FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

(MRA Signatory to APAC/ILAC for the scope of Testing & Calibration)

Information Brochure

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, FF, Sushant Tower, Sector 56,
Gurgaon-122011 (Haryana), India
Tel: 0124 2570004
Mob: +91-9452206485, 8738875300
E Mail: info@fdasindia.org,fdasindia@hotmail.com
Website: www.fdasindia.org

FDAS POLICY

FDAS is committed to provide accreditation services, in a non-discriminatory manner to applicant CABs operating as Test Laboratories, Calibration Laboratories and Medical Laboratories, in a timely manner, irrespective of the size and ownership and to operate its documented management system in compliance with ISO/IEC 17011:2017 and applicable ILAC/APAC norms.

DEVI SARAN TEWARI

Director, FDAS

1.0 Introduction

Federation for Development of Accreditation Services(FDAS), India is a program to grant accreditation to CABs/Laboratories, as a non-government organization and in non-profit mode, registered under section 9(1) of the Haryana Registration and Regulation of Societies Act, Department of Industries & Commerce, Haryana, vide registration number HR/018/2019/03652, on 27th March 2019, by The Registrar of Societies, Govt of Haryana, India.

The management system of FDAS is as per ISO/IEC 17011:2017, and is committed to grant Accreditation to Test, Calibration, and Medical laboratories, as per respective international standards like ISO/IEC 17025:2017 / ISO 15189:2022 and ILAC/APAC norms. The commitment of FDAS to abide by the norms from international institutions like ISO, IEC, ILAC, APAC etc., has enabled it to attain Asia Pacific Accreditation Cooperation (APAC) MRA Signatory status which in turn provides global equivalence to its accredited CABs/Laboratories. After its evaluation by APAC, FDAS became APAC MRA (Mutual Recognition Arrangement) signatory/Full Member of APAC on 16th June 2023 and became ILAC MRA signatory/Full Member of ILAC on 28th Aug 2023 for the scope of testing and calibration.

The need for creating additional accreditation body for India must be seen in conjunction with the need of country which has about six lakh laboratories, consisting of about three lakh testing laboratories and more than three lakhs medical laboratories. Though the laboratory accreditation program was approved by the Govt. of India in 1981, it started granting accreditation in 1989, from Department of Science and Technology, by National Coordination of Testing and Calibration Facilities (NCTCF), the name of accreditation program, which was transformed to NABL in 1992, and to meet international (ISO/IEC) norms.

As on date the number of accredited laboratories is less than nine thousand laboratories, although the best is being done. The country is aspiring to become a five trillion economy and must have matching means to achieve desired goal and therefore needs additional accreditation body.

Keeping this in mind an NGO was formed as a society for laboratory accreditation, which is now APAC/ILAC MRA Signatory and serves the Indian economy to meet its needs.

2.0 Mode of Service

FDAS, the NGO registered under the "Registration and Regulation of Societies Act, 2012 of Haryana Government", aims to serve the community as a charitable organization and as a non-profit making body and by maintaining financial sustainability.

3.0 Professional commitment of FDAS:

FDAS is committed to being professional in its approach with laboratories in general and specifically with its accredited CABs/laboratories, by keeping them informed with justification before making a change in its management system that may affect CABs/laboratories functioning, and to incorporate their views to the extent possible. FDAS has the complaints & Appeals redressal system, also when resolved complaints are not to the satisfaction of CABs/laboratories, they are free to make an appeal against the decision of FDAS, which are considered by the Jury, which is not involved in the decision making & is independent to consider such appeals and to pronounce its judgment, which is a binding to the parties concerned. The jury would have more than one expert.

4.0 FDAS Policy on grant of accreditation and Impartiality/Confidentiality:

FDAS is open to grant accreditation to all willing laboratories (CABs), irrespective of ownership, size, or affiliations, and from all sectors of the economy and committed to maintaining impartiality in its functioning from the test, calibration, and medical laboratories. As a policy, its management, staff,

committee members, assessors, and experts involved in the process of accreditation are required to pledge to maintain impartiality and confidentiality. FDAS has a website (www.fdasindia.org) and it gives the details of scope of accreditation of laboratories along with the certificate. FDAS accreditation is an acknowledgement for the competence of the applicant for the scope of testing/calibration parameters identified by FDAS and is not to certify a product.

5.0 Accreditation Requirements:

FDAS grants accreditation to the applicant CABs (test, calibration, and medical laboratories) for the defined scope subject to the demonstration of competence and compliance to the following applicable norms.

5.1 General requirement for the competence of testing and calibration laboratories ISO/IEC 17025: 2017.
5.2 Medical laboratories – Requirements for quality and competence, ISO 15189:2022

Besides, accredited laboratories are required to abide by the:

i. Terms and conditions of FDAS to maintain accreditation (FDAS 131).
ii. Terms and conditions for use of FDAS symbol & FDAS symbol combined ILAC MRA mark by laboratories (FDAS 132)
iii. FDAS supplementary criteria applicable for different accreditation schemes.

FDAS has adopted ILAC documents from the P & G series, where available, and can be downloaded from: ***www.ilac.org***

6.0 Scope of FDAS (Test laboratory in the following fields)

6.1 Biological
6.2 Chemical
6.3 Electrical
6.4 Electronic
6.5 Fluid Flow
6.6 Mechanical
6.7 Non-Destructive (NDT)
6.8 Optical and Photometry
6.9 Radiological
6.10 Thermal

7.0 Fields have been divided groups & subgroups.

7.1 Biological Testing

Group	Sub-group
Bio-chemical Testing	Blood bank serology Hematology Clinical Immunology Anatomical pathology Clinical biochemistry Bioavailability studies drugs
Bio-efficiency	Pesticide Plant hormones Weedicides

Biological assay	Industrial culture Antibiotics and other drugs Disinfectants Vaccines and sera Miscellaneous micro-biological products Vitamins and enzymes Hormones
Environmental biology	Toxicity to fish Toxicity to birds Toxicity to domestic animals Identification of benthic and macro-organisms Toxicity to Wildlife etc. Biotoxins and microbial toxins
Food and agricultural products	Alcoholic drink & soft drink beverages Animal feeds Bakery & Confectionary Cereals, pulses & cereal products Coffee & cocoa products Milk & dairy products Tea Starch & starchy products Fish & fishery products Ready to eat products/ Proprietary products Calorific value/energy
	Food additives/preservatives& antioxidants Honey & honey products Fruit & vegetable products Infant foods Meat & meat products Whole & ground spices & condiments Spice oil & oleoresins Sugar and sugar products Tobacco & tobacco products Nut and nut products Sensory evaluation filth & extraneous matter in food Oil, fats & related products
Forensic analysis	Analysis of biological fluids & typing Testing of hair, bones, tissues, etc. Botanical examination & testing
Genetic activity	Bacterial & cell cultures Seed purity & germination and freedom from disease Other products
Industrial culture	Yeasts Rhizobial Cultures Dairy starter culture
Inhalation toxicology	Acute toxicity Sub-acute toxicity

Microbiological tests (Bacteria, fungus)	Cosmetics Vitamin & enzymes Raw & processed foods Water & Wastewater Sewage, effluents & industrial Milk and other dairy products Surgical items Pharmaceuticals
Mycotoxins	Mycotoxins in foods & feeds
Pharmacology tests	Bioassay Biological test for identity Pyrogen tests Histamine tests Antigenicity tests
Resistance to fungal and other microbial testing	Textile and fabrics Adhesives, glues, etc. Electric components Paints & surface coatings
Resistance to insects	Textile and fabrics Tinibar Other materials
Shelf life	Canned & processed foods
Specialised instrumental analysis	Fluoresence microscopy Electrophoresis Polarimeter Auto analyser for wet analysis DNA hydrozation Computerised tirotometer for colour evaluation Stereoscopic microscope
Sterility test (for drugs)	Canned products Hospital wares Drugs & cosmetics Area sterility
Toxicology testing	Acute studies oral Sub-acute studies oral Neurotoxicity Reproduced toxicology Dermal studies acute Dermal studies sub-acute Special testing including Carcinogenicity mutagenicity Testogencity studies etc.
Virus	Foods and feeds ELISA tests

7.2 Chemical Testing

Group	**Sub-group**
Air gases & Atmosphere	Ambient air monitoring. Stack emission monitoring.

