

ANNEXURE A (Technical Specifications)

Index

S.No.	Name of the Equipment	Department	Quantity	Pages
1	Kymograph with complete accessories	VPT	01 No	07
2	Spectrophotometers		07 No	07
	a) Spectrophotometer	VPT & VBC	02 No	
	b) Spectrophotometer	VMD(2), VPH, VPP & LPT	05Nos	
3	Black boards cum display boards	VMD	02 Nos	09
4	Lab-Stools	VMD & VAN	40 Nos	09
5	Microscopes		113 Nos	09
	a) Microscopes	VMD, VPP, TVCC, AGB, VPH, VOG, LPT, VAN & VPY	109 Nos	
	b) Monocular Dissection Microscope	VAN	04 Nos	
6	Microscopes Binocular	VMD, VPH, VOG, LPT, VAN	13 Nos	09
7	Centrifuges	VMD	01No	09
8	Distillation Unit	VMD	02 Nos	11
9	Digital pH Meter	VMD	01 Nos	11
10	Micro hematocrits	VMD	01 Nos	11
11	Incubators	VMD, VPH	04 Nos	12
12	Hot Air Ovens	VMD, VPP, VAN	05 Nos	13
	a) Hot air Oven	VMD	03 Nos	
	b) Hot air oven	VPP	01 No	
	c) Hot air oven	VAN	01 No	
13	Water bath	VMD	01 No	13
14	Dark field Microscope	VMD	01 No	14
15	Autoclave	VMD	01 No	14
16	Microscope with attachment for Micro photographs	VMD	01 No	15
17	Stethoscopes with multiple ear pieces	VMD	01 No	16
18	Conference / discussion table Round table of 4 to 6 Capacity	AHE	12 Nos	16
19	Chairs	AHE	30 Nos	16
20	Chart Stands	AHE	02 Nos	16
21	Compact Set which Contains all the items	AHE	02 Nos	16
22	Display Boards	AHE	02 Nos	16
	1) LCD Display Board Electronic	AHE	01 No	
	2) Interactive white board	AHE	01 No	

23	Tents, campers ropes, pegs, threads etc.	AHE	01set	17
24	HP color Laser Photographic Printer	AHE	01 Nos	17
25	Phase Contrast microscope	VPA	01 Nos	18
26	Slide Cabinet		04 Nos	19
	a) Slide Cabinet	VPP	01 Nos	
	b) Slide Cabinet	VAN	01 Nos	
	c) Slide Cabinet	VPA	02 Nos	
27	Slide Boxes	VPA	10 Nos	19
28	Desiccators	VPA	02 Nos	19
29	Water Bath		04 Nos	19
	a) Water Bath	VPA	01 Nos	
	b) Water Bath	VPH & VMC	03 Nos	
30	Total Counter	VPA	02 Nos	20
31	Dissection Set	VPA	05 Nos	21
32	Ophthalmoscope	TVCC	02 Nos	21
33	Laryngoscope	TVCC	02 Nos	21
34	Tracheoscope	TVCC	03 Nos	21
35	Oesophagoscope	TVCC	03 Nos	21
36	Otoscope	TVCC	02 Nos	21
37	Electrocardiogram	TVCC	01 No	22
38	Haemocytometers	TVCC	15 Nos	22
39	Haemoglobinometers	TVCC	20 Nos	22
40	Small animal examination table (Hydraulic)	TVCC	04 Nos	22
41	Instrument trollies	TVCC	03 Nos	22
42	Trevis	TVCC	03 Nos	22
43	Phonendoscope	TVCC	03 Nos	23
44	Plexor and Pleximeter	TVCC	04 Nos	23
45	Hydraulic table	TVCC	02 Nos	23
46	Examination table	TVCC	01 No	23
47	Crash cart	TVCC	01 No	23
48	X-ray illumintor	TVCC	02 Nos	23
49	Stretcher	TVCC	01 No	23
50	Examination light	TVCC	01 No	23
51	Ultrasound machine (portable)	TVCC	01 No	24
52	Vital signs monitor	TVCC	01 No	24
53	ECG machine with defibrillator	TVCC	01 No	24
54	I.V.Stands	TVCC	03 Nos	24
55	Infusion pump	TVCC	01 No	24
56	Boyls anaesthetic apparatus (Isoflurane vaporizer)	TVCC	01 No	25
57	Diathermy	TVCC	01 No	25

