

Technical Specifications of the Consumables, Kits, Reagents, Chemicals, etc. in the TB Culture and DST Laboratories

Group 1- Chemical, drugs, and disinfectants

#	Item/Name of the Items	Technical Specification
1	Phenol crystals (Carbolic Acid)	Chemical name: Phenol, Chemical structure: C ₆ H ₅ OH, Molecular Wt: 94.11, Melting point: 40°C+2, purity: 99.5%
2	Sulphuric Acid	Chemicals name :Sulphuric Acid, Formula H ₂ SO ₄ , Molecular Wt: 98.08, Specific Gravity 1.84 Minimum Assay: 98%
3	Sodium Hypochlorite	Sodium Hypochlorite solution, Concentration not less than 4%, Packaging -5 Liter/pack
4	Methylene Blue	Chemicals name: Methylthionine chloride, Chemical structure:C ₁₆ H ₁₈ ClN ₃ S, Molecular Wt: 319.9,Dye Content: Approx. 82%(dye content must be mentioned)
5	Potassium Dichromate	Chemicals Formula:K ₂ Cr ₂ O ₇ , Formula Wt: 294.2, Minimum assay:99.5%
6	Basic fuchsin	Chemical name: Pararosaniline hydrochloride, Chemical structure: C ₂₀ H ₂₀ ClN ₃ , Molecular Wt: 337.86, Dye Content: Approx.85%-88% (dye content must be mentioned), Colour: Metallic Green.
7	Immersion oil	Refractive index of 1.48. It should be colourless, odourless, transparent, free from fluorescence in day light with relative density of 0.827 to 0.890, viscosity of 110 to 230 m Pa s., specific gravity of 0.76-0.78 at 15.5°C
8	Sodium Hydroxide-NaOH	Formula: NaOH Molecular Wt:40g/mol, Minimum Assay:98%
9	Tri sodium citrate	Chemical name: Trisodium citrate dihydrate, AR grade Chemical structure:Na ₃ C ₆ H ₅ O ₇ ·2H ₂ O, Molecular Wt (FW):294.10, Purity: 99%
10	Disodium hydrogen phosphate	Disodium hydrogen phosphate (Na ₂ HPO ₄) For buffer; anhydrous; p.a.; MW 141.96 g/mol.
11	Potassium dihydrogen phosphate anhydrous (KH ₂ PO ₄) A.R	Potassium Di Hydrogen ortho Phosphate, KH ₂ PO ₄ , Molecular Wt: 136.1, Minimum Assay 99%
12	N-acetyl-L cystein	Chemical structure: C ₅ H ₉ NO ₃ S, mol wt: 163.2, Puriss ≥99%

#	Item/Name of the Items	Technical Specification
13	Potassium Permanganate (KMnO ₄)	KMnO ₄ , Formula Molecular Wt:158
14	Formalin/ Formaldehyde	HCHO; mol wt: 30.03; wt per ml at 20oC=1.075-1.095 g; methanol content=10-15%, Assay(acidimetric) as HCHO 37-41%
15	Magnesium sulphate (MgSO ₄ .7H ₂ O) A.R	MgSO ₄ .7H ₂ O; mol wt 246.48; purity:99.5%
16	Magnesium citrate	TriBasic ; C ₁₂ H ₁₀ Mg ₃ O ₁₄ .9H ₂ O, mol wt: 613.28
17	Asparagine	L-Asparagine monohydrate; C ₄ H ₈ N ₂ .H ₂ O, mol wt: 150.14
18	Malachite Green	Chemicals name: Malachite green Hydro Chloride, Chemical structure: C ₂₃ H ₂₅ ClN ₂ , Molecular Wt.=364.9, Colour: Green, Dye content: 80%+9% Solubility: both in water & alcohol, Stability: More than one year.
19	Glycerol (Reagent grade)	Formula: CH ₂ OHCHOHCH ₂ OH mol wt: 92.1; purity 99.5%
20	Para Nitro benzoic acid-C ₆ H ₄ COOHNO ₂	Chemical Name Para Nitro benzoic acid, Formula C ₆ H ₄ COOHNO ₂ , Molecular Wt: 167.12, Min assay =99%
21	Cetyl Pyridium Chloride	Chemical name: Cetyl Pyridinium Chloride; Chemical structure: C ₂₁ H ₃₈ ClN.H ₂ O / Molecular Weight 358 g/mol
22	Sodium chloride	Chemical name: sodium chloride chemical structure: NaCl, Molecular Weight: 58.44, Minimum assay: 99.9%
23	Middle brook 7H9 broth base	Middle brook 7H9 dehydrated base, appearance light beige, free flowing, homogenous, water soluble (packaging 500 gm)- preferably Difco, HiMedia or BD make
24	Middle brook OADC enrichment media	Middle brook OADC enrichment media in 100 ml packaging, preferably Difco, HiMedia or BD make
25	Brain Heart Infusion Agar	It is a general-purpose medium suitable for the cultivation of a wide variety of organism types, including bacteria, yeasts and moulds. Approximate Formula* Per Litre is Calf Brains, Infusion from 200 g to 7.7 g, Beef Heart, Infusion from 250 g to 9.8 g, Proteose Peptone -10.0 g, Dextrose -2.0 g, Sodium Chloride -5.0 g, Disodium Phosphate -2.5 g, Agar -15.0 g. Pack size: 500 gm
26	Silver Nitrate	Molecular Formula: AgNO ₃ , Molecular Weight: 169.8731 g/mol, anhydrous 99.9%, stored in dark colour bottle, in solid form (50gm packaging)