	Fugitive emission monitoring. Solid particulate matter: -Size distribution -Chemical analysis Liquid mists, aerosols: -Chemical analysis Gaseous pollutants: -Chemical analysis Industrial gases Gases for medical use & diving Reference gases & mixtures Liquified/compressed gases Fuel gases
Alcohol & allied chemical	Industrial alcohols. Allied chemicals.
Adhesives	Starch based adhesives. Natural gums. Glues.
Building materials	Cement: Cement & other mortars Cement concrete Refractories Refractory cement Sand Clays & soils Pozzolanic materials Fly ash Limestone, lime gypsum Waterproofing/bituminous materials Thermal insulation materials Masonry bricks/blocks etc. Wood testing & identification
Coal, coke & other solid fuel	Coal/coke Coal carbonization products Coal tar/bitumen: Charcoal Other solid fuels
Dye & intermediates	Synthetic dyes Dye intermediates Natural dyes & colouring materials
Disinfectants	Disinfectants & their formulation
Drugs & pharmaceuticals cosmetics	Synthetic drugs Natural drugs(medical plant) Preparations Pharmaceutical preparations Drugs intermediates & raw materials Cosmetics Intermediates and misc. Chemicals for cosmetics Perfumes Essential oils
Explosives and pyrotechnics	Service explosives Industrial explosives

	Pyrotechnics Explosive chemicals & allied materials
Fertilizers	Nitrogen fertilizers Phosphorous fertilisers Fertiliser mixtures Potassium fertilisers Micronutrients Bio-Fertilizers
Food & agricultural products (Chemical/Physical Test)	Alcoholic drinks & beverages Animal feeds Bakery and confectionary products Cereals, pulses & by-products Coffee, cocoa & by-products Milk and dairy products. Tea and tea products Starch and starchy products Fish and fishery products Food additives: Colour,Flavour and Preservatives Honey and honey products Fruits & vegetable products Infant foods Meat and meat products Spices & condiments Sugar and by -products Tobacco and by-products Sensory evaluation-flavour Oil, fats and related products Soft drinks Pan Masala and similar products Chewing Gum and similar products
Forensic analysis	Chemical analysis of trace materials as clues Analysis of poisons/drugs Specialised testing by Physicochemical techniques
Inks	Printing inks Liquid inks and allied products Raw materials-carbon black dyes,etc.
Industrial and fine chemicals	Inorganic chemicals misc. Organic chemicals misc. Electroplating chemicals Solvents misc. Laboratory chemicals Analytical reagents.
Lac & lac products	Lac Lac products
Leather	Leather Chemicals for leather Synthetic leather
Ores & Minerals	Iron ores Copper ores, Zinc ores Other common metal ores Precious metal ores

	Rare metals ores Radio active metals ores Bauxite Limestone & Dolomite Rock phosphate Gypsum Silica sands Mineral sand Mineral for refractories Mineral for insulation materials Other minerals Trace element analysis
Metals & alloys	Iron steel & ferro alloys Copper and its alloys Aluminium and its alloys Tin and tin alloys Zinc and its alloys Lead & its alloys Magnesium & its alloys Nickel,chromiums,cobalt and its alloys Titanium & its alloys Tungsten and its alloys Other metal alloys Precious metals Metallic coating and treatment solutions Corrosion testing Trace element analysis
Paints & surface coating	Paints and enamels Vehicles,solvents,thinners Pigments and extenders Polishes Painter's materials (gums,driers,paint removers) Drying oils Paint removers Outdoor weathering tests Artificial weathering tests Fresh water immersion tests Marine under water tests Humidity tests Salt spray tests Underground tests
Paper and pulp	Pulp, paper and products Paper and board packing materials Additive& coating materials
Photographic chemicals	Photographic chemicals & materials
Petroleum products	Crude petroleum Fuels-gaseous, liquid & solid excepting aviation Aviation fuels Aviation lubricants Lubricants general & associated products Waxes and jellies

	Misc.products,white oil,anti-freeze, Solvents insulation oils, feedstock Bituminous asphalt, tars and allied products Trace analysis of lubricants and other products
Plastics & resins	Resins Plastics -Rheological properties -Thermal analysis -Resistance to chemicals -Air & water vapour permeability -Accelerated weathering tests -Outdoor weathering tests -Flammability tests -Electrical properties tests -Heat insulation tests -Mechanical tests -Optical tests -additives identifications Synthetic resin adhesives
Pesticides	Synthetic pesticides & their formulations Natural pesticides & formulations Pheramones, chitin-inhibitors and allied products Growth hormones & allied products Pesticides residue analysis
Residue/ toxic contaminants	Pesticides residues, Antibiotics, Mycotoxins, Naturally occurring toxic substance, Heavy metals in food/ feed, leather, textile, water etc.
Pollution & environment	Liquid effluents, waste, and sewage Solid wastes Hazardous solid wastes spet analysis of wastewater/solid wastes
Rubber & rubber products	Natural rubber Synthetic rubber Resistance to chemicals Accelerated weathering tests Outdoor weathering tests Swelling in liquids Permeability Flammability Electrical properties Rubber chemicals testing Rubber products testing Rubber based adhesive testing
Soap detergent & toilet goods	Soaps Synthetic detergents Toilet goods Perfumery material, natural and synthetic Wetting and emulsifying agents
Specialized instrumental analysis	Gas chromatography with mass spectrometry LC/MS/MS ICP OES spectrometry /MS Thermo-analytical methods X-ray diffraction

	Atomic absorption spectrometry HPLC with microprocessor Specialised GLC with microprocessor Auto analysers X-ray fluorescence analysis UV and visible spectrophotometry Intra-red spectrophotometry/ FTIR SEM microanalysis Electroanalytical methods BMR spectroscopy ESR spectroscopy Raman spectroscopy Atomic emission spectroscopy Polarography HPTLC Specific ion analysis Total organic carbon analysis Carbon, Sulphur analysis in metals Oxygen, Nitrogen analysis Karl Fisher Analyzer. Ion Chromatogrphy
Textiles & Wool	Fibre & Filaments: -Identification -Quantitative analysis of mixtures & blends -Qualitative analysis Yarns & chords: -Identification -Quantitative analysis of mixtures & blends -Qualitative analysis -Colour fastness tests (other than artificial light) -Colour fastness tests in artificial light -Flammability Fabrics & Garments: -Identification of Fibre -Quantitative analysis of mixtures & blends -Qualitative analysis -Colour fastness tests(other than artificial light) -Colour fastness tests in artificial light -Water permeability -Vapour/air permeability -Flammability -Electrical resistance -Colour fastness to washing -Colour fastness to rubbing/crocking -Colour fastness to perspiration Dyes & dyestuff auxiliaries analysis Textile finishes, resins & coatings Textile chemical auxiliaries
Water	Water for potable & domestic uses Water for irrigation Water for industrial/cooling purposes Water for steam

	Water for medicinal purposes Water for laboratory use. River water Ground water Waste water