58	Air Conditioner (2 ton, split)	TVCC, VMC	04 Nos	25
59	Blood gas analyser	TVCC	01 No	26
60	Surgical packs	TVCC	03 Nos	26
61	Ambu bag	TVCC	02 Nos	26
62	Oxygen cylinder	TVCC	02 Nos	26
63	Blood pressure monitor	TVCC	02 Nos	26
	a) Blood pressure monitor with pediatric cuff for veterinary use		01 No	
	b) Neonate Blood Pressure Cuffs for Veterinary Use, 5 size available, no connector	TVCC	01 No	
64	Biochemical analyzer	TVCC	01 No	27
65	Trinocular microscope with digital camera	TVCC	01 No	27
66	Distillation set	TVCC	01 No	28
67	Cooling High Speed Centrifuge	VPH	01 No	28
68	Colony Counter	VPH & VMC	02 No	29
69	Balance Chainomatch (Electronic)	VPH	01 No	30
70	Laminar Air flow vertical	VPH	01 No	30
71	Phantom Box	VOG	02 Nos	32
72	Electroejaculator	VOG	01 No	32
73	Oscilloscope	VOG	01 NO	32
74	Palpation Table	VOG	03 Nos	32
75	Embryotomy Set	VOG	03 Nos	32
76	Kelver Traning Cow	VOG	01 No	33
77	Vaginal Speculum (Cow, Ewe & Sow)	VOG	1 each	33
78	Water Suction Pump	VOG	01 No	33
79	Computer Personal	AGB	20 Nos	33
80	Paraffinbath	VPP	01 No	33
81	Cryostat (Microtom)	VPP	01 No	33
82	Auto staining unit	VPP	01 No	33
83	Heavy duty rotary saw for large animal PM	VPP	01 No	34
84	Platform balance (Large and small)	VPP	01 No	34
85	Monopan digital balance	VPP	01 No	34
86	L T C & COLD STORE	LPT	01 No	34
87	Smoking Chamber Unit	LPT	01 No	34
88	Butter Moisture Balance	LPT	01 No	34
89	Butyro Refracto Meter	LPT	01 No	35
90	Rotary Milk Evaporator	LPT	01 No	35

91	Stunner	LPT	01 No	35
92	Blender	LPT	01 No	36
93	Homogenizer	LPT	01 No	36
94	Butter Workers	LPT	01 No	36
95	Butter Print	LPT	01 No	36
96	Richmond's stand	LPT	02 Nos	36
97	Freeze Drying Unit	LPT	01 No	36
98	Flame Photo Meter	LPT, VBC	02 Nos	36
99	Steel Racks For Bone Store	VAN	07 Nos	37
100	Glass Almirah	VAN	03 No	37
101	Shoe Cases	VAN	06 No	37
102	Steel racks for wet specimens	VAN	10 No	37
103	Vacuum Pump for embalming	VAN	01 No	37
104	Refrigerator (double door)	VAN	01 No	37
105	Ice-Box	VAN	02 No	37
106	Membrane filter assembly with vacuum pump	VMC	01 No	37
107	BOD Incubator	VMC	01 No	37
108	Micro Kjeldhal Apparatus	VMC	01 No	38
109	Ultra Violet Lamp	VMC	02 No	38
110	Deep Freezer -70°C	VMC	01 No	38
111	Triple distillery Water Purification (Cartridge based)	VMC	01 No	39
112	Metal Distillatory	VMC	01 No	41
113	ELISA Reader	VMC	01 No	41
114	McFarland's Nephelometer	VMC	01 No	42
115	Gel Chromatography apparatus	VMC	01 No	42
116	Immuno electrophoresis apparatus	VMC	01 No	42
117	High Speed Centrifuge (16,000 to 20,000 RPM)	VMC	01 No.	43
118	Ultra Centrifuge (>60,000 RPM)	VMC	01 No.	44
119	Freeze dryer	VMC	01 No.	45
120	Automatic pipette Washer	VMC	02 No.	47
121	Small animal examination table (Hydraulic)	VSR	04 Nos	47
122	Foot operated waste bin	VSR	03 Nos	47
123	Instrument sterilizer	VSR	01 No	47
124	Enamel iron tray	VSR	07 Nos	47
125	Enamel iron tray	VSR	07 Nos	47
126	I.V.Stands	VSR	04 Nos	48
127	Foot operated dressing drum stands	VSR	04 Nos	48
128	Foot or elbow soap dispensers	VSR	04 Nos	48

