



**NATIONAL CENTER FOR MENTAL HEALTH
NCMH GENERAL HOSPITAL
PREVENTIVE MAINTENANCE/CALIBRATION OF GENERAL EQUIPMENT**

CALIBRATION PARAMETERS:

- (1) = ELECTRICAL SAFETY
- (2) = VOLUME
- (3) = FLOW/PRESSURE
- (4) = SPEED
- (5) = TEMPERATURE

QUANTITY	UNIT OF ISSUE	ITEM DESCRIPTION	CALIBRATION PARAMETERS						SERVICE FREQUENCY
			1	2	3	4	5	OTHERS (please specify)	
3	Piece	ABG Machine	✓					Po2, Pso2	Semi-Annual
2	Piece	Anesthesia Machine	✓	✓	✓			Breath rate(bpm), I:E Ratio	Semi-Annual
4	Piece	Vaporizer						Gas Concentration	Semi-Annual
2	Piece	Autoclave			✓		✓		Annual
171	Piece	BP Apparatus			✓				Annual
21	Piece	BIPAP Machine	✓		✓				Semi-Annual
14	Piece	Cardiac Monitor	✓		✓			SPO2, NIBP, Rate(bpm)	Semi-Annual
4	Piece	Defibrillator	✓					Joules	Semi-Annual
1	Piece	DR Table						Qualitative only	Semi-Annual
17	Piece	ECG Machine	✓			✓		Paper speed, Rate (bpm)	Semi-Annual
1	Piece	ECT Machine	✓					Rate (bpm)	Semi-Annual
3	Piece	Electro Surgical Unit	✓					Watts (Cut-Coag)	Semi-Annual
5	Piece	Fetal Doppler	✓					Rate(bpm)	Semi-Annual
12	Piece	High Flow	✓		✓				Semi-Annual
1	Piece	Infant Weighing Scale						Weight	Annual
1	Piece	Infant Incubator	✓				✓		Semi-Annual
24	Piece	Infusion Pump	✓		✓			Flow Rate	Semi-Annual
8	Piece	Laryngoscope						Qualitative only	Annual
1	Piece	Mixing Machine	✓			✓			Annual
38	Piece	Nebulizer			✓				Annual
1	Piece	Ophthalmoscope						Qualitative only	Annual
1	Piece	OR Lights	✓						Semi-Annual
2	Piece	OR Table	✓						Semi-Annual
1	Piece	Otoscope						Qualitative only	Annual
234	Piece	Oxygen Regulator with Flow Meter			✓				Annual
6	Piece	Phrama Refrigerator					✓		Annual
123	Piece	Pulse Oximeter						SPO2, Rate(bpm)	Semi-Annual

13	Piece	Suction Machine	✓		✓				Annual
22	Piece	Thermohygrometer					✓		Annual
3	Piece	UV Light	✓					Energy UV Intensity	Annual
22	Piece	Ventilator	✓	✓	✓			Breath rate(bpm), I:E Ratio, Oxygen percentage	Semi-Annual
68	Piece	Weighing Scale						Weights	Annual
2	Piece	Video Laryngoscope	✓						Annual

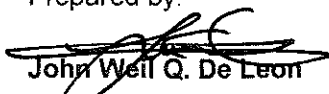
General Scope of Works for Preventive Maintenance and Calibration Services :

- Perform preventive maintenance including **qualitative evaluation physical/mechanical inspection** which applicable to the following (chassis/housing, mount/fasteners, caster/brakes, AC plug, line cord, strain reliefs, circuit breaker/fuse, tubes/hoses,cables, fittings/connector, filters, controls/switches, heater, motor/pump/fan/compressor, battery/charger, indicators/displays, calibration/self test, time/date settings, alarms/ interlock, audible signals, labeling and accessories), adjustment, system performance test, software and hardware updates and replacement of PM parts/kit's if necessary. Any consumables such as reagents/solutions/ machine supplies (e.g Isoflurane/sevoflurane /films/patch/lubricants etc.) in general, to be used during the test will be provided by the service provider
- Perform Calibration/verification which include **quantitative evaluation according to the set calibration parameters** using calibrated test equipment/tools
- Cleaning, lubricating and perform minor hardware or software repair if necessary
- Application of preventive maintenance and calibration stickers which indicates PM and calibration date and due date