7.3 Electrical Testing

Group	Sub-group
Distribution System	Battery Testing Distribution Equipment Testing Domestic Equipment testing Environmental testing Explosion proof testing Illuminated testing IP cubicle testing Relay testing
High Current	Switching duty test (HV) Switching duty test (LV) Short-time current test Short circuit withstand test Rated make/break test Electrical endurance test Temperature rise test Locked rotor tests on Motors Load loss & No load loss test
High voltage	Corona inception/extinction Front of wave impulse flashover High voltage dc Impulse flashover Impulse withstand Pollution performance Porosity test Power frequency flashover voltage Power frequency sparkover Power frequency voltage withstand Puncture withstand voltage Radio interference voltage Switching impulse voltage Temperature cycle Visible discharge Voltage distribution
Insulation	Ageing tests on insulation Arc resistance Cable testing Capacitor testing Chemical tests on electrical insulation metals Comparative tracking index Dielectric constant Dielectric strength Electrical conductivity Fire resistance testing Heat cycle

	IDE measurement Inductance measurement Insulation resistance Leakage current Load cycle Mechanical tests on electrical insulating materials Overload run test on capacitors. Physical tests on electrical Insulating materials Partial discharge tests Resistance measurement Self-healing test on capacitors Stability test on capacitors Surface resistivity Thermal resistivity Transient over voltage on capacitors Verification of Insulating properties Volume resistance Volume resistivity Wrapping tests on cables
Material Testing	Combustion testing Insulation oil testing Metallurgical testing Refractory material testing Thermal testing of materials
Power system	Analogue simulation Grounding system testing Meter testing
Transmission line testing	Line material testing Tower testing Vibration testing

7.4 Electronic Testing (products)

Discrete Semiconductor Devices
Monolithic Integrated Circuits
Hybrid Integrated Circuits
Electromechanical Components
Electromagnetic Components
Optoelectronics Components
Wires, Cables, Sleeves etc.
Piezo Electric Devices
Electron Tubes
Passive Components
Electro Acoustic Devices
Magnetic Tapes
PCBs
Laminates
Micromotors
Fan Regulator
Amplifier
Multimeter, Voltmeter, Ammeter
LCR Meter
Transistor Analyzer

Electronic Counter
Oscillators, Pulse & Data Generator
Oscilloscope
Plotter
AF Power Meter
Temp. Controlled Soldering Stn.
Blank for Future use
Power supplies
Voltage Stabilizer
Isolation Transformer
Inverter
UPS
Process Controllers
Dry Battery
Wet Battery
Personal Computer
Disc Drives
Keyboard
Printers, Plotters
Monitor
TV Receiver
AM/FM Radio Receiver
TV Tuner
AM/FM Radio Frequency Generator
Transceiver
Pattern Generator
Filters & Attenuators
Electronics Calculator (Non – Programmable type)
Tape Deck Mechanism
Tape Recorder
VCR
Telephone test set
Acoustic equipment
Optoelectronics Equipment
Others

7.5 Fluid Flow Testing

Group	**Sub-group**
Air Delivery System	Air displacement by fans (ceiling,table,petestral) Air delivery by exhaust fans Air delivery by blowers (centrifugal & positive displacement) rate of flow & static pressure measurement Air delivery by blowers: Integrated quantitative flow measurement Air quantity measurement in compressed air systems Air flow measurement in ducts.
Atmospheric air/Environment	Wind velocity Wind direction
Compressed gases and steam	Flow rate measurement in pipelines Integrated quantity measurement (Volumetric) Mass flow measurement
Corrosive liquids	Volumetric (mass flow metering rates)

	Integrated volume/mass flow
Flue gases/emission	Flow rate and quantitative Measurement of gases in chimneys (circular and rectangular ducts)
Gas-liquid systems	Flow rate measurement (aerosols) Integrated flow measurement Concentration
Gas-solid systems	Flow rate measurement (slurries) Bed movement (fluidized system) Concentration
Liquid gases	Flow rate Mass flow (integrated)
Liquid-solid systems	Flow rate measurements (Slurries) Integrated flow measurement Concentration
Multicomponent system	Flow measurement Integrated flow measurement Individual component measurement
Multiphase system	Flow measurement Integrated flow measurement Individual component measurement
Non-Newtonian fluids	Flow rate Integrated mass flow metering
Petroleum and related products	Flow rate measurement in pipes Mass flow rate in pipes Integrated volumetric flow metering Integrated mass flow metering
Ultra low flow	Leak rate of gases Leak rate of liquids
Volatile liquids	Flow rate measurement in pipes Mass flow rate in pipes Integrated volumetric flow metering Integrated mass flow metering
Water, other liquids (Milk, oil etc.) and effluents	Flow rate measurement in open channels, streams Flow rate measurement in closed channels, sewers Flow rate measurement in pipeline Integrated volumetric flow metering in pipelines Mass flow measurement Flow measurement at different heads from pumps and other similar devices.

7.6 Mechanical Testing

Group	**Sub-group**
Mechanical Properties of Material	Tensile Test Hardness test by Vickers Hardness test by Brinell Hardness test by Rockwell Micro hardness test Izod impact test Charpy impact test

	Bend test Fatigue test Lapping/wrapping/colling test Measurement of surface finish Shear test Torsion test Transverse test Bulging test for tube Crushing strength for tube Cupping Test Compression Test Dimension Rebend Test Drifted expansion Test Breaking Load Test Weldability tests: -Implant cold cracking test -Y-Groove cracking test -Verestraint hot-cracking test -Circular patch test -Diffusible Hydrogen measurement by Hg Method -Gas Chromatography for diffusible Hydrogen -Thermal cycle reheat cracking test -Thermal hot ductility tests -Delta ferrite measurement by magnetic method Spot/Projection/seam Weld Tests: -Cross tension test -U Tension test -Peel off test -Tensile shear test Fracture Toughness tests: -Crack opening displacement test -Pellini drop weight test -Crack growth rate test Residual Stress Measurement: -X-Ray diffraction automatic Stress analyser -Hole drilling method using electrical resistance strain gauges Coated welding electrode Hardness test by Rockwell superficial Jouminy hardenability test
Properties of Powder Metallurgical Products	Density Porosity Flow Rate Transverse rupture test Rockwell hardness Coefficient of friction Dynamic Coefficient of friction static

	Fracture toughness Abrasive wear resistance Radial crushing strength of sintered bearing Compressive yield strength Strength test for sintered gear technology
Plastic & Rubber	Identification of polymer and composition Density/sp.gravity Hardness Identification hardness index Tensile strength and elongation Flexing/cutgrowth test Compression test Transverse test Izod impact test Charpy impact test Ageing Abrasion test Tear strength Bond strength of bonded material Low temperature flexing Stiffness in bend Heat deformation Heat softening point Melt flow index Melting point of nylon Inflammability /fire resistance test Plastic yield of ebonite Dimensional stability at high temperature Reversion test of pipes Coefficient of friction Hydraulic test of tubes Water absorption test Oil absorption test Swelling in Chemical Optical test of PVC pipes Resistance to copper of PVC pipes Shear strength Vacuum collapse test for pipes/hoses.
Building Materials	Cement Testing: -Setting time -Fineness by specific surface -Soundness by Le Chatlier -Soundness by autoclave expansion -Compressive test -Drying shrinkage test -Air content test -Water retention test -Sp gravity test -Covering capacity of thermal insulation cement -Dry adhesion to steel of insulating cement. Lime testing: -Residue on slaking

	-Workability test -Volume yield test -Popping and filling test Tiles testing: -wet transverse test -Impact test -Crushing strength Concrete pipe testing: -Hydraulic test -Three edge bearing test PCE for fine clay refractories Modulus of rupture for refractory bricks Mineral wool testing: -Density -density under specific load -Shot content -Moisture content -Compaction under vibration -Compaction under jolting Concrete testing: -Compressive strength -Determination of proportion of mortar concrete in a set mix -Bond strength -Deflection and ultimate load -Flakiness index for aggregates for concrete and road Stone/Aggregate testing: Elongation index for aggregate Adhesion of aggregate to tar -Moh's hardness number -Point load strength index -Durability test -Permeability test -Surface softening test -Toughness test -Weathering test Soundness Seave analysis in aggregates Soil Testing: -Liquid limit -Plastic limit -Shrinkage limit -Proctor test -Triaxial shear strength -California bearing capacity -Bearing capacity -North Dakota cone test