129	Gray's mouth gag	VSR	10 Nos	48
130	Endotracheal tubes	VSR	08 Nos	48
131	Electrocardiogram	VSR	01 No	48
132	Trevis	VSR	03 Nos	48
133	Large animal trolley cum operation table	VSR	02 Nos	49
134	Operation table for calves with drain	VSR	04 Nos	49
135	Orthopedic instruments	VSR	01 Set	49
136	X-ray unit trolley model with C-arm with fluoroscope, image intensifier, spot film, video recording and image freezing facility	VSR	01 No	49
137	Animal transport trolley for large animals	VSR	01 No	49
138	Stretcher for small animal	VSR	02 Nos	50
139	X-ray film viewers	VSR	02 Nos	50
140	Shoeing equipment	VSR	01 set	50
141	Large animal anaesthesia machine with ventilator	VSR	01 No	50
142	Large animal X-ray machine with 1000 mA capacity	VSR	01 No	50
143	Computerized Radiography system	VSR	01 No	51
144	Manual and Hydraulically Operated Large Animal Operation Table	VSR	01 No	52
145	Egg grading machine	ILFC	01 No	53
146	Chick sexing machine	ILFC	01 No	53
147	Trap nest	ILFC	05 Nos	53
148	Solar inverter (to run the hatchery)	ILFC	01 No	53
149	Automatic scalding	ILFC	01 No	53
150	Shearing and clipping equipment	ILFC	01 No	54
151	Tattooing set tags	ILFC	01 No	54
152	AI Equipment(Different species)	ILFC	1 set each	54
153	Maximum minimum thermometers	ILFC	01 Nos	54
154	Psychrometer	ILFC	01 No	55
155	Air hygrometer	ILFC	02 No	55
156	Milking cans	ILFC	02 Nos	55
157	Milking pail	ILFC	01 Nos	55

158	Weighing balance	ILFC	01 No	55
159	Wheel barrows	ILFC	02 No	56
160	Column chromatography	VPY & VBC	02 No	56
161	Chemical Balance	VPY, ANN	09 Nos	56
162	Microhematocrit	VPY	01 No	56
163	Flow Meter	VPY	02 Nos	56
164	Tissue Chamber	VPY	09 Nos	56
165	Spirometers	VPY	01 No	57
166	Catheter (Silastic)	VPY	10 Nos	57
167	Digestion set	VPY	01 No	57
168	Refractometer	VPY	01 No	57
169	UV Microscope with UV Assembly/Immunoflorescent Microscope	VPH, VPP & VMC	03 Nos	57
	a) UV Microscope with UV Assembly/Immunoflorescent Microscope	VMC	01 Nos	
	b) UV Microscope with UV Assembly/Immunoflorescent Microscope	VPH & VPP	02 NO	
170	Catheters (Portable)	VPY	01 No	59
171	Slide Cabinet (50,000)	VAN	02 Nos	59