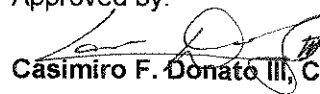
Terms of Reference

- All service shall be done at the National Center for Mental Health facilities.
- General Scope of Works for Preventive Maintenance and Calibration Services should applies to all medical equipment
- Service provider should coordinate with Medical Equipment Maintenance Unit before and after the preventive maintenance and other services
- Service provider must have full-time certified biomedical technicians with NCII certificates of Biomedical Equipment Servicing or engineer with PRC license to perform corrective, preventive and calibration related to the item listed
- Service provider shall provide the following:
 - Each Test/Calibration equipment to be used must have current, valid and NIST Traceable certificate of calibration or other internationally accepted standards.
 - Submit FOUR (4) copies of complete Service Report for minor repair or for the medical equipment may found defective.
 - Submit FOUR (4) copies of complete Preventive Maintenance Report and Calibration Certificate for each equipment which includes qualitative and quantitative data compliant with ISO 9001 documentation.
 - Current and Valid Training Certificates of technicians/engineers who performed the services

Prepared by:


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 MEMU Unit Head/ Facilities and
 Equipment Maintenance Section

Approved by:


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 OIC, Facilities and Equipment
 Maintenance Section



NATIONAL CENTER FOR MENTAL HEALTH

Clinical Laboratory

PREVENTIVE MAINTENANCE/CALIBRATION OF CLINICAL LABORATORY EQUIPMENT

Item #	Quantity	ITEM DESCRIPTION	Scope of Work	Frequency
1	unit	Analytical Balance, Weighing Scale, Digital Scale at least 300g x 0.01g, round platform, LCD display, Denver Instrument USA Serial number: 21360063	<input type="checkbox"/> Weight calibration <input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, AC plug, line cord, strain reliefs, cables, controls/switches, indicators/displays, labeling) <input type="checkbox"/> PM task (cleaning of unit, lubrication of mechanical parts, recommended model-specific PM) <input type="checkbox"/> Functionality test (display verification, recommended model-performance testing)	Annual
3	unit	Autoclave, bench top, stainless steel, Sturdy brand, 40L capacity Serial number: 101116011-025 Autoclave, floor type, stainless steel, Wise clave, 100L capacity Serial number: 00738041080AP001 Autoclave, bench top, stainless steel, Lisa brand, 40L capacity Serial number: C7110089	<input type="checkbox"/> Temperature calibration <input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, AC plug, line cord, strain reliefs, circuit breakers/fuses, tubes/hoses, cables, fittings/connectors, controls/switches, indicators/displays, alarms/interlocks, labeling) <input type="checkbox"/> PM task (cleaning of unit, recommended model-specific PM) <input type="checkbox"/> Functionality test (display verification, alarm function, recommended model-performance testing)	Annual
2	unit	Biological Refrigerator, Haier Biomedical, HYC 509T Serial number: BEOHS OE1TO OQJL4 70001 and-BEOHS OE1TO OQJL4 70QJL4 7001	<input type="checkbox"/> Temperature check and calibration <input type="checkbox"/> Cleaning and testing electrical system * Main power switch (starting delay, power delay, compressor, overload delay, condenser fan motor, defrost delay) <input type="checkbox"/> Refrigeration cycle * Cleaning of condenser * Check gas leakage * Cleaning of condenswr filter *Check vibration and contact of tubing <input type="checkbox"/> Testing alarm system Alarm key test * Filter alarm key * Buzzer key <input type="checkbox"/> Drainage - Cleaning of drain pan, check drain hose <input type="checkbox"/> Check door and door gasket	Annual
2	unit	Biological Safety Cabinet, Class II, Type A2, Anti UV tempered glass, Haier, HR 40-11A2 Serial number: BEO2V00N00B2B2G114G and BEO2V PEONO OQHL4 MOO04	<input type="checkbox"/> Simulated power supply conditions <input type="checkbox"/> Inflow velocity test <input type="checkbox"/> Downflow velocity test <input type="checkbox"/> Light intensity test <input type="checkbox"/> Airflow smoke pattern test <input type="checkbox"/> Particle count/product protection test	Annual
1	unit	Blood Bank Refrigerator, 30 bag capacity, Digital temperature control, Digital temperature display, Triple layer glass window, Sanyo brand Serial number: 10020023	<input type="checkbox"/> Temperature check and calibration <input type="checkbox"/> Cleaning and testing electrical system * Main power switch (starting delay, power delay, compressor, overload delay, condenser fan motor, defrost delay) <input type="checkbox"/> Refrigeration cycle * Cleaning of condenser * Check gas leakage * Cleaning of condenswr filter *Check vibration and contact of tubing <input type="checkbox"/> Testing alarm system Alarm key test * Filter alarm key * Buzzer key <input type="checkbox"/> Drainage - Cleaning of drain pan, check drain hose <input type="checkbox"/> Check door and door gasket	Annual
1	unit	Blood Typing and Crossmatching, Gel Technique Centrifuge, DiaMed Serial number: 1003388	<input type="checkbox"/> Velocity calibration <input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, AC plug, line cord, strain reliefs, circuit breakers/fuses, cables, indicators/displays, labeling, accessories) <input type="checkbox"/> PM task (cleaning of unit, recommended model-specific PM) <input type="checkbox"/> Functionality test (alarm function, recommended model-performance testing)	Annual