	-Direct Shear Strength -Consolidation Test -Unconfined Compression - Permeability Test -Determination of Specific Gravity -Determination of Moisture content -Vane Shear Test -Sieve Analysis -Hydrometer Analysis -Free Swell Test -Field Density Test Timber testing: -Moisture content using moisture meter -Moisture content using hot air oven method -Specific gravity -static bonding test -Impact bending test -Compression test -Shear test -Tension test -Nail holding test -Screw holding test -Impact test -Torsion test -Determination of specification Plyboard testing: -Resistance to dry heat -Fire resistance -Glue shear strength -Adhesion of plies -Water resistance -Nycological test -Fibre diameter -Friability - Revovery after compression -Incombustibility -Moisture absorption -Linear strinkage -Water vapour permanence -Dimension Field Testing of Soil: -Standard Penetration -Dynamic Cone Penetration -Static Cone Penetration -Plate Load Test -Block Vibration Test -Electrical Resistivity -Field Vane Shear Test Determination of Fluxes modules of ceramics

Textile/Fabrics/wool/yarn	Any type of physical/mechanical test 1. Yarn 2. Fabrics, Garments & Other textile material
Metallographic Tests	Macrostructural Analysis Microstructural Analysis Estimation of grain size by Microscope Method Determination of Case Depth by Microscope Method Determination of Case Depth by Hardness Method Determination of Inclusion Rating Determination of Depth of Decarburised Layer Microscopic Measurement of Band Thickness Macrostreak Flow Test
Performance Test	Proof pressure test on pipes Proof pressure test on valves Aluminium milk cans Air compressor Air blower Test on bicycle: -Frame -Pedal -Crank and chain -Wheels -Handle bar -Hub -Spoke Test on Burners Test on Bib tap and stop tap Test on Ball valves Test on Centrifugal pumps Test on Commercial cooking range Test on domestic pressure cooker Test on Gas cylinders Proof load tests on chains Compression test for bridge bearings Load test on Draw bar hooks Load test on Laminated springs Load test on Coil springs Kg 0-100 Kg Above 100 Kg Load test on Chain pulley block Below 10 tons 10 tons to 20 tons Above 20 tons Load test on Hand operated winch

	Load test on Hydraulic jacks: Proof load upto 100 tons Proof load 100 to 150 tons Proof load above 150 tons Load test on Screw jacks: Upto 150 tons Between 15 & 30 tons Above 30 tons Load test on Steel wire ropes: Upto 1'' dia Between 1'' & 1 $^{1}/_{2}$ dia Above 1 $^{1}/_{2}$ dia Proof load test on electrically operated winch Test on Hack saw blade Test on Hurricane lanterns Test on Hand sprayers Internal combustion engine: 0-5 HP 0-10 HP Above 10 HP Knock characteristic of fuel Permanent magnetic chunk Steel files Spark plugs Test on twist drill Test sieves Torque wrench Water meters Whip test on brake hose Construction of brake hose Tensile test for brake /fuel hose Rubber sealing ring Conveyor belt Rubber welding hose Surgical rubber gloves V-belts Cycle tubes Speedometer cable Bicycle Front fork Bicycle Rim Friction & Wear measurements in sliding wear by Pin-on Disc Machine method Determination of metal /ceramic/polymer material resistance to scratching abrasion(dry sand rubber wheel test) Determination of material loss by air borne solid Solid particle erosion test by particle impingement at low mass flux rate. Prototype transmission tower testing

	Scaled down model transmission tower testing Fatigue Testing of Bellows Chains, grids and weld joints Proof Testing of components using Strain Gauges Industrial Air cleaner: -Airflow Restriction and Pressure drop test -Initial Efficiencies test -Dust capacity and Accumulative Efficiency -Precleaner Performance Diesel Fuel Filters: -Resistance to flow -Filtration capacity and contaminant Removal characteristics Lubricating oil Filters: -Resistance to Flow -Contaminant Removal characteristics Ultimate tensile strength on ACSR conductors Surface condition test on ACSR conductors Vibration recording of transmission line Stress strain test on ACSR conductors Sag test on ACSR conductors 24 hours mechanical tests on insulator string Dynamic characteristic test for dampers, spacer dampers and other line hardware Mechanical tests (like movement test, clamp bolt torque tests, Assembly torque test, Tensile and Compression tests and clamp slip test) on spacer/spacer dampers. Long decrement test on Dampers, Spacers Vibration test on connectors, relays etc.
Simulated Tests	Performance of steel parts at sub-zero temp Performance of rubber parts at sub-zero temp. Performance of IC Engine at higher altitude Endurance test for starter motor Endurance test for jacks Performance and life test for oil seals
Creep test	Creep test Life cycle test for AC pumps Performance test of complete vehicle on chassis dynamometer Endurance test for bonded rubber wheels
Coal, coke & other solid fuel	Any type of physical/mechanical test
Leather	Any type of physical/mechanical test
Paints & surface coating	Any type of physical/mechanical test
Paper & pulp	Any type of physical/mechanical test
Petroleum products	Any type of physical/mechanical test

7.7 NDT Testing

Group	Sub-group
Eddy current testing	Conductivity variation measurement Detection of surface and sub surface defects Dimensional variations Irregularities in micro structures Variation in chemical composition
Emerging Areas testing (Acoustic & others)	Acoustic emissions Holography Infra-red applications Leakage flux techniques Microwave applications Neutron radiography Relative radiography
Leak test	Argon leak test Detection of leak pressure rise of pressure drop Halogen leak test Helium leak test Radio-isotope cracer leak test Ultrasonic leak test
Magnetic Particle Testing	Detection of sub surface flaws Detection of surface flaws
Penetrant Testing	Detection of surface flaws of materials with visible dye Detection of surface flaws of materials with fluorescent dye
Radiographical Testing	Fluoroscopy Detection of flaws with radio isotopes Detection of flaws with X-ray
Ultrasonic Testing	Corrosion survey Detection of internal flaws Detection of surface and sub surface flaws Thickness measurements

7.8 Optical & photometry Testing

Group	Sub-group
Colorimetry	Colour temperature Brightness temperature Chromaticity of light sources Colour of signals or surfaces Colour of pigments or paints Food colours Textile colours
Fibre optics	Fibre (core/clad) diameter and eccentricity Refractive index profile Mode field diameter (spot size) Numerical aperture Cut-off wavelength Bandwidth chromatic dispersion Attenuation Back scatter measurement Birefringence measurement

General tests of Optical instruments	Dimensional measurements Optical aberrations Numerical aperture Shutter speed Wavelength calibration Veiling glare Resolution M.T.F.
Lasers	Laser power Laser energy Angular divergence and beam spot size Output wavelength Coherence (Spatial,temporal and mutual) Polarisation Mode spectrum (including stability and reproducibility) Noise amplitude Noise Phase Modulation
Micrometrology	Dimensional measurements Optical aberrations Numerical aperture Shutter speed Wavelength Veiling glare
Ophthalmic lenses	Power spherical Power cylindrical Power prismatic Axis and centering Spectral transmission Photochromic glass colour building time Photochromic glass fading time
Optical components & systems	Flatness and parallelism Sphericity Prismatic angle Surface quality Aperture Field of view Focal length Optical aberration Resolving power Magnifying power MTF
Optical materials	Refractive index Material dispersion Material strain Scattering & Homogeneity Transmittance Reflectance Bubbles & seeds Birefringence
Photometry	Luminous intensity Intensity distribution from luminaires Illuminance and its distribution