#	Item/Name of the Items	Technical Specification
27	Dimethyl Sulfoxide	Dimethyl sulfoxide, 99.8%, p.a.
28	Bovin albumin	Bovin Serum Albumin (BSA), With Purity above 95% , packaging of 50 ml.
29	Sodium carbonate	Formula Na ₂ CO ₃ Formula Wt: 106 Minimum assay: 99%
30	Liquid Ammonia	LR/GR Grade
31	Oxalic acid	COOHCOOH.2H ₂ ; mol wt:126.07 ; purity 99.8%
32	Tween-80	Chemical name: Poly-oxy-ethylene-sorbitan-mono-oleate, AR or GR Grade, Density=1.06-1.09g/ml
33	Hydrogen peroxide	AR or GR grade, assay : 29-32% solution, FW- 34.01
34	O-tolidine	Dimethyl benzidine ; C ₁₄ H ₁₆ N ₂ form wt: 212.3, Caution- Carcinogenic -to be used with caution in a fume hood
35	Cynogen bromide	CNBr- Cisco Research Lab:mol wt:105.9, Caution: carcinogenic -to be used with caution in a fume hood
36	Niacin Strips	Niacin strips, 50 per pack
37	Auramine	C ₁₇ H ₂₂ ClN ₃ , mol wt: 303.84
38	Zinc Dust	Zinc dust, Zn, <10 µm, ≥98% purity, Molecular Weight: 65.39
39	Hydrogen chloride (HCl)	Concentrated Hydro Chloric Acid, Molecular Wt:36.46, Specific Gravity 1.18
40	Rapid Identification Test for MTB	Lateral flow Immuno-chromatographic assay for detection of MPT64/MPB64 Antigen for rapid diagnosis of MTB Complex (such as manufactured by SB Bioline, Tauns Laboratory Inc., BD, etc.)

Group 2: Drugs for DST:

#	Item/Name of the Items	Technical Specification
1	Rifampcin	Sigma R-3501
2	Isoniazid	Sigma I -3377
3	Ethambutol di hydrochloride	Sigma E-4630

4	Dihydro Streptomycin Sulphate	Sigma D-7253
5	Ofloxacin	Sigma O8757
6	Ethioniamide	Sigma E6005
7	Kanamycin Sulfate	Sigma K4000
8	Amikacin Hydrate	Sigma A3650
9	Capreomycin Sulfate	Sigma C4142
10	Levofloxacin	Sigma 28266
11	Moxifloxacin	Sigma 32477
12	Para Amino Salycic Acid (PAS)	Sigma A79604
13	Linezolid	Sigma PZ0014
14	Prothionamide	Sigma SMB00387
15	Clofazamine	Sigma C8895

Group 3: Personal Protective Equipment (PPE)

#	Item/Name of the Items	Technical Specifications
1	Latex Gloves (Small)	Powder-free disposable latex gloves, size Small, >0,16 mm thickness, length >240 mm, 100 pieces per box, packaging of 10 such boxes
2	Latex Gloves (Medium)	Powder-free disposable latex gloves, size Medium, >0,16 mm thickness, length >240 mm, 100 pieces per box, packaging of 10 such boxes
3	Latex Gloves (Large)	Powder-free disposable latex gloves, size Large, >0,16 mm thickness, length >240 mm, 100 pieces per box, packaging of 10 such boxes
4	Gloves Nitrile (Size 6-7) Disposable	Powder-free, latex-free disposable gloves; resistant to chemical risks and resistant to ethidium bromide or auramine staining; 0.2 mm thick and 249 mm long; Size 6-7, appropriate for the laboratory staff (pack of 100 gloves per box)
5	Gloves Nitrile (Size 7-8) Disposable	Powder-free, latex-free disposable gloves; resistant to chemical risks and resistant to ethidium bromide or auramine staining; 0.2 mm thick and 249 mm long; Size 7-8, appropriate for the laboratory staff (pack of 100 gloves per box)