Item #	Quantity	ITEM DESCRIPTION	Scope of Work	Frequency
4	unit	Centrifuge, Clinical, Bench top, 24 placer, brushless, automatic rotor, Kokusan brand Serial number: 141509 and 141510 Centrifuge, Clinical, Bench top, 12 placer, brushless, automatic rotor, Vision brand Serial no.: E1234KA0001 and E1234KA0011	<input type="checkbox"/> Velocity calibration <input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, AC plug, line cord, strain reliefs, circuit breakers/fuses, cables, indicators/displays, labeling, accessories) <input type="checkbox"/> PM task (cleaning of unit, recommended model-specific PM) <input type="checkbox"/> Functionality test (alarm function, recommended model-performance testing)	Annual
1	unit	Drying Oven, Digital temperature control with range from 5°C to 300°C, Digital temperature display, Binder brand Serial number: 09-09122	<input type="checkbox"/> Temperature calibration <input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, AC plug, line cord, strain reliefs, cables, controls/switches, fan, indicators/displays, labeling) <input type="checkbox"/> PM task (cleaning of unit, recommended model-specific PM) <input type="checkbox"/> Functionality test (display verification, recommended model-performance testing)	Annual
2	unit	Blood Typing and Crossmatching, Gel Technique Incubator, DiaMed Serial number: 1004376 Incubator: dry, 50L to 60L capacity, bench top, stainless steel, L&W brand, USA, with AVR Serial number: 1007013	<input type="checkbox"/> Temperature calibration <input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, AC plug, line cord, strain reliefs, cables, controls/switches, indicators/displays, alarms/interlocks, labeling) <input type="checkbox"/> PM task (cleaning of unit, recommended model-specific PM) <input type="checkbox"/> Functionality test (alarm function, recommended model-performance testing)	Annual
1	unit	Mechanical Rotator, Bench top, variable speed 40-240 rpm 30 minutes timer, built-in analogue tachometer, L&W Scientific brand. Serial number: 1008128	<input type="checkbox"/> Velocity calibration <input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, AC plug, line cord, strain reliefs, circuit breakers/fuses, cables, indicators/displays, labeling, accessories) <input type="checkbox"/> PM task (cleaning of unit, recommended model-specific PM) <input type="checkbox"/> Functionality test (alarm function, recommended model-performance testing)	Annual
8	unit	Microscope, Binocular, Olympus CX21, LED Serial nos.: 1A81033 1A81063 OB80752 OB80744 1A81055 1A80059 OA81847 1A81059	<input type="checkbox"/> KN0048 (For eyepiece use/ centering of prism) <input type="checkbox"/> KN0015-A10 (For objective use/ focusing) <input type="checkbox"/> Re-grease (for mechanical parts)	Annual
10	unit	Pipettor, adjustable volume, 10-100µL capacity, Dragon Med brand, China 1. Serial # - ASO4042 2. Serial # - ASO9021 3. Serial # - ASO9004 4. Serial # - ASO9022 Pipettor, adjustable volume, 100-1000µL capacity, Dragon Med brand, China 1. Serial # - FP22628 2. Serial # - FP22624 3. Serial # - FP22615 fixed volume (50µL) 1. Serial # - 418655 2. Serial # - 427809 3. Serial # - 418655 Pipettor,	<input type="checkbox"/> Volume calibration <input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, tubes/hoses, controls/switches, indicators/displays, labeling) <input type="checkbox"/> PM task (cleaning of unit, lubrication of mechanical parts, recommended model-specific PM) <input type="checkbox"/> Functionality test (display verification, recommended model-performance testing)	Bi- Annual
2	unit	Refrigerator Thermostat, Smart cook Reference no.: LAB-C-03	<input type="checkbox"/> Temperature calibration <input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, AC plug, line cord, strain reliefs, cables, controls/switches, fan, indicators/displays, labeling) <input type="checkbox"/> PM task (cleaning of unit, recommended model-specific PM) <input type="checkbox"/> Functionality test (display verification, recommended model-performance testing)	Annual