	Luminance and its distribution Luminous output Life tests and performance of lamps
Photosensitive films, places &detectors	Sensitivity/speed Emulsion thickness Granularity Resolution H & D curve (gamma) Spectral response Quantum efficiency Modulation transfer function Noise effective power
Polarimetry	Optical rotation Rotatory dispersion Absorption coefficient Phase change on reflection Stokes parameters
Radiometry	Radiant intensity Irradiance (total/spectral) Emillance (Spectral/total) Spectral reflectance Spectral transmittance Spectral absorptance
Thin film optics	Reflectance Transmittance Polarisation changes Bandwidth Hardness Scattering

7.9 Radiological Testing

Group	Sub-group
Radiation Monitors	Area survey instruments Fixed monitors Personnel monitoring dosemeters Control monitors Environmental radiation monitors Others
Radiation Sources	Diagnostic X-ray machines Medical X-ray scanners like CAT scanners Therapy X-ray machine Industrial X-ray machines Isotopic sources used in industrial gauges Isotopic sources used in medical brachytherapy Cobalt machines Caesium machines Medical accelerators Industrial accelerators Accelerators used in research Diffraction X-ray machines Dental X-ray machines X-ray machines used in consumer product testing

	X-ray machines for baggage checking Neutron generators Beam welding equipment
Radiological Equipment & nucleonic equipment	Medical gamma camera Industrial gama radiography equipment Radiography camera Thickness gauges Gamma Switches Nucleonic weighing machines Smoke detectors containing sources Nucleonic level gauges Nucleonic moisture and density gauges

7.10 Thermal Testing

Group	**Sub-group**
Ablative properties	Decomposition (pyrolysis temperature) Ablation temperature Heat of pyrolysis Heat of ablation Insulation index Arrehenious kinetic constant
Calorific values	Calorific value of solid fuels Calorific value of liquid fuels Calorific value of gaseous fuels
Combustion properties	Heat of combustion Thermal stability -Time/temp rating Incombustibility Fuel burning properties
Heat flux	Heat flux
Latent heat	Latent heat of melting Latent heat of vapourisation
Radiation properties	Emissivity (Total hemispherical emittance and total normal emittance) Reflectivity. Absorptivity. Solar Absorbitivity. Black Body Temperature.
Rate constant	Peserve
Specific heat	Specific heat of metals and alloys. Specific heat of non-metallic solids. Specific heat of liquids. Specific heat of gases and gaseous mixtures.
Thermal Conductivity	Thermal Conductivity of metals and alloys. Thermal Conductivity of composite, ceramics, refractories, plastics, etc. Thermal conductivity of honeycomb materials, foam, garnulor and fibrous insulations. Thermal conductivity of liquids. Thermal conductivity of gases and gaseous mixtures. Thermal conductivity of colloidal solutions & slurries.
Thermal	Thermal diffusivity of metals and alloys.

diffusivity	Thermal diffusivity of composite ceramics, refractories, plastics, etc. Thermal diffusivity of honeycomb, foam, granular and fibrous insulations. Thermal diffusivity of liquids. Thermal diffusivity of gases and gaseous mixtures. Thermal diffusivity of colloidal solutions and slurries.
Thermo-Mechanical Properties	Bulk modulus for liquids Bulk modulus for gases Coefficient of linear expansions/contractions

8.0 Scope of FDAS (Calibration Laboratories in the following fields).

8.1 Chemical
8.2 Electro-technical
8.3 Fluid Flow
8.4 Mechanical
8.5 Optical & Photometry
8.6 Radiological
8.7 Thermal
8.8 Medical Devices

9.0 Fields have been divided into groups.

9.1 Groups in Chemical Calibration

9.1.1 Calibration of equipment like;
pH meter
Conductivity meter
Total Dissolved Solids (TDS) meter
Turbidity meter
Dissolved Oxygen
Refractive Index
Salinity tester
Breath alcohol tester
Oxygen Reduction Potential (ORP) meter
Gas detector/analyzer
Stack emission analyzer
Flame Photometer
Elisa Reader

9.1.2 Others

9.2 Groups in Electro-technical Calibration

9.2.1 Direct Current: Voltage, Current, Resistance, Resistance ratio and Power
9.2.2 Alternate current: Voltage, Current, Power & Energy, Phase angle & power factor, voltage & current ratio, resistance, inductance, capacitance, dissipation factor etc. up to 1 kHz.
9.2.3 Magnetic measurement: flux density, field strength etc.,
9.2.4 Electrical Equipments**:** CT, PT, Oscilloscope, CRO, W Bridge
9.2.5 Low frequency: Voltage, current, power, ratio and attenuation, resistance, capacitance and inductance, time and frequency, modulation index/distortion and noise audio power, sound pressure level and impedance related parameters including phase angle
9.2.6 High frequency
9.2.7 Special HF Measurements: EMI/EMC related parameters including field strength and power density etc.
9.2.8 Temperature Simulation (all thermocouples)
9.2.9 Others

9.3 Groups in Fluid Flow Calibration

9.3.1 Flow rate by mass
9.3.2 Flow rate by volume
9.3.3 Quantity by mass
9.3.4 Quantity by volume
9.3.5 Velocity at a point for gases only
9.3.6 Mean velocity in the closed conduit as well as open channel for water and gases
9.3.7 Viscosity of gases and liquids

9.4 Groups in Mechanical Calibration

9.4.1 Dimension

Length standards

Wavelength/Optical frequency standard, line standards, measuring tapes, end standards, slip orblock gauges, length bars, linear scale.

Instruments and gauges for measuring length

Angle gauges, circular scales, indexing tables, polygons, levels, sine bars, autocollimators engineers' squares, cylindrical squares, angle plates, bevel protractors, sine centers, combination set, sine table, spirit level, electronic level, inclinometers.

Plug and ring screw gauges, snap gauges, thread diameter and pitch measuring instrument, profile gauges.

Surface plates, straight edges, parallels.

Standards and measuring instruments for surface finish.

Form deviations

Gears, test sieves, M/C tools

9.4.2 Mass & Volume

Weights/Standards of mass

Balance or other weighing devices

Volumetric measures

9.4.3 Density

Hydrometers

Density measuring instruments

Specific gravity

9.4.4 Moisture

Moisture meters

Moisture balance

9.4.5 Force

9.4.5.1 Force

Proving devices

Force measuring devices.

Force Machines

9.4.5.2 Hardness

Hardness testing machines, Brinell

Hardness testing machines, Vickers

Hardness testing machines, Rockwell

Hardness Standards Diamond and Ball Indenters

Microhardness, Knoop Hardness, Durometers

Leeb hardness and Rubber hardness shore A and D

9.4.5.3 Impact

Izod impact testing machines
Charpy impact testing machines

9.4.5.4 Torque

Torque tester, torque wrench, torque measuring devices, Torque machines, torque generating devices.