6	Gloves Nitrile (Size 8-9) Disposable	Powder-free, latex-free disposable gloves; resistant to chemical risks and resistant to ethidium bromide or auramine staining; 0.2 mm thick and 249 mm long; Size 8-9, appropriate for the laboratory staff (pack of 100 gloves per box)
7	Laboratory Coats (Small)- Disposable, Sterile	Laboratory Coat Size Small, Disposable, Sterile with elastic wrist cuffs, water repellent in pack of 50 pieces each
8	Laboratory Coats (Medium)- Disposable, Sterile	Laboratory Coat Size Medium, Disposable, Sterile with elastic wrist cuffs, water repellent in pack of 50 pieces each
9	Laboratory Coats (Large)- Disposable, Sterile	Laboratory Coat Size Large, Disposable, Sterile with elastic wrist cuffs, water repellent in pack of 50 pieces each
10	Respirators (N95 mask)	N95 (United States Standard NIOSH N95) or FFP2 (European Standard EN149:2001) respirators, foldable, Individually packaged (preferably sold in boxes of 10 pieces each) The lab should be provided 80% of one make masks and 20% of another make so that if someone fails fit test, an alternative is available
11	Surgical gowns –Non-Sterile - Size S	Surgical gowns, non-sterile, Small Size, Disposable, with elastic wrist cuffs, antistatic, partially resistant to fire and disinfectants like phenol, bleach and alcohol, back closing with binding bands made of main cloth material, individually packed and in box of 20 pieces each
12	Surgical gowns –Non-Sterile - Size M	Surgical gowns, non-sterile, Small Medium, Disposable, with elastic wrist cuffs, antistatic, partially resistant to fire and disinfectants like phenol, bleach and alcohol, back closing with binding bands made of main cloth material, individually packed and in box of 20 pieces each
13	Surgical gowns –Non-Sterile - Size L	Surgical gowns, non-sterile, Small Large, Disposable, with elastic wrist cuffs, antistatic, partially resistant to fire and disinfectants like phenol, bleach and alcohol, back closing with binding bands made of main cloth material, individually packed and in box of 20 pieces each
14	Head Cover	Disposable Stretchable White Caps - Cover Hair for hygiene, packaging of 100 pcs per box/bag and 10 such (i.e. 1000) in a larger box
15	Shoe Cover	Poly Ethylene Shoe Cover approx. 21x40 cm, blue, approx. 21cm high, Inherently antistatic, fluid impervious, Skid-resistant for added safety; seamless bottom and with elastic/rubber band for proper fitting, box of 1000 pcs packed in bags of 100pcs

Group 4 a-Pipettes Tips for phenotypic use

#	Item/Name of the Items	Technical Specification
1	1-200 µl pipette tips	Sterile; made of PE; with filters, 96 tips per pack (sold in boxes of 10 packs).
2	20-200 µl pipette tips	Sterile, made of PE; with filters available; 96 tips per pack (sold in boxes of 10 packs).
3	100-1000 µl pipette tips	Sterile, made of PE; with filters; 96 tips per pack (sold in boxes of 10 packs).
4	100-1000 µl pipette tips (Long tip)	Sterile, made of PE; with filters; long tip (118-120 mm), 96 tips per pack (sold in boxes of 10 packs).
5	Pasteur pipettes (sterile individually packed)	Sterile; single use; made of plastic; individual pack, volume 1.5 - 3 ml (sold in packs of 500).

Group 4 b-Pipettes Tips for molecular lab use

#	Item/Name of the Items	Technical Specification
1	0.5-10 µl tips	Sterile and free from DNase and RNase; made of PE; with compatible filters available; 96 tips per pack (sold in boxes of 10 packs).
2	1-20 µl tips	Sterile and free from DNase and RNase; made of PE; 96 tips per pack (sold in boxes of 10 packs).
3	1-200 µl tips	Sterile and free from DNase and RNase; made of PE; 96 tips per pack (sold in boxes of 10 packs).
4	20-200 µl pipette tips	Sterile and free from DNase and RNase; made of PE; 96 tips per pack (sold in boxes of 10 packs).
5	10-100 µl tips	Sterile and free from DNase and RNase; made of PE; 96 tips per pack (sold in boxes of 10 packs).
6	100-1000 µl pipette tips	Sterile, and free from DNase and RNase; made of PE; 96 tips per pack (sold in boxes of 10 packs).
7	Pasteur pipettes	Sterile; single use; made of plastic; volume 1.5 - 3 ml (sold in packs of 500).

Group 5: Glassware

#	Item/Name of the Items	Technical Specification
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#	Item/Name of the Items	Technical Specification
1	Culture tubes or Universal glass bottles (McCartney Bottles)	<p>28ml, wide neck, with aluminium screw cap and liners pack of 20 bottles.</p> <p>Weight of each bottle in gms (without screw cap and Neoprene washer)= 50+1, Length of bottle in mm = 82 Maximum external circumference of bottle in mm = 92 Type of bottle (thickness and surface: bottom and side of each bottle) = Even thickness without air bubbles in the glass, clear glass Diameter of the bottom of bottle in mm to fit within centrifuge bucket of inner diameter of 30 mm = 28.2 Capacity of each bottle in ml (volume) = 28 Bottle should be autoclavable, should not become opaque on autoclaving. Screw cap for the bottle: Weight in Gms without washer = 1.6+0.1 gms screw cap: made of aluminium to fit tightly all bottles (leak proof) screw cap: Inner diameter of screw cap without Neoprene washer in mm = 2.7 Neoprene (soft) washers thickness in mm = 2.5 Neoprene washer diameter in mm = 2.7 Neoprene washers should withstand repeated autoclave.</p>
2	Slides	Glass microscope slides; 76mm x 26mm x 1.3mm, plain, one pack of 50 slides.
3	Glass ware -Round flat bottom flask -1 lit	1 Lt. Capacity.
4	Glass ware for stain preparation Measuring Cylinder - graduated 100 ml	Graduated 100ml cylinder, 1.0 ml graduated
6	Measuring cylinder-graduated 500 ml	Graduated 500ml cylinder, 2.5 ml graduated
7	Measuring cylinder-graduated 1000 ml	Graduated 500ml cylinder, 5 ml graduated
8	Glass container for stains -250 ml	Glass stoppered bottles, 250ml capacity.
9	Container for stain -250 ml Polyethylene	Staining bottle 250 ml, made of polyethylene, flasks with a narrow neck; with a screw cap, swan neck or jet dispenser