ANNEXURE A

Detailed Specifications

S.No	Name of the Equipment	Quantity
1	<p>Kymograph with complete accessories</p> <p><u>Kymograph with complete accessories</u></p> <p>Four Channel digital polygraph with digital data acquisition system facility for four different inputs, DC amplifiers; for recording temperature, EKG for recording ECG with animal leads, Two strain gauges for recording strain gauge parameters, Three transducers for pressure, force, temperature each EKG leads for animal and human with all standard accessories for operational</p> <p>One water transducer with digital plyphesmometer with volume display up to second decimal with all necessary accessories</p> <p>Software for computerizing data for all above mentioned four transducers</p> <p>One compatible power table for the Four Channel digital kymo-polygraph</p> <p>One compatible laptop/desktop computer for data storing or retrieval of experiments conducted or demonstrated for UG students</p> <p>Quote all essential accessories for functioning of equipment</p> <p>Ambient temperature provision for optimal functioning and endurance of Four Channel digital kymo-polygraph</p>	01 No
2	Spectrophotometers	07 Nos
a	<p><u>Spectrophotometer (Pharmacology and Toxicology & Vet Biochemistry)</u></p> <p>UV-Vis spectrophotometer (cuvette cum microplate)for following applications; Enzyme assays, Kinetic assays, Protein assays, Cell proliferation and cytotoxicity assays, Apoptosis assays, GPCR assays, DNA or RNA quantitation and purity, Immuno assays</p> <p>System shall able to read cuvette 12.5 (W) x 12.5 (D) x 40-58 (H) mm (standard cuvette as well as low volume cuvettes of any path-length) and 96 well & 384 well Microplates</p> <p>Monochromator wavelength selection with xenon flash lamp a light source.</p> <p>Wave length range from 200 to 1000 nm with 1 nm steps.</p> <p>Shall have inbuilt incubation and linear shaking of the microplate.</p> <p>Measurement speed for plates 6 s with 96-well plate, 10 s with 384-well plate</p> <p>Linearity at 450 nm; for 96 well plate, 0 – 2.5 Abs, 2% for cuvette, 0 – 2.5 Abs, 2% (beam window ≥ 2 mm)</p> <p>Accuracy for plates and cuvette at 450 nm; 1.0% + 0.003 Abs (0 – 2.0 Abs) 2.0% (2.0 – 2.5 Abs)</p> <p>Precision at 450 nm: Precision mode for both plates and cuvette, SD < 0.003 Abs or CV < 0.5%</p> <p>Spectral scanning; 200 to 1000 nm with 1 nm steps</p> <p>Incubation temp range for plates/cuvette; From ambient + 2° to 45°C</p> <p>USB connections: Personal Computer (Laptop)/ Memory device port for data export/ External printer.</p> <p>System should able to run in both stand-alone mode and with computer & Licensed or propriety software controlled.</p>	02 Nos