Item #	Quantity	ITEM DESCRIPTION	Scope of Work	Frequency
2	unit	Room Thermometer Reference no.: LAB-C-01 LAB-C-02	<input type="checkbox"/> Temperature calibration <input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, AC plug, line cord, strain reliefs, cables, controls/switches, fan, indicators/displays, labeling) <input type="checkbox"/> PM task (cleaning of unit, recommended model-specific PM) <input type="checkbox"/> Functionality test (display verification, recommended model-performance testing)	Annual
1	unit	Waterbath, Digital temperature setting, Digital temperature read-out display, equipped with immersion heating element, temperature sensor and water circulators with fan Serial number: 1007031	<input type="checkbox"/> Temperature calibration <input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, AC plug, line cord, strain reliefs, cables, controls/switches, indicators/displays, alarms/interlocks, labeling) <input type="checkbox"/> PM task (cleaning of unit, recommended model-specific PM) <input type="checkbox"/> Functionality test (display verification, recommended model-performance testing)	Annual

Terms of Reference:

1. On site calibration and preventive maintenance
2. Conduct performance verification of laboratory equipment
3. Conduct calibration with participation of Hospital in charge technicians/employee on site
4. Provide PMS stickers on all equipment indicating PMS and calibration date
5. Submit reports/findings and recommendations on all equipment
6. Submit Calibration certificate and service report indicating status of each unit seven (7) days after service
7. Submits certificate of all calibration tools used for the calibration of equipment
8. Any damage on equipment incurred during the conduct of the PMS/Calibration shall be paid by the service provider
9. Trained service engineers - training certificates from accredited training centers shall be submitted

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OIC- Clinical Laboratory



NATIONAL CENTER FOR MENTAL HEALTH
Anatomic Laboratory
PREVENTIVE MAINTENANCE/CALIBRATION OF VARIOUS MEDICAL EQUIPMENT

Item #	Quantity	ITEM DESCRIPTION	Scope of Work	Frequency
1	unit	TISSUE EMBEDDING STATION	<input type="checkbox"/> Temperature calibration <input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, AC plug, line cord, cables, controls/switches, fan, indicators/displays) <input type="checkbox"/> PM task (cleaning of unit, recommended model-specific PM) <input type="checkbox"/> Functionality test (display verification, recommended model-performance testing)	Annual
1	unit	GROSS PATHOLOGY STATION	<input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, AC plug, line cord, circuit breakers/fuses, tubes/hoses, cables, fittings/connectors, controls/switches indicators/displays) <input type="checkbox"/> PM task (cleaning of unit, recommended model-specific PM) <input type="checkbox"/> Functionality test (display verification, alarm function, recommended model-performance testing), Check water supply and drainage, filter/filter replacement, exhaust mechanism	Annual
1	unit	WATER FLOATATION BATH	<input type="checkbox"/> Temperature calibration <input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, AC plug, line cord, cables, controls/switches, fan, indicators/displays, labeling) <input type="checkbox"/> PM task (cleaning of unit, recommended model-specific PM) <input type="checkbox"/> Functionality test (display verification, recommended model-performance testing)	Annual
2	unit	DIGITAL WEIGHING SCALE	<input type="checkbox"/> Weight calibration <input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, AC plug, line cord, cables, controls/switches, indicators/displays) <input type="checkbox"/> PM task (cleaning of unit, lubrication of mechanical parts, recommended model-specific PM) <input type="checkbox"/> Functionality test (display verification, recommended model-performance testing), check power supply	Annual
1	unit	PARAFFIN OVEN	<input type="checkbox"/> Temperature calibration <input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, AC plug, line cord, cables, controls/switches, fan, indicators/displays) <input type="checkbox"/> PM task (cleaning of unit, recommended model-specific PM) <input type="checkbox"/> Functionality test (display verification, recommended model-performance testing)	Annual
2	unit	ELECTRIC BONE SAW	<input type="checkbox"/> Qualitative task/ Physical inspection (AC plug, line cord, cables) <input type="checkbox"/> PM task (cleaning of unit, recommended model-specific PM) <input type="checkbox"/> Functionality test (recommended model-performance testing)	Annual
1	unit	(1) ONE BODY CADAVER MORGUE REF	<input type="checkbox"/> Temperature calibration <input type="checkbox"/> Qualitative task/ Physical inspection (chassis/housing, AC plug, line cord, cables, controls/switches, fan, indicators/displays) <input type="checkbox"/> PM task (cleaning of unit, recommended model-specific PM) <input type="checkbox"/> Functionality test (display verification, recommended model-performance testing, alarm function, cooling system), check battery	Annual
1	unit	DIGITAL THERMOMETER REF/FREEZER	<input type="checkbox"/> Temperature calibration <input type="checkbox"/> Qualitative task/ Physical inspection (AC plug, line cord, cables, controls/switches, indicators/displays, labeling) <input type="checkbox"/> PM task (cleaning of unit, recommended model-specific PM) <input type="checkbox"/> Functionality test (display verification, recommended model-performance testing)	Annual