#	Item/Name of the Items	Technical Specification
10	Flat Bottom Flask - 3 lit	Autoclavable and dry heat resistant, flat bottom, round flask, extended neck (not Conical flask)
11	Flat Bottom Flask - 1 lit	Autoclavable and dry heat resistant, flat bottom, round flask, extended neck (not Conical flask)
12	Pipette- Glass graduated -1ml	Autoclavable and dry heat resistant, graduated 1/10 (0.1ml graduation)
13	Pipette- Glass graduated -2ml	Autoclavable and dry heat resistant, graduated 1/20 (0.1ml graduation)
14	Pipette- Glass graduated -5ml	Autoclavable and dry heat resistant, graduated 1/20 (0.1ml graduation)
15	Pipette- Glass graduated -10ml	Autoclavable and dry heat resistant, graduated 1/20 (0.1ml graduation)
16	Glass beaker- 500ml	Autoclavable and dry heat resistant, graduated 1/20 (0.1ml graduation)
17	Glass beaker- 250ml	Autoclavable and dry heat resistant, graduated 1/20 (0.1ml graduation)
18	Bijou bottles	Borosilicate or corning glass of 5 ml capacity with screw caps of Aluminium with rubber liners suitable for Bijou bottles, leak proof
19	Glass beads (3 mm)	Acid washed, 3mm size; for dispersing the clumps of micro-organisms by vortexing or blending in Mc Cartney/ flat bottom tubes of 15/50 ml), pack of 1 kg
20	Glass beads (5 mm)	Acid washed, 5 mm size; for dispersing the clumps of micro-organisms by vortexing or blending in Bijou bottle, pack of 1 kg
21	Beakers 250 ml	Glass, autoclavable & heat resistant ; with spout, capacity 250ml, with graduation
22	Beakers 100 ml	Glass, autoclavable & heat resistant, capacity 100ml, with graduation
23	Beakers 500 ml	Glass, autoclavable & heat resistant, capacity 500ml, with graduation
24	Beakers 1000 ml	Glass ,autoclavable & heat resistant , capacity 1000ml
25	Glass Test tubes	Glass, autoclavable & heat resistant, standard rimless, 150 x 16 mm with screw caps.
26	Funnels - 5 cm diameter	Plain diameter: 5 cm, made of glass or polypropylene
27	Funnels - 10cm diameter	Plain diameter: 10 cm; made of glass or polypropylene
28	Funnels - 18cm diameter	Plain diameter: 18 cm, made of glass or polypropylene
29	Volumetric flask - 50 ml	White line graduation with glass stopper, 50ml capacity

#	Item/Name of the Items	Technical Specification
30	Volumetric flask - 100 ml	White line graduation with glass stopper, 100ml capacity
31	Volumetric flask - 1000 ml	White line graduation with glass stopper, 1000ml capacity
32	1 lit Bottle - Amber colour	1.0 litre bottle, made of amber colour glass, Graduated, to include a ring and cap of Polypropylene; autoclavable
33	2 lit Bottles- Amber colour	2.0 litre bottle, made of amber colour glass, Graduated, to include a ring and cap of Polypropylene; autoclavable
34	1 lit Bottle - Transparent	1.0 litre bottle (transparent), Graduated; made of glass; to include a ring and cap of Polypropylene; autoclavable
35	2 lit Bottles- Transparent	2.0 litre bottle (transparent), Graduated; made of glass; to include a ring and cap of Polypropylene; autoclavable
36	Petri dishes (Glass)	Petri dishes made of glass, two parts including lid/cover, size approx. 94x 16 mm (in packs/ boxes of 50 pieces)

Group 6: Disposable items

#	Item/Name of the Items	Technical Specification
1	50 ml PP tubes for centrifuge	Centrifuge tubes 50ml, made of PP, conical, printed graduation, walls thick enough to allow centrifugation up to 5000g, with extra-large, solvent resistant, white labelling area and black graduations, flat PE caps can close with quick 3-4 turns, allowing one handed operation, sterile tubes are radiation sterilised to ensure non-cytotoxicity, sold in packs of 500 tubes
2	15 ml pp tubes for centrifuge	PP-tubes for centrifuge, 15 ml with screw cap, tight, size 120x17 mm, material PP max. walls thick enough to allow centrifugation up to 5000g, packaging 50 pieces per pack
3	Single use plastic Pasteur-pipettes sterile individually packed	Pipette Pasteur made of plastic, Graduation marking starting with 0.5ml, holding 1.5 ml, LENGTH: 150 mm individually packed in box of 500 pcs

