient lead leakage current: isolation test (mains on applied part) | < 100 µA BF | | | |
| | < 10 µA CF | | | |
| Insulation test (optional) 500 V | < 2 MΩ | | | |

| Defibrillator Performance Testing | | | | |
|--------------------------------------------------|-------------------------------------------------------------|------------------------|-----------------------|----------------------------------------|
| DUT set values (Energy in Joules 'J') | Test equipment measured values (energy in J) | Deviation % | Tolera nce | Remarks (PASS /FAIL/NA) |
| 50 J | | | ± 15 % | |
| 100 J | | | ± 15 % | |
| 150 J | | | ± 15 % | |
| 200 J | | | ± 15 % | |
| 250 J | | | ± 15 % | |
| 300 J | | | ± 15 % | |
| Charge time test: | | | | |

Unit Passed

Unit Failed

| Remarks |
|----------------|
| |

| S. No. | Performed By | Signature |
|---------------|---------------------|------------------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

Date:

2. Electrical Safety Testing

MANUFACTURER: _____
SERIAL NO: _____

MODEL: _____
TEST CARRIED ON: _____

Test Equipment Used: Electrical Safety Analyzer (ESA)

| Testing Equipment details | Model | Make | Serial No | Calibration Valid Till |
|----------------------------|-------|------|-----------|------------------------|
| Electrical Safety Analyzer | | | | |

Unit Passed

Unit Failed

| Remarks | | | | |
|--------------------------------------------------------|----------------------------------|--------------------------|-------------|-----------------------------|
| Electrical Safety Test As per IEC standard 60601/62353 | | | | |
| Parameter | Limits | Measured Values | Deviation % | Remarks (Pass/Fail/NA) |
| Voltage N-E | < 3V | | | |
| Maximum Current Taken by the DUT(Device Under Test) | As per Manufacture specification | | | |
| Protective Earth resistance | < 0.300 Ohm | | | |
| Earth Leakage Current NC | < 500µA for B, BF, CF | | | |
| Earth Leakage Current SFC | < 1000µA for B, BF, CF | | | |
| Chassis leakage in NC | < 1000 µA for B, BF, CF | | | NC: Normally close |
| Chassis leakage in SFC | < 500 µA for B, BF, CF | | | SFC: Single Fault condition |
| Patient leakage current in NC | < 100 µA for B and BF | | | |
| | < 10 µA for CF | | | |
| Patient leakage current in SFC | < 500µA for B and BF | | | |
| | < 50µA for CF | | | |
| Insulation Resistance(optional) 500 V | More than 70 MΩ | <input type="checkbox"/> | | |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |

Approved By:

Date:

3. Electrosurgical Unit Analyzer

MANUFACTURER: _____

MODEL: _____

SERIAL NO: _____

TEST CARRIED ON: _____

Test Equipment Used: ESA and Electrosurgical Unit Analyzer

Equipment Details:

| Generator Output Test | Set Power on ESU | Set Load | Set Delay | Power Delivered | Current Delivered | VpkPk | Crest Factor |
|-----------------------|------------------|----------|-----------|-----------------|-------------------|-------|--------------|
| Monopolar Cut | 100 W | 200 Ω | 1s | | | | |
| Monopolar Cut | 80W | 150 Ω | 2s | | | | |
| Monopolar Coag | 100W | 150 Ω | 1s | | | | |
| Monopolar Coag | 80W | 200 Ω | 2s | | | | |
| Bipolar Test | 60W | 200 Ω | 1s | | | | |
| Bipolar Test | 80W | 200 Ω | 2s | | | | |

| HF Leakage test | | | |
|-------------------------|----------------------|-------|-------------------|
| Electrode to Ground | Set Max Power on ESU | Delay | Current Delivered |
| Monopolar Cut | | 2s | |
| Monopolar Coag | | 2s | |
| Monopolar Cut | | 4s | |
| Monopolar Coag | | 4s | |
| Bipolar Coag | | 2s | |
| Bipolar Coag | | 4s | |
| Patient Plate to Ground | Set Power | Delay | Current Delivered |
| Monopolar Cut | | 2s | |
| Monopolar Coag | | 2s | |
| Monopolar Cut | | 4s | |
| Monopolar Coag | | 4s | |
| Bipolar Coag | | 2s | |
| Bipolar Coag | | 4s | |

Unit Passed

Unit Failed

| Remarks | | |
|---------|--------------|-----------|
| | | |
| S. No. | Performed By | Signature |
| 1) | | |
| 2) | | |

Approved By:

Date:

4. Infusion Pump Testing

MANUFACTURER: _____
SERIAL NO: _____

MODEL: _____
TEST CARRIED ON: _____

Test Equipment Used: Electrical Safety Analyzer (ESA) and Infusion Pump Analyzer
Equipment details:

| Testing Equipment details | Model | Make | Serial No | Calibration Valid Till |
|----------------------------------|-------|------|-----------|------------------------|
| Electrical Safety Analyzer (ESA) | | | | |
| Infusion Pump Analyzer | | | | |

| Electrical Safety test for Infusion PUMP AND SYRINGE PUMP As per IEC60601/62353 | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------|-----------------|-------------|------------------------|
| S.N. | Parameter | Permitted Values | Measured Values | Deviation % | Remarks (Pass/Fail/NA) |
| | Ground wire resistance | < 0.3 Ω | | | |
| | Chassis leakage | < 100 μA NC | | | |
| | | < 500 μA SFC | | | |
| | Patient leakage current | < 100 μA B and BF | | | |
| | | < 10 μA CF | | | |
| | Patient lead leakage current: isolation test (mains on applied part) | < 100 μA BF | | | |
| | | < 10 μA CF | | | |
| | Insulation test (optional) 500 V | < 2 MΩ | | | |
| Infusion Pump Performance testing | | | | | |
| | Flow rate accuracy | ± 10 % | | | |
| | Volume accuracy | ± 10 % | | | |
| | Occlusion detection pressure | ± 1 psi | | | |

Unit Passed

Unit Failed

Remarks:

.....