Item #	Quantity	ITEM DESCRIPTION	Scope of Work	Frequency
1	unit	ANALOGUE THERMOMETER REF/FREEZER	<input type="checkbox"/> Temperature calibration <input type="checkbox"/> Qualitative task/ Physical inspection <input type="checkbox"/> PM task (cleaning of unit, re-commended model-specific PM) <input type="checkbox"/> Functionality test (display verification, recommended model-performance testing)	Annual

General Scope of Works for Preventive Maintenance and Calibration Services :

• Perform preventive maintenance including **qualitative evaluation physical/mechanical inspection** which applicable to the following (chassis/housing, mount/fasteners, caster/brakes, AC plug, line cord, strain reliefs, circuit breaker/fuse, tubes/hoses, cables, fittings/connector, filters, controls/switches, heater, motor/pump/fan/compressor, battery/charger, indicators/displays, calibration/self test, time/date settings, alarms/ interlock, audible signals, labeling and accessories), adjustment, system performance test, software and hardware updates and replacement of PM parts/kits if necessary. Any consumables such as reagents/solutions/ machine supplies (e.g. isoflurane/sevoflurane /films/patch/lubricants etc.) in general, to be used during the test will be provided by the service provider

- Perform Calibration/verification which include **quantitative evaluation** using calibrated test equipment/tools
- Cleaning, lubricating and perform minor hardware or software repair if necessary
- Application of preventive maintenance and calibration stickers which indicates PM and calibration date and due date


Terms of Reference:

1. All services shall be done at the National Center for Mental Health facilities.
2. Service provider must conduct Preventive Maintenance and calibration on all listed medical equipment.
3. FREQUENCY : **ANNUAL**
4. Service provider should coordinate with the End-User and Medical Equipment Maintenance unit before and after the preventive maintenance and other services.
5. Service provider must have full-time certified Biomedical Technicians with NCII certificates of Biomedical Equipment Servicing or Engineer with PRC license to perform corrective preventive, calibration related to the item listed.
6. Service provider must provide the following:
 - A.) Test /Calibration equipment to be used must have current, valid and NIST traceable certificate of calibration or other internationally accepted standards.
 - B.) Submit FOUR (4) copies of complete Service Report for minor repair or for the medical equipment found defective.
 - C.) Submit four (4) copies of complete Preventive Maintenance Report and Calibration Certificate Calibration certificate for each equipment which includes qualitative and quantitative data compliant with ISO 9001 documentation.
 - D.) Current and valid training certificates of technicians/engineers who performed the services.