4	Single use plastic Pasteur-pipettes sterile pack by 10	Pipette Pasteur made of plastic, Graduation marking starting with 0.5ml, holding 1.5 ml, LENGTH: 150 mm, packaging in bags of 10pcs in box of 500 pcs.
5	Micro-centrifuge tube, sterile with cap, 1.5 ml	1.5 ml, screw cap (with O-ring), conical shape bottom micro-centrifuge tube for optimal pellet formation, better visualization of Pellet and effective processing during DNA extraction procedure, made of PP with frosted marking area, sterile, stable at –196 °C to 121 °C; free from RNase, DNase, DNA and endotoxins, not-self-standing, packaging of preferably 25 tubes per pack
6	Cryo-vial, sterile with cap, 2 ml (for long term storage)	Cryo-vials: Graduated; 2 ml; screw cap; vials round with an external thread; made of PP with a frosted marking area; vials sterile and able to be sterilized with γ-rays; stable at –196 °C to 121 °C; free from RNase, DNase, DNA and endotoxins, self-standing, sold in packs of 1000.
7	Cryotag	Cryo-tags sized to fit for use on cryo-tubes (2 ml), made from smear resistant material, but should accept writing with all marking devices, rolls of 1000 pcs
8	Bags for waste bin – 30 Litres	<ul style="list-style-type: none"> • MATERIAL- Plastic Bag (Biodegradable) Red/Yellow/ Blue/Black. HDPE/LLDPE/PP bags made from biodegradable, virgin, non-chlorinated polymer material, autoclavable and thickness of sheet shall be minimum 55 micron. • CLASS & SIZES-Volume: 30 Lt. (24" x 28"). • DIMENSIONS- Flat rectangular Bags of sizes indicated above (for tolerance limits refer IS 9738: 2003), an easy to hold collar tie knot arrangement. • WORKMANSHIP & FINISH- Puncture proof-Acid and Alkali Resistant, Smooth surfaces free from defects such as foam, unevenness, crease, fish eye mixture of foreign matter, pin holes, Finish of cut portions shall bear good workmanship. • REQUIREMENTS- Bags shall meet requirements under IS 9738 : 2003 & drop test under IS 12395 : 1988 • Bags shall be preprinted as per requirements of Bio Medical Waste Management Rules- 1998 (amended till date) • Material sheet used shall match all requirements under relevant IS code Bags shall be steam permissible and withstand autoclaving (a Temperature up to 135 deg C) • MARKING- Properly labeled Poly bag carrying information viz., product name produced by, Address. Date of Manufacturing, Expiry (18 months from date of Mfg.), Size and Batch Number. <p>PACKING & PACKAGING – Packet of 100 bags packed in outer poly bag, Ready to use. Carton containing number of packets of poly bags shall be of adequate strength to last till intended end</p>

		use Carton shall also contain complete information over label.
9	Bags for waste bin- 2 Litres	<ul style="list-style-type: none"> • MATERIAL- Translucent disposable Plastic Bag (Biodegradable). HDPE/LLDPE/PP bags made from biodegradable, virgin, non-chlorinated polymer material, autoclavable and thickness of sheet shall be minimum 55 micron. • CLASS, SIZES & DIMENSION-Volume: 2 Liter, approx. 200 mm width and 300 mm length, Flat rectangular bag (for tolerance limits refer IS 9738 : 2003) • WORKMANSHIP & FINISH- Puncture proof-Acid and Alkali Resistant, Smooth surfaces free from defects such as foam, unevenness, crease, fish eye mixture of foreign matter, pin holes, liquid tight Finish of cut portions shall bear good workmanship. • REQUIREMENTS- Bags shall meet requirements under IS 9738 : 2003 & drop test under IS 12395 : 1988 • Material sheet used shall match all requirements under relevant IS code Bags shall be steam permissible and withstand autoclaving (a Temperature up to 135 deg C). <p>PACKING & PACKAGING – Packet of 100 bags packed in outer poly bag, Ready to use. Carton containing number of packets of poly bags shall be of adequate strength to last till intended end use Carton shall also contain complete information over label viz., product name, produced by, Address. Date of Manufacturing, Expiry (18 months from date of Mfg.), Size and Batch Number.</p>
10	Single use syringes, sterile- 10 ml	Sterile, single use syringes, made of poly propylene, graduated, 10ml volume, with piston lock, individually wrapped, 50 pieces per pack/box
11	Single use syringes, sterile- 20 ml	Sterile, single use syringes, made of poly propylene, graduated, 20ml volume, with piston lock, individually wrapped, 50 pieces per pack/box
12	Syringe Filter (33mm) for single use, sterile	<ul style="list-style-type: none"> • Syringe Filter made of low binding hydrophilic polyvinylidene fluoride membrane in an acrylic housing • Dimensions of inlet to outlet 26mm (1.02 in.), diameter 33mm (1.30 in.), Filtration Area 4.5 cm² (0.70 in²), Pore size 0.22 um • Temperature limit- 45°C • Housing burst at 25°C - 150 PSI G (10 bar) inlet maximum • Filtration Volume- 10ml to 100ml • Hold up volume < 0.1 ml after air purg • Typical initial flow rate for water at 30 PSI G – 25 ml/min; 40ml/min; 300ml/min