9.4.6 Pressure & Vacuum

Pressure
Differential Pressure
Vacuum
Pressure Gauges, Dead weight tester, instruments, Barometer

9.4.7 Ultrasonics & Vibration

Intensity
Total power
Vibrational amplitude
Velocity
Attenuation

9.4.8 Acoustics

Pressure and power
Vibration amplitude acceleration
Attenuation
Frequency
Noise
Velocity
Others

9.4.9 Speed & Acceleration

9.5 Groups in Optical & Photometry calibration

9.5.1 Photometry

Luminous flux
Luminous intensity
Luminance
Illuminance

9.5.2 Radiometry

Radiance
Irradiance
Emittance

9.5.3 Spectro radiometry

Reflectance
Transmittance
wavelength

9.5.4 Colorimetry/Chromometry

Color
Color distribution

Color corelated temperature

9.5.5 Polarimetry
Polarization

9.5.6 Materials, Optical Components and Systems
Refractive index
Radius of curvature
Focal length
Flatness
Laser power
Fiber Optics Attenuation

9.6 Groups in Radiological calibration

9.6.1 Activity of Radionuclides

9.6.2 Yield of neutron sources

9.6.3 Thermal neutron flux density

9.6.4 Exposure Dose and Dose equivalent

9.7 Groups in Thermal calibration

9.7.1 Temperature
Contact Type
Non-Contact Type (IR/Optical)

9.7.2 Humidity

9.8 Groups in Medical Devices calibration

9.8.1 Discharge Equipment/Devices
Suction pump
Flow meter with humidifier
Pressure gauge of oxygen cylinder
BP apparatus
Nebulizer
Syringe pump
Infusion pump
Enteral feeding pump
CPAP
BiPAP
Boyles Apparatus
Anesthesia machine
Others

9.8.2 Patient conditioning/Maintenance
Incubator
Autoclave
Defibrillator
Ventilator
Electro surgical unit/Diathermy machine/Cautry machine
External pace maker
Electronic tourniquet
Dialysis machine
Heart lung machine
Patient warmer

OT Table
Radiant warmer
Irrandiance meter
Phototherapy unit
Others

9.8.3 Monitoring unit

Patient monitors
Apnea monitors
Fetal monitor
Therapeutic stimulator
Weighing scale
Hematology analyser
Others

9.8.4 Imaging/Plotters

Trans illuminator light source
EEG
Fetal Doppler
ECG
X-Ray Diagnostic equipment
Others

10.0 Scope of FDAS (Medical Laboratories in the following fields)

10.1 Clinical Biochemistry
10.2 Clinical Pathology
10.3 Hematology and Immunohematology
10.4 Microbiology and Serology
10.5 Histopathology
10.6 Cytopathology
10.7 Genetics
10.8 Nuclear Medicine (in-vitro tests only)

11.0 Guide to make application for accreditation.

11.1 Applicants are advised to submit a hard copy of its application, lab's Management System Manual, and FDAS Check list-1 (FDAS 111/ FDAS112), with soft version of the same.

11.2 Testing Laboratories operating in more than one field of testing are required to submit a single application by separating the details of the scope field-wise with respective details of Scope, Personnel and Equipment sequentially, for each field.

11.3 Testing laboratories/CABs involved in product testing are mostly multi-disciplinary laboratories and are required to apply for each field they operate in the same application. As an example.

- Textile & Leather laboratories to apply for Chemical and Physical (Mechanical) testing.
- Metallurgical laboratories to apply for Chemical, Mechanical & NDT testing.
- Plastic laboratories to apply for Chemical, Mechanical, Optical, NDT testing etc.
- Building/Construction material laboratories to apply for Chemical, Mechanical, NDT testing etc.
- Environment, Pollution, Forensic, Environmental testing laboratories to apply for each field in which they operate.

11.4 Applicant laboratories are advised to seek accreditation for only those parameters for which resources and competence are available.

11.5 Calibration laboratories, when operating in more than one field of calibration, are to apply field wise, by defining scope of calibration.

11.6 Medical laboratories to apply for the field(s) they operate and defining scope of test.

11.7 Applicants are advised to read the relevant documents available at the website of FDAS, including its policy documents.

11.8 Applicant must ensure that accreditation requirements have been addressed prior to the commencement of assessment activities for accreditation of applied scope.

Note: Applicant laboratory not providing the required information till three months from the date of FDAS letter, would be treated as closed. However, it can be revived on request by paying half of the application fee, till one year from the date of FDAS letter.

12.0 Evaluation of competence

Steps Involved in assessment of the competence of a laboratory.

i. On receipt of accreditation application, it is acknowledged.
ii. As a policy FDAS does not do preliminary visit unless requested.
iii. First time applicants are subjected to Initial assessment by an assessment team.

Determining laboratory's competence involves assessment by a team lead by Lead assessors and relevant expert assessors. Assessment involves examining documented management system for its compliance to ISO/IEC 17025/ ISO 15189, laboratory records to ensure its implementation, witnessing the tests/calibrations, interviewing the laboratory personnel, examination of laboratory's technical records from applied scope etc.

Where non-conformities are found, laboratory is given time (not more than 3-months) to take the required corrective action, for submission of the documentary evidence on corrective action taken, to the concern member of the assessment team, who take the decision about closer of the non-conformity and inform FDAS. Thereafter FDAS takes the decision for grant of accreditation based on assessment findings.

Initial accreditation is granted for two years, and accredited laboratories/CABs are subjected to onsite surveillance around the middle of the accreditation cycle of two years to verify their continued compliance with FDAS requirements. To ensure continuity in accreditation, CABs/Laboratories are advised to apply for re-assessment two months before the expiry of accreditation. (The accreditation cycle is two years).

Reassessed CABs/laboratories are subjected to desktop surveillance around the middle of the accreditation period of two years.

As per FDAS norms accreditation status would remain valid, till 2 months after the expiry of validity period of accreditation.

13.0 PT/ILC requirement:

The minimum requirements for proficiency testing are given below.

- One PT/ILC activity from each applied field prior to gaining accreditation.
- One PT/ILC activity relating to each group of laboratory's scope of accreditation at least every four years.

14.0 FDAS Policy on Legal Entity*

The Policy of FDAS on Legal Entity is as follows.

- Establishing Legal Entity for an institution is the means to provide life to an institution which can sue & can be sued in a court of law, by an aggrieved party.
- The mechanism of achieving Legal Entity is available under umbrella of the Central Govt./ State Govts/quasi governments and through Govts, designated agencies like Registrar of companies, Registrar of Societies, and in case of Trusts by Tehsildar.
- The status of Legal Entity to CABs is achieved by getting the permission of governmental authorities for performing defined scope of activities and for laboratories it is defined in terms of scope tests and/or calibrations intended to be performed, besides others.
- Public Limited companies, Private Limited Companies, Corporations, NGOs registered with Society of Registrar and Trusts recognized by appropriate government authorities, come under the category that have acquired legal status.
- Proprietorship firms approved and registered with the appropriate Govt. Dept., for the conduct of defined activities are considered to have acquired legal status.
- Self-proclaimed/declared proprietorship or partnership firms without registration with appropriate authority are not considered of having acquired legal status.
- Laboratories that are part of large organizations, which have a legal identity, inherit the legal status of the parent organization.
- Government laboratories inherent the legal entity and acceptable to FDAS.

Note 1: Opening of bank account or paying taxes has nothing to do with legal entity.
Note-2: Legal entity of a laboratory makes it legally responsible for its laboratory activities and its accreditation status ensures the same to its users globally. This clause of the standard safeguards the interest of the users of the accredited laboratories.
Note-3: Laboratories registered by MSME is the recognition for its category as per MSME rules. MSME recognition does not provide legal status.

***Definition of Legal Entity:**
The term Legal Entity refers to any organization which is constituted as per the regulations and laws under the Govt. of India. A Legal Entity could be an individual, group of persons, or organization that has legal rights and obligation related to the agreements, contracts, payments, penalties etc.

15.0 Useful information to Laboratories:

Accredited laboratories/CABs are entitled to use FDAS symbol subject to compliance of the "Terms and conditions for use of FDAS symbol by laboratories" and FDAS symbol can be obtained from FDAS by the accredited CABs/Laboratories.

15.1 Initial Assessment

The term Initial assessment is used for first time applicant.

15.2 Reassessment

Already accredited laboratories are required to apply for reassessment.

15.3 Validity of accreditation

Accreditation given is valid for a period of two years.

15.4 Expansion in scope of accreditation:

15.4.1 When the Application for expansion of the scope of accreditation is from same

field/group, FDAS seeks the evidence on resources and competence, to determine, if the site visit is required. If the documentary evidence found to be enough, the accreditation is possible without organizing lab visit.

Example: A mass, pressure, temperature calibration lab can expand its range, by procuring required resources.