Prepared by:


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 End User, Anatomic Laboratory

Noted by:


ROMIL M. AGUIRRE, MD, FPSP, MMHoA
 Chief, Anatomic Laboratory



**NATIONAL CENTER FOR MENTAL HEALTH
Dental Section
PREVENTIVE MAINTENANCE/CALIBRATION OF VARIOUS MEDICAL EQUIPMENT**

Item #	Quantity	ITEM DESCRIPTION	Scope of Work	Frequency
10	unit	Dental Chair	<input type="checkbox"/> Pressure calibration <input type="checkbox"/> Speed calibration Electrical safety testing <input type="checkbox"/> Qualitative task/ Physical-Mechanical inspection Check and verification: high speed handpiece and attachment speed airmotor handpiece and attachment syringe and attachment viewer valve of cup-filler working arm tray air lock solenoid valve of spittoon flush led operating light sensor foot control for handpieces foot control for chair operation saliva ejector operation air suction operation three-way syringe and attachment assitant side clean water tank system air and water regulator dentist chair-gas lift height adjustment air compressor-water drainage actuator (up, down, back , and forth adjustment headrest of dental chair armrets of dental chair	Semi-Annual
2	unit	Autoclave Machine	<input type="checkbox"/> Temperature calibration <input type="checkbox"/> Pressure calibration <input type="checkbox"/> Electrical safety testing <input type="checkbox"/> Quaitative task/ Physical inspection Check and verification: heating element wattage pressure gauge thermostat control timer function	Semi-Annual
2	unit	Dry Heat Sterilizer	<input type="checkbox"/> Temperature calibration <input type="checkbox"/> Pressure calibration <input type="checkbox"/> Electrical safety testing <input type="checkbox"/> Qualitative task/ Physical inspection which applicable to the following (chassis/housing, mount/fasteners, caster/brakes, AC plug, line cord, strain reliefs, circuit breaker/fuse, tubes/hoses,cables, fittings/connector, filters, controls/switches, heater, motor/pump/fan/compressor, battery/charger, indicators/displays, calibration/self test, time/date settings, alarms/ interlock, audible signals, labeling and accessories Check and verification: heating element wattage pressure gauge thermostat control timer function	Semi-Annual
10	unit	UV Sterilizer	<input type="checkbox"/> Energy Calibration UV Intensity <input type="checkbox"/> Quaitative task/ Physical inspection which applicable to the following (chassis/housing, mount/fasteners, caster/brakes, AC plug, line cord, strain reliefs, circuit breaker/fuse, tubes/hoses,cables, fittings/connector, filters, controls/switches, heater, motor/pump/fan/compressor, battery/charger, indicators/displays, calibration/self test, time/date settings, alarms/ interlock, audible signals, labeling and accessories)	Semi-Annual