		<ul style="list-style-type: none"> • Connections - Female Luer lock inlet; male Luer slip outlet • Gamma irradiated, sterile, individually wrapped, in a box of 50 such pieces
13	Filter paper – sheets (for work benches)	Filter paper sheet, 580 x 580 mm (approx.), weight approx. 87g/sq. m, packaging of 100 sheets
14	Single-use paper towels	Single use paper towels, approx. 230x 300 mm folded to take as single piece off a wall mounted box, approx. 100 towels/ pack & 50 packs per box
15	2ml standard reaction tube	Micro-centrifuge Tubes 2 ml with screw caps, made of PP, graduated, conical bottom, stable at -196°C to +121°C, autoclavable, PP screw cap with silicone seal, with frosted marking, can withstand centrifugation to 20000g
16	PCR tubes (0.2 ml)	Single use PCR Tubes with Attached Caps, 0.2 ml, tubes to be compatible with leading thermal cyclers with heated lids, free from DNase and RNase, autoclavable, packaging 1000 pcs
17	Forceps, individually wrap, sterile	sterile, plastic, individual packaging, 145 mm, box of 50 pcs
18	Petri dishes (Plastic)	Petri dishes: made of plastic, crystal clear, sterile, two parts including lid/cover, size approx. 94 dia. x 16 mm ht., packed in 20pcs/bag in box of 480pcs
19	Disposable loops 10 µl	Disposable loops 10µl , length approx. 220 mm, made of plastic, sterile, individually packed, packed in 25/50/100 pieces per box

Group 7 -General lab items

#	Item/Name of the Items	RNTCP Specification
1	Bunsen Burner	Fast flame Bunsen burner Stainless Steel, for use with natural and cylinder gases, 15cms height, head diameter 13 mm, Nickel plated with stopcock

2	Safety gas tubing	Tubing (length 0.5–1.5 m) appropriate for the type of gas to be used and for safe connection to the gas hose connection; two hose clips for each tube, compliant with national gas safety guidelines
3	Test tube rack	Aluminium, S-shaped, 9" x 3" with holes size of 20mm, storage capacity: 30 tubes.
4	Loop Holders	Stainless steel rod with heat resistant handle holder; 6" in length; with screw arrangement to hold firmly 24 SWG Nichrome wire inoculation loop.
5	Loop wire	Nichrome wire, 24 Standard Wire Gauge (SWG) or 0.022 inches or 0.559 mm thickness SWG.
6	Inoculation loops 4mm	Inoculation loops made of Nichrome (80-20), length 5 cm, loop internal diameter 4mm, wire diameter 0.8 - 1 mm diameter, heat resistant to 1200 °C
7	Inoculation loops 3mm	Inoculation loops made of Nichrome (80-20), length 5 cm, loop internal diameter 3mm, wire diameter 0.8 - 1 mm diameter, heat resistant to 1200 °C
8	Diamond Marker pencil	6" holder with artificial diamond (hard stone) embedded at one end with screw cap to mark on microscope glass slides.
9	Grease Marking pencil	Marking pencil MPS, Blue or red coloured, 8" length, to write on glass ware/metal surfaces
10	Cotton	Absorbent, each roll of 0.5 kg.
11	Filter paper (for sputum microscopy reagents)	Filter paper No. 1, diameter:- 12.5 cms for filtering carbol fuchsin using a small funnel of 10cm maximum diameter, Smooth on one side and rough on the other side, water permeable
12	Stop watch	Mechanical stop watch, for a maximum of 60 minutes duration with timer and alarm, dial diameter: 10 cms, thickness: 5 cm. Accuracy: 1/5 sec
13	Stainless steel tray	Stainless Steel, Size: 15" length, 10" Width, 3" Depth.
14	Perforated Baskets	To hold approximately 200 universal containers (McCartney bottles) for autoclaving, Aluminium welded mesh. Size: 480mm x 280mm Compatible with the autoclave inner chamber of diameter of Height 500 mm x Diameter 300 mm, with two hinged handles at the top