	<p>The instrument should have a memory of about 100 inbuilt protocols in stand-alone mode and color display for better visualization.</p> <p>System should have self-diagnostics option to give a guaranteed high quality data.</p> <p>System should have Power Save function for reduced energy consumption when the instrument is 'on' but not in use.</p> <p>Compatible cuvettes 2 pairs</p> <p>Should work at power supply at 100-240 volts (50/60 Hz)</p> <p>Online 3 KVA UPS with 2 h back up.</p> <p>Shall have been installed in various national & international institutes and reputed universities/ laboratories.</p>	
B	<p>Spectrophotometer</p> <p>Compact UV – VIS spectrometer to quantify undiluted nucleic acids at nanolitre volume and other biomolecule analysis using standard volumes.</p> <p>Optical system: Absorption double beam photometer</p> <p>Light Source: Xenon flash lamp</p> <p>Receiver: CMOS photodiode array</p> <p>Wavelength range: 200 nm to 830 nm</p> <p>Wavelength Selection: Method-dependent, freely selectable</p> <p>Spectral bandwidth: ≤ 4 nm</p> <p>Wavelength increment: 1 nm</p> <p>Systematic wavelength error: ± 1 nm</p> <p>Random wavelength error: ≤ 0.5 nm</p> <p>Photometric measuring range: 0.0 to 3.0 A at 260 nm</p> <p>Photometric reading accuracy: $\Delta A = 0.001$</p> <p>Random photometric error: ≤ 0.002 at $A = 0$, ≤ 0.005 (0.5%) at $A = 1$</p> <p>Systematic photometric error: ± 1 % at $A = 1$</p> <p>Cuvette type: Accommodate plastic disposable/standard Quartz Cuvettes and microliter cells</p> <p>Methods:</p> <p>Absorbance with one or more wavelengths, scans</p> <p>Nucleic acids, Proteins, OD 600, dye 8abelling</p> <p>Evaluation via factor, standard and calibration curve</p> <p>Dual wavelength with subtraction and division evaluation</p> <p>Method dependent evaluation:</p> <p>Absorbance, concentration via factor and standard</p> <p>Concentration via standard series using</p> <p>Linear regression, Nonlinear regression with 2nd and 3rd degree polynoms</p> <p>Spline analysis</p> <p>Linear interpolation (point to point evaluation)</p> <p>Absorbance allocation via subtraction and division</p> <p>Ratio 260/280, 260/230, molar concentration and total yield for nucleic acids</p> <p>Frequency of incorporation of Cy3, Cy5 dyes and 8abelling density</p> <p>Spectral zoom and peak evaluation for scans</p> <p>Display: 5.7" VGA TFT display</p> <p>Interfaces: USB master for USB stick; USB slave for connection to PC; Serial RS-232 for thermal printer</p>	05

	<p>Memory: > 100 method programs on the instrument > 1000 results with data, evaluation results and used parameters Power supply: 100 to 240 V \pm 10% / 50 to 60 Hz \pm 5 % Online 3 KVA UPS for running the instrument for 2 hours back up should be quoted Disposable cuvettes for 200 samples with Cuvette stand should be quoted with the instrument A pair of quartz cuvette of 1 ml should be provided.</p>	
3	<p>Black boards cum display boards Non magnetic with green board and white board of dimensions 6'(L)X4'(H)</p>	02 Nos
4	<p>Lab-Stools Height adjustable laboratory stools with heavy gauge seating tops with four legs</p>	40 Nos
5	Microscopes	113 Nos
a	<p>Total Magnification: 40x – 1600 x, Eyepiece WF 10x, H 16x Objectives 4x,10x,40x, 100x oil SL ,Built in LED illumination With battery backup, Coarse & Fine Focusing system. Viewing Head : Monocular 45 deg inclined, tube, 360 deg Rotatable . Double layer mechanical Stage 120x120mm Moving Range 60 x 30mm Condenser with IRIS diaphragm & Filter. Fully Imported.</p>	109 Nos
b	<p>A round base with joint revolving arm for moving the magnifying lens over the stage. Focusable by rack and pinion. Eye point 10X & 20 X eye pieces in a wooden box.</p>	Nos
6.	Microscopes Binocular	13 Nos
	<p>Total Magnification: 40-1600X Viewing Head: Compensation free Binocular Sidentopf Head inclined at 30 rotatable, Antimould 360o. Eyepiece: WF10X /20mm,P16X pair. Quadruple Nose Piece. Semi plan Achromatic Objective 4X, 10X, 40X(SL), 100X (SL) oil. Double layer Mechanical Stage 140 x 140 mm / 75 x 50mm. Coaxial Coarse & fine focusing adjustment system, Moving range 23mm, fine division 0.002mm.Abbe type 9 eproduci NA 1.25 with IRIS Diaphragm & Filter. Built in Illumination Halogen lamp 6V 20W brightness Adjustable Intensity controller. Focusing lock: Focusing lock is Provided with the coarse focusing Knob. It is used to arrest the Up-ward movement of the Stage so as to eradicate the Damage of slide and Objective Lenses. Optional attachments: Drawing attachment with eye piece set or multi viewers.</p>	
7	<p>Centrifuge <