8	unit	Ultrasonic Scaler	<input type="checkbox"/> Electrical safety testing <input type="checkbox"/> Qualitative task/ Physical inspection which applicable to the following (chassis/housing, mount/fasteners, caster/brakes, AC plug, line cord, strain reliefs, circuit breaker/fuse, tubes/hoses/cables, fittings/connector, filters, controls/switches, heater, motor/pump/fan/compressor, battery/charger, indicators/displays, calibration/self test, time/date settings, alarms/ interlock, audible signals, labeling and accessories)	Semi-Annual
7	unit	Light Cure Machine	<input type="checkbox"/> Electrical safety testing <input type="checkbox"/> Qualitative task/ Physical inspection which applicable to the following (chassis/housing, mount/fasteners, caster/brakes, AC plug, line cord, strain reliefs, circuit breaker/fuse, tubes/hoses/cables, fittings/connector, filters, controls/switches, heater, motor/pump/fan/compressor, battery/charger, indicators/displays, calibration/self test, time/date settings, alarms/ interlock, audible signals, labeling and accessories)	Semi-Annual
5	unit	Extra Oral Suction Machine with Replacement of Suction Filter	<input type="checkbox"/> Electrical safety testing <input type="checkbox"/> Pressure calibration <input type="checkbox"/> Replacement of filter <input type="checkbox"/> Qualitative task/ Physical inspection which applicable to the following (chassis/housing, mount/fasteners, caster/brakes, AC plug, line cord, strain reliefs, circuit breaker/fuse, tubes/hoses/cables, fittings/connector, filters, controls/switches, heater, motor/pump/fan/compressor, battery/charger, indicators/displays, calibration/self test, time/date settings, alarms/ interlock, audible signals, labeling and accessories)	Semi-Annual
3	unit	Intra Oral Suction Machine with Replacement of Suction Filter	<input type="checkbox"/> Electrical safety testing <input type="checkbox"/> Pressure calibration <input type="checkbox"/> Replacement of filter <input type="checkbox"/> Qualitative task/ Physical inspection which applicable to the following (chassis/housing, mount/fasteners, caster/brakes, AC plug, line cord, strain reliefs, circuit breaker/fuse, tubes/hoses/cables, fittings/connector, filters, controls/switches, heater, motor/pump/fan/compressor, battery/charger, indicators/displays, calibration/self test, time/date settings, alarms/ interlock, audible signals, labeling and accessories)	Semi-Annual
1	unit	Dental X-ray	<input type="checkbox"/> Electrical safety testing <input type="checkbox"/> Exposure radiation calibration Check and verification: leads, signaling function, external and internal button microprocessor check up all mechanism parts <input type="checkbox"/> Qualitative task/ Physical inspection which applicable to the following (chassis/housing, mount/fasteners, caster/brakes, AC plug, line cord, strain reliefs, circuit breaker/fuse, tubes/hoses/cables, fittings/connector, filters, controls/switches, heater, motor/pump/fan/compressor, battery/charger, indicators/displays, calibration/self test, time/date settings, alarms/ interlock, audible signals, labeling and accessories)	Semi-Annual
2	unit	Cautery Machine	<input type="checkbox"/> Electrical safety testing <input type="checkbox"/> Watts calibration <input type="checkbox"/> Qualitative task/ Physical inspection which applicable to the following (chassis/housing, mount/fasteners, caster/brakes, AC plug, line cord, strain reliefs, circuit breaker/fuse, tubes/hoses/cables, fittings/connector, filters, controls/switches, heater, motor/pump/fan/compressor, battery/charger, indicators/displays, calibration/self test, time/date settings, alarms/ interlock, audible signals, labeling and accessories)	Semi-Annual

General Scope of Works for Preventive Maintenance and Calibration Services :

- Perform preventive maintenance including **qualitative evaluation physical/mechanical inspection** which applicable to the following (chassis/housing, mount/fasteners, caster/brakes, AC plug, line cord, strain reliefs, circuit breaker/fuse, tubes/hoses/cables, fittings/connector, filters, controls/switches, heater, motor/pump/fan/compressor, battery/charger, indicators/displays, calibration/self test, time/date settings, alarms/ interlock, audible signals, labeling and accessories), adjustment, system performance test, software and hardware updates and replacement of PM parts/kit's if necessary. Any consumables such as reagents/solutions/ machine supplies (e.g. Isoflurane/sevoflurane /films/patch/lubricants etc.) in general, to be used during the test will be provided by the service provider
- Perform Calibration/verification which include **quantitative evaluation** using calibrated test equipment/tools

- Cleaning, lubricating and perform minor hardware or software repair if necessary
- Application of preventive maintenance and calibration stickers which indicates PM and calibration date and due date
- Replacement of Suction Filters for Extra Oral and Intra Oral Suction Machines

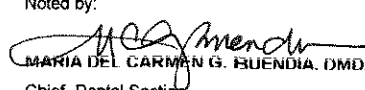
Terms of Reference:

1. All services shall be done at the National Center for Mental Health facilities.
2. Service provider must conduct Preventive Maintenance and calibration on all listed medical equipment.
3. FREQUENCY : **SEMI-ANNUAL**
4. Service provider should coordinate with the End-User and Medical Equipment Maintenance unit before and after the preventive maintenance and other services.
5. Service provider must have full-time certified Biomedical Technicians with NCII certificates of Biomedical Equipment Servicing or Engineer with PRC license to perform corrective preventive, calibration related to the item listed.
6. Service provider must provide the following:
 - A.) Test /Calibration equipment to be used must have current, valid and NIST traceable certificate of calibration or other internationally accepted standards.
 - B.) Submit FOUR (4) copies of complete Service Report for minor repair or for the medical equipment found defective.
 - C.) Submit four (4) copies of complete Preventive Maintenance Report and Calibration Certificate Calibration certificate for each equipment which includes qualitative and quantitative data compliant with ISO 9001 documentation.
 - D.) Current and valid training certificates of technicians/engineers who performed the services.

Prepared by:


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