15	Wire rack	Stainless Steel wire carrying rack, sturdy welded steel wire (of approximately 0.25" diameter) construction, used to hold 20 McCartney bottles(10 bottles x2 rows) of approximately 28.5 cms external diameter and 82 cms height, 50 gm. Weight each bottle; rack should be autoclavable, resist rust, corrosion, solvents, and acids. Entire rack size approximately 13" L x 2.5" B x 2.5"height. Racks should have a base made of steel wire mesh of 0.5" L x 0.5" B, The dimensions of top wire mesh 1.25" L x 1.25" B.
16	Stainless steel bucket with lid (60L)	Stainless Steel, 60 Litres capacity, 18 gauge
17	Discard bucket with lid (10L)	10 litres with lid, made up of plastic, foot operated
19	Discard bins (2L)	Made of Stainless Steel or autoclavable plastic, 2Lts. Capacity, Diameter 6", with lid.
20	Forceps (stainless steel)	Stainless Steel, 6" in length, serrated blunt tips, straight.
21	Stainless steel scissors	Stainless Steel, 6" length, surgical, open shanks, straight with fine sharp point.
22	Spatula	Medium size (20–25 cm); made of polished stainless steel; spoon on one side and spatula on the other.
23	Clips (50mm)	Clip Mohr, Nickel plated Iron, thick quality, round edges, length 50mm.
24	Clips (70mm)	Clip Mohr, Nickel plated Iron, thick quality, round edges, length 70mm
25	Knives	Stainless Steel, with handle for cutting glass tubing; pocket size knife: 10cms.
26	Cork Borer	Stainless Steel, insets with rod separate handle fitted to each set of 1-12, 5-19mm
27	Boxes (for holding petri dishes)	Stainless Steel for holding ten 4"(96mm) glass petri dishes for sterilization.
28	Stainless Steel trays	Stainless Steel, with pouring spout, Size: 20" x 12" x 2.5"
29	Stainless steel bowl	Stainless Steel, capacity 2 ½ Litres
30	Stainless steel Funnel	Stainless Steel, 12 cm diameter, stack of 8 cm length,1 cm. bore size
31	Drying racks	Stainless Steel, to drain microscope slides after staining, each rack to accommodate at least 16 slides, approximate dimensions 350 x 180 x 5 mm.
32	Bucket with lid (4 gallon)	Stainless Steel, capacity 4 Gallons

33	Mug	Stainless Steel, 1 pint size
34	Brown Paper	115 cm.x 75 cm. size sheets
35	Rubber bands	All assorted sizes
36	Cotton thread	Cotton thread roll for tying (generally available in packing of 10 rolls)
37	Wire racks to hold McCartney bottles	Stainless Steel wire carrying rack, sturdy welded steel wire (of approximately 0.25" diameter) construction, used to hold 150 McCartney bottles (of approximately 28.5 cms external diameter and 82 cms height, 50 gm. Weight each), autoclavable, should resist rust, corrosion, solvents, acids. Entire rack size approximately 22.5" L x 15" B x 2.5" height. Racks should have a base made of steel wire mesh of 0.5" L x 0.5" B, The dimensions of top wire mesh 1.25" L x 1.25" B.
38	Wire gauge with non asbestos pad	Iron mesh of 1mm thick wire for Tripod stand, 15cms x 15 cms, with 10cms diameter asbestos in the centre, Size: 6" x 6".
39	Tripod stands	Powder coated Iron Tripod stand made of 7mm diameter rod, Minimum distance between any two legs 15cms, height 23cms, stand of equilateral triangle of 10cms on each side, for hanging 2 litre bags
40	Stainless steel rods for staining	Two 5mm diameter stainless steel rods of length 2ft each welded at both ends with small stainless steel rods of 5 cms length and 5 mm diameter, to obtain a rectangular rack for placing on wash basin during staining of microscope slides.
41	Industrial Gloves	Acid & alkali proof, Rubber, Anti-static, to cover at least ¾th of forearm.
42	Lens paper	Soft microscope lens cleaning tissue, 4" x 6" booklet, each booklet containing 100 sheets
43	Rubber teats	Latex rubber teats for Pasteur pipettes. Capacity 2.5ml; neck bore 6.5mm.
44	rubber bulbs	Pear shaped moulded rubber for use with pipettes. Neck bore approx 4mm; 15ml capacity.
45	retort stand base	12" x 6" stand with 30" rod.
46	retort ring plain rod	Ring 3.25" diameter; arm length 13 cms
47	clamps	Brass or cadmium plated for retort stand
48	Boss heads	Brass or cadmium plated for holding retort ring

49	Test tube brushes	White bristles on tinned iron white-fan shaped ends for test tube size 3/8 " x 1/2"
50	Cylinder brushes	Nylon bristles with twisted steel handle. Arm length 40 cms approx.
51	Nylon brush large	Nylon bristles with twisted steel handle; Sizes 0.75" to 1".
52	Brush for flask	Nylon bristles with twisted steel handle for washing 250ml -3 lit flask; Two arm length (15, 40 cms).
53	Mortar pestles	Heavy glass, external diam. 4", capacity 8 oz.
54	Boxes for slides	For storing 100 Slides, Plastic storage boxes, approximate dimensions: 8.75" (22.2 cm) x 6.75"(17.15 cm) x 1.3"(3.3 cm).
55	Spare caps for bijou bottles	Screw caps of Aluminium with rubber liners suitable for Bijou bottles.
58	Racks suitable for pipettes offered, at least 4 positions	Made of Poly propylene/acrylic, racks suitable for standard pipettes, 4 positions, autoclavable, high chemical resistant (at least to bleach, phenol and alcohol)
59	Racks with lid for cryovial	Racks with lid (plastic preferred), suitable for cryovial (2ml-round outer winding/1.5 ml-conical), Operating range -196 °C to +121 °C, autoclavable at 121 °C (20 min)
60	Rack for PP-tubes (15 ml or Universal Test tube rack 17 mm)	Made of PP, temperature resistant (-15° C to +130°C), for 17 mm Diameter tubes, (dimensions: L250 mm x D105 mm x W70 mm, 60 positions, autoclavable, resistant to bleach, phenol and alcohol at least.
61	Racks for PP Tube (50 ml)	Made of Poly propylene, Rack for 50 ml tubes, capacity 18-20 tubes per Rack, autoclavable, high chemical resistant (at least to bleach, phenol and alcohol)
62	Rack 15 ml / 50 ml - 4-Way Microtube Rack	Rack for different usable sides, high chemical resistant (at least to bleach, phenol and alcohol), high temperature resistant and autoclavable
63	PCR Tube Rack (0.2 ml)	SBS, With 96 holes in 8 x 12 array, for vials 0.2 ml, individual vials, on strips or plates, in different colours (e.g. 4x blue, 4x red, 2x white). Dimensions L 127 x W 85 x H 16 mm. Plastic resistant to bleach and alcohol.