Performed by:

Approved by:

Date:

5. Oxygen Concentrator

MANUFACTURER: _____
SERIAL NO: _____

MODEL: _____
TEST CARRIED ON: _____

Test Equipment Used: Electrical Safety Analyzer (ESA) and Oxygen Analyzer
Equipment details:

| Testing Equipment details | Model | Make | Serial No | Calibration Valid Till |
|----------------------------|-------|------|-----------|------------------------|
| Electrical Safety Analyzer | | | | |
| Oxygen Analyzer | | | | |

| Oxygen concentrator description to be tested | Flow in LPM | Purity in % (Acceptable range ≥93%) | PSI | Remarks (PASS /FAIL/NA) |
|----------------------------------------------|-------------|-------------------------------------------|-----|----------------------------|
| Model: | 2 LPM | | | |
| Serial no: | 3 LPM | | | |
| Inventory no.: | 4 LPM | | | |
| Manufacturer: | 5 LPM | | | |

Unit Passed

Unit Failed

| Remarks |
|---------|
| |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |
| 3) | | |

Approved By:

Date:

6. Physiological Monitoring System (Patients monitor)

MANUFACTURER: _____

MODEL: _____

SERIAL NO: _____

TEST CARRIED ON: _____

Test Equipment Used: Electrical Safety Analyzer (ESA) and Patient Simulator

Equipment details:

| Testing Equipment details | Model | Make | Serial No | Calibration Valid Till |
|----------------------------------------------|-------|------|-----------|------------------------|
| ESA | | | | |
| Spo2 Functional Tester and Patient Simulator | | | | |

| H R Monitoring | | Respiration | |
|---------------------------|-------------------------------------|--------------|----------------|
| Preset Value | Measured Value | Preset Value | Measured Value |
| Normal - 60BPM ±5% | | 20 BrPM ±5% | |
| Hypertensive - 120BPM ±5% | | 40 BrPM ±5% | |
| Hypotensive - 40BPM ±5% | | 10 BrPM ±5% | |
| SPO2 Test | | NIBP Test | |
| Preset Value | Measured Value | Preset Value | Measured Value |
| 75% ±3% | Normal - 120/80 mmHg ±10mmHg | | |
| 85% ±3% | Hypertensive - 200/150 mmHg ±10mmHg | | |
| 99% ±3% | Hypotensive - 60/30 mmHg ±10mmHg | | |

| Arrhythmias | |
|--------------------------|-----------------------------------|
| Ventricular fibrillation | Observed <input type="checkbox"/> |
| Asystole | Observed <input type="checkbox"/> |
| Ventricular tachycardia | Observed <input type="checkbox"/> |

Unit Passed

Unit Failed

| Remarks | |
|---------|--|
| | |

| S. No. | Performed By | Signature |
|--------|--------------|-----------|
| 1) | | |
| 2) | | |

Approved By:

Date:

Annex V

Checklist piloted sites

| S.N. | Name of Hospital | Supervisors | Name of Students |
|------|----------------------------------------------------|-------------------------------------------------|-------------------------------------------|
| 1. | National Academy of Medical Sciences, Bir Hospital | Er. Satyam Rai Aastha Dahal | Prabin Khatiwada Gautam Chaudhary |
| 2. | Patan Academy of Health Sciences (PAHS) | Er. Swostik KC Mahesh Timelsina | Bishal Parajuli Naresh Kumar Chaudhary |
| 3. | Kanti Children Hospital | Roshan Bajracharya Sachin Nepali | Yub Raj Joshi Rashmi Acharya |
| 4. | Nepal APF Hospital | Surendra Paudel | Sandip Panday |
| 5. | National Trauma Centre | Suresh Maharjan Bikesh Maharjan Kuber Oli | Saurav Dhami Sribina Rai |
| 6. | Grande International Hospital | Sushil Timelsina | Subit Bisunke |
| 7. | Kist Medical College and Teaching Hospital | Roshan Pokharel Binita Shrestha | Sunil Kumar Yadav Ritesh Kumar Yadav |
| 8. | Tribhuwan University Teaching Hospital (TUTH) | Er. Rusha Acharya | Peter Rijal |
| 9. | HAMS | Pooja Baniya Sashi Kumar Thakur | Prabin Khadka |
| 10. | Bhaktapur Hospital | Sandipa Khadka Prativa Bhusal | Ram Kumar Shah |

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Nick Simons Institute

P O Box 8975, EPC 1813, Sanepa, Lalitpur
Phone: 555 1978
Email: nsi@nsi.edu.np
Web: www.nsi.edu.np



Government of Nepal
Ministry of Health & Population
National Health Training Centre
Teku, Kathmandu
2025