15.4.2 Expansion of scope of accreditation from new field/ group would require on site assessment.

15.4.3 All midterm accreditations would be co-terminus, with main accreditation.

15.5 Duties & Rights of FDAS

15.5.2 Duties of FDAS:

i. Permitting lab's operations from new premises, subject to the compliance of its shifting norms.

ii. to accept the complaints from laboratories/CABs and public and to communicate the decision intime.

iii. to accept appeals from laboratories/CABs and communicate the decision intime.

iv. to take feedback from stakeholders when criteria is intended to be revised.

v. to give enough time when there is criteria-change for its implementation.

vi. provide accreditation services without discrimination and maintain impartiality.

vii. to protect confidentiality

viii. to maintain MRA with APAC/ ILAC.

15.5.3 Rights of FDAS

i. Terminate, withdraw, suspend accreditation granted to laboratories/CABs, on violation of terms and conditions.

ii. Revise the norms of accreditation fee and other related financial aspects from time to time.

15.6 FDAS Norms for the reproduction of FDAS symbol & FDAS symbol combined ILAC MRA mark

It is not mandatory for accredited laboratories to use the FDAS symbol & FDAS symbol combined ILAC MRA mark, but laboratories using must comply to FDAS 132 Terms and conditions for use of FDAS symbol L& FDAS symbol combined ILAC MRA mark by laboratories.

16.0 Conditions to be met by CABs when shifting of the location of CAB is involved.

16.1 The laboratory should inform FDAS well in advance, before shifting the location of CAB with the following information.

- Date(s) of shifting.
- Address of new location with documentary evidence for the right to use the premises.
- With applicable fee.

16.2 After shifting to new location, Laboratory should.

16.2.1 Ensure re-calibration is completed where it is likely to be disturbed the traceability of measuring devise/equipment in transportation, by getting the calibration of equipment or by verification through CRMs/BNDs*

16.2.2 Ensure that environmental conditions are met as per requirement.

Note: Documentary evidence should suffice (including Documentary evidence to display right to use the new premises), but in certain cases a visit by FDAS may be required. In view of this, interested CAB should remain in touch with FDAS, so that FDAS can act in time.

16.3 After completion of shifting, FDAS is to be informed about the date from which it intends to

commence its commercial services for its customers for the approval of FDAS.

FDAS approval involves issue of revised accreditation certificate, scope to indicate change of address.

17.0 ISO/IEC 17025:2017 & Interpretation of following clauses:

17.1 Personnel Competence

clauses 6.2.2:

"The laboratory shall document the competence requirements for each function influencing the results of laboratory activities, including requirements for education, qualification, training, technical knowledge, skills and experience".

Explanation: Since FDAS is not defining competence norms for laboratory's personnel, laboratory to define the competence for each level of function in terms of education, qualification, training, technical knowledge, skills, and experience.

FDAS determines adequacy of the competence norms defined by laboratory.
Note: FDAS does not approve the authorized signatory to the test or calibration certificates. It is for the laboratories to authorize its personnel to release the test or calibration certificate based on its own competence norms.

17.2 Training

Clause (6.2.5 c) "Training of Personnel"

FDAS gives due recognition to in-house trainings given by competent laboratory personnel.

17.3 Equipment

clauses 6.4.2:

When the laboratory uses equipment outside its permanent control, it shall ensure that the requirements. for equipment of this document are met.

Applicability of the above clause:

In those situations, where Lab's own equipment has gone out of order, in the middle of testing and customer's need must be met, laboratory can use equipment outside its permanent center, subject to compliance of ISO/IEC 17025: 2017, Example: weighing balance.

17.4 Validity of Results:

Applicability of Clause 7.7.1:

Laboratories to comply with the requirement of ensuring validity of results from the options that are listed option a) to k), of the clause and it is not necessary to comply to all. i.e., a) to k).

18.0 Complaints

Laboratories & its stakeholders are free to lodge a complaint to FDAS on any of their concerns, FDAS would process the complaint as per its procedure. Procedure for Complaints is available on the website of FDAS. Complainants are advised to address their complaint to the Quality Manager, FDAS.

19.0 Appeals

Laboratories have the right to Appeal against the adverse accreditation decision of FDAS and also its

decision on complaints made to it, and such appeals are handled as per FDAS procedure for handling appeals, which can be seen at FDAS website. Appellants are advised to send their appeals to Quality Manager, FDAS.

20.0 Steps Involved in getting Accreditation:

Stage I: Preparing the laboratory for Accreditation:

Laboratory management to nominate a person to coordinate activities related to accreditation including the following.

- Determines the gaps in the existing documented management system against the requirement of ISO/IEC 17025 or ISO 15189, using applicable checklist - 1, (available at www.fdasindia.org) & bridge the gaps if any.
- It is mandatory to have documented management system as per the requirement of ISO/IEC 17025/ISO 15189, which can be documented by the laboratory in its manual (Quality manual or Laboratory manual), procedures, Instructions, log-sheets etc.

Stage II: Submission of application to FDAS

When documented management system complies to the requirement (ISO/IEC 17025 or ISO 15189)**,** submit application for accreditation along with

- Applicable fee
- Checklist – 1(ISO/IEC 17025)- FDAS 111/Checklist-1 (ISO-15189) – FDAS 112
- Management System Manual
- FDAS – 131 (Terms & conditions of FDAS to maintain accreditation)
- FDAS – 132 (Terms and conditions for use of FDAS symbol L& FDAS symbol combined ILAC MRA mark by laboratories)
- FDAS – 138 (Legally enforceable agreement between FDAS and its accredited laboratories)

Stage III: Initial Assessment

First time applicants are subjected to initial assessment, however if applicant request for preliminary visit, FDAS is open to it, to determine the preparedness of the laboratory, through LA, & as non-consultant activity.

i. On agreed dates initial assessment is organized by Dealing Officer by constituting a team consisting of lead assessor and technical assessor(s).

ii. Assessment team lead by LA, conducts the assessment which involves examination of documents, work records, witnessing the test/calibration, interviewing of personnel etc. Lab is informed about the corrective action required (CAR) to be taken by the laboratory in agreed time.

iii. LA sends team's recommendation to the concerned dealing officer, as per the assessment format of FDAS, pending the completion of corrective action required, if any.

iv. On receipt of the details of the corrective action taken by the laboratory along with documentary evidence, the concerned assessor/LA, would forward to the dealing officer stating that required corrective action (CAR) has been taken and NC(s) is/are being removed/withdrawn.

v. After examination of the assessment report, and action taken by the lab for corrective action required, dealing officer submits his recommendation for grant of accreditation to

Director.

vi. Director asks QM to examine the compliance to the procedures involved and based on the report from QM, Director takes appropriate action for grant of accreditation to the applicant laboratory, which in turn is communicated to the laboratory through accreditation certificate with the recommended scope of accreditation.

Note - 1: Assessors are not empowered to change the applied scope of accreditation while on-site except on technical matters.

Note-2 Assessors are empowered to give a time of one month for required corrective action, beyond which the dealing officer is to be contacted.

Note-3: Laboratories are free to appeal against the findings of the assessment.

21.0 Financial obligations on the part of CABs

21.1 Fee Structure: Testing Laboratories in India

S.No	Testing Laboratory	Fees (Rs)
Application Fee		
1	Biological Lab for up to 2 groups (Refer 7.1 in FDAS 100) Additional Group	20,000 for up to two groups 10,000 per group
2	Chemical Lab for up to 2 groups (Refer 7.2 in FDAS 100) Additional Group	20,000 for up to two groups 10,000 per group
3	Electrical Lab for up to 2 groups (Refer 7.3 in FDAS 100) Additional Group	20,000 for up to two groups 10,000 per group
4	Electronics Lab for up to 2 products (Refer 7.4 in FDAS 100) Additional Products	20,000 for up to two products 10,000 per product
5	Fluid Flow Lab for up to 2 groups (Refer 7.5 in FDAS 100) Additional Group	20,000 for up to two groups 10,000 per group
6	Mechanical Lab for up to 2 groups (Refer 7.6 in FDAS 100) Additional groups	20,000 for up to two groups 10,000 per group
7	NDT Lab for up to 2 groups (Refer 7.7 in FDAS 100) Additional Group	20,000 for up to two groups 10,000 per group
8	Optical & Photometry Lab for up to 2 groups (Refer 7.8 in FDAS 100) Additional Group	20,000 for up to two groups 10,000 per group
9	Radiological Lab for up to 2 groups (Refer 7.9 in FDAS 100) Additional Group	20,000 for up to two groups 10,000 per group
10	Thermal Lab for up to 2 groups (Refer 7.10 in FDAS 100) Additional Group	20,000 for up to two groups 10,000 per group
Annual Accreditation Fee		20,000/Field
Surveillance/Desktop Fee		10,000
Expansion of Scope fee		Application 10,000.00

(in already accredited field)	5,000 per group
Assessment Charges	a. Actual expenditure incurred by assessment team on account of their travel, boarding and lodging. b. The honorarium @ Rs.5,000 per day for Lead Assessor (LA) & Rs.4,000.00 per day to each Assessor/ Technical assessor (TA).
Any Change in the name and /Premises/Legal identity	5,000.00

In addition to the above-mentioned fee, GST @18% or as applicable from time to time to be paid.

21.2 Fee Structure – Testing Laboratories in Other countries.

S.No	Testing Laboratory	Fees (USD)
Application Fee		
1	Biological Lab for up to 4 groups (Refer 7.1 in FDAS 100) Additional Group	700 for up to four groups 200 per group
2	Chemical Lab for up to 4 groups (Refer 7.2 in FDAS 100) Additional Group	700 for up to four groups 200 per group
3	Electrical Lab for up to 4 groups (Refer 7.3 in FDAS 100) Additional Group	700 for up to four groups 200 per group
4	Electronics Lab for up to 4 products (Refer 7.4 in FDAS 100) Additional Products	700 for up to four products 200 per products
5	Fluid Flow Lab for up to 4 groups (Refer 7.5 in FDAS 100) Additional Group	700 for up to four groups 200 per group
6	Mechanical Lab for up to 4 groups (Refer 7.6 in FDAS 100) Additional groups	700 for up to four groups 200 per group
7	NDT Lab for up to 4 groups (Refer 7.7 in FDAS 100) Additional Group	700 for up to four groups 200 per group
8	Optical & Photometry Lab for up to 4 groups (Refer 7.8 in FDAS 100) Additional Group	700 for up to four groups 200 per group
9	Radiological Lab for up to 4 groups (Refer 7.9 in FDAS 100) Additional Group	700 for up to four groups 200 per group
10	Thermal Lab for up to 4 groups (Refer 7.10 in FDAS 100) Additional Group	700 for up to four groups 200 per group
Annual Accreditation Fee.		500/Field
Surveillance/Desktop Fee.		300
Expansion of Scope fee. (in already accredited field)		Application 300 200 per group
Assessment Charges:		Actual expenditure incurred by assessment team on account of visa, travel, boarding, Lodging and the honorarium @ 350 USD/Man Day/Assessor to be paid by lab
Any Change in the name and /Premises/Legal identity		100

21.3 Fee Structure: Calibration Laboratories in India

S.No	Calibration Laboratory	Fees (Rs.)
Application Fee		
1	Chemical (all parameters)	40,000
2	Electro-Technical (all parameters)	25,000
3	Fluid Flow (all parameters)	20,000
4	Mechanical – for up to 2 groups (Refer 9.4 in FDAS 100) Additional groups	20,000 5,000 per group
5	Optical & Photometry (all parameters)	20,000
6	Radiological (all parameters)	20,000
7	Thermal (all parameters)	20,000
8	Medical Devices – for up to 2 groups Additional groups	40,000 20,000 per group
Annual Accreditation Fee		20,000 per Field
Surveillance/Desktop Fee		10,000
Expansion of Scope fee		
Addition of new groups (in already accredited field)		10,000 up to 2 groups
Enhancement of range in existing accredited groups/field		5,000 per group
Assessment Charges:		a. Actual expenditure incurred by assessment team on account of their travel, boarding and lodging. b. The honorarium @ Rs.5000.00 per day for Lead Assessor (LA) & Rs.4000.00 per day to each Assessor/ Technical assessor (TA).
Any Change in the name and /Premises/Legal identity		5,000

In addition to the above-mentioned fee, GST @18% or as applicable from time to time to be paid.

21.4 Fee Structure: Calibration Laboratories in Other countries.

S.No	Calibration Laboratory	Fee (USD)
Application Fee		
1	Chemical (all parameters)	800
2	Electro-Technical (all parameters)	800
3	Fluid Flow (all parameters)	800
4	Mechanical – for upto 4 groups (Refer 9.4 in FDAS 100) Additional Group	800 200 per group
5	Optical & Photometry (all parameters)	800
6	Radiological (all parameters)	800
7	Thermal (all parameters)	800
8	Medical Devices – for up to 2 groups Additional groups	800 400 per group
Annual Accreditation Fee		500 per Field
Surveillance/Desktop Fee		300
Expansion of Scope fee		
Addition of new groups (in already accredited field)		400 up to 2 groups
Enhancement of range in existing accredited groups/field		200 per group

Assessment Charges	Actual expenditure incurred by assessment team on account of their visa, travel, boarding, Lodging and the honorarium @ 350 USD/Man Day/Assessor to be paid by lab
Any Change in the name and /Premises/Legal identity	100

21.5 Fee Structure for Medical Laboratory

Medical Laboratory	**Fee (Rs.)**
Application Fee	20,000
Expansion of Scope Fee	20,000
Annual Accreditation Fees	10,000
Surveillance Fees	10,000
Assessment Charges	Actual expenditure incurred by assessment team on account of their travel, boarding and lodging. The honorarium @ Rs.5000 per day for Lead Assessor (LA) & Rs.4000 per day to each Assessor/ Technical assessor (TA) + applicable GST.
Any Change in the name and /Premises/Legal identity	5,000

Note: 1. Assessment team to be provided single seated air-conditioned room in a hotel/ guest house.
Note: 2. Laboratories are advised to provide return air ticket, local travel and hospitality.
Note: 3. Where direct air connectivity in not available, provide 2nd AC return-rail ticket.
Note: 4. Invoice for assessor's honorarium would be raised/sent after completion of assessment.
Note: 5. Accreditation certificate will be issued only after clearance of all dues.
Note: 6 Payments in the form of Crossed Cheque/Demand Draft are to be made in favor of
"Federation for Development of Accreditation Services" payable at Gurgaon

(OR)

NEFT/RTGS to the following A/C

Name of the A/C	Federation for Development of Accreditation Services
Name of the Bank & Address	Union Bank of India, G/ 6 A, Bestech Square, Sector 56 Gurgaon (Haryana) 122002
A/C No.	579201010050690
Type of A/C	Current
IFSC Code	UBIN0557927
MICR Code	110026093

22.0 Contact Details:

Secretariat:	Federation for Development of Accreditation Services (FDAS)
	118-119, First Floor, Sushant Tower, Sector 56 Gurgaon- 122011, Haryana, India
Phone	+91-124- 2570004
Mob	**+91-9452206485, 8738875300**
E mail:	info@fdasindia.org,fdasindia@hotmail.com
PAN No:	**AAAAF7420L**
GST No:	**06AAAAF7420L1ZS**
Website:	**www.fdasindia.org**

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FAMILIARIZATION WITH ACCREDITATION PROCESS