64	Storage box with lid for 0.2ml PCR tubes	Made of Poly propylene, with transparent lid for storage of 0.2 ml PCR tubes (approx.. 90-100 tubes), autoclavable, high chemical resistant (at least to bleach, phenol and alcohol), alphanumeric grid to assist in easy sample identification, racks of various colors for differentiation/ organization purpose
65	Sterile indicator tape, autoclave	Sterile indicator tape (roles), Self-adhesive approx.19mm broad and 55m long, for autoclave (beige/dark brown)
66	Sterile indicator tape, hot air oven	Sterile indicator tape (roles), Self-adhesive approx.19mm broad and 55m long, for hot air sterilize (green/brown)
67	Biological Indicator for monitoring Steam Sterilization	<p>Intended use: To confirm the effectiveness of steam sterilization at 121 °C for 15 min and optimal functioning of autoclave to avoid inadequate sterilization and quickly introduce corrective measures to avoid health risks</p> <p>Type of Biological Indicator: Self-contained, Organism: Spores of <i>Geobacillus stearothermophilus</i>, Strain: ATCC 7953, Viable spore population: $1-2 \times 10^{12}$, Culture: Bacteriological medium with growth promoting ability and a pH indicator, Incubation temperature: 55 – 60 °C</p> <p>Primary packing: Biological Indicator consisting of a spore strip enclosed in a polypropylene plastic vial with a perforated cap with filter along with growth medium contained in a crushable glass ampoule</p> <p>Labeling: With Manufacturing date, Expiry date, Shelf life and Storage conditions</p> <p>Resistance Characteristics: D Value, Survival and Kill time tested at manufacturing and provided in CoA</p> <p>Manufacturing of Unit: In compliance with quality standards and ISO 11138 Guidelines</p> <p>*D value: time or radiation dose required to inactivate 90% of a population of the test microorganism under stated exposure conditions</p>
68	Para film sealing film	Parafilm, 100 mm width, 58 m length, for use between - 40 °C to +50 °C
69	Hand lens	Optical graded lens with magnifying capacity, Hand lens for use in easy reading of growth in culture bottles
70	Digital Stop Watch	Stop Watch, digital, count down timer, four digits (MM:SS), programmable for max. 99 minutes, alarm at 0, memory function
71	Paper towel box	Wall mounted, refillable box for a capacity of at least 150 paper towels
72	Spray head with bottle	1 litre bottle with Spray head (preferably with one spare spray head)

73	Marker pens (0.8 to 1 mm)- permanent	Marker pen, black/Blue ink, for all surfaces, writes even on wet and cold surfaces, fast drying, line 0.8 to 1 mm broad
74	Marker pen for PCR Tubes (0.6 mm)	Marker pen, black/blue ink, especially for laboratory use, for all surfaces, ink resistant against alcohol, water and autoclaving, writes even on wet and cold surfaces, fast drying, line 0.6 mm broad

Group 8- Proprietary items for use in TB C&DST Labs

S. No	Company	Consumables Names
1	BD	BD BBL™ Calibrators Kit (for 1 drawer) (1 each)
2	BD	BACTEC MGIT 960 AST transport rack – 445942.
3	BD	BBL MGIT Tubes for use in Bactec MGIT 960 (7ml) - 100 tubes/pkg Catalogue No: 245122
4	BD	BACTEC MGIT 960 Supplement Kit (100 tests, PANTA and OADC combined) Catalogue No: 245124
5	BD	BACTEC™ MGIT™ 960 SIRE kit, One kit is sufficient for 40 test Catalogue No: 245123
6	BD	BACTEC MGIT PANTA™ Kit for Manual MGIT Catalogue No: 245114
7	BD	BACTEC MGIT OADC Kit for Manual MGIT Catalogue No: 245116
8	BD	BACTEC MGIT S.I.R.E. Kit for Manual MGIT Catalogue No: 245119
9	HAIN	GenoType MTBDR plus V2 - 30496AM - Test kit only composed of: 30496A GenoType MTBDRplus Version 2.0 and 51610 GenoLyse
10	HAIN	GT-Blot 48 Tray for 96 strips (black)
11	HAIN	GT-Blot 48 reagent kits
12	Cepheid	Xpert® MTB/RIF (pack of 50 for HBDC)
13	Cepheid	Xpert Check kit used to certify system is performing correctly and each kit allows to check 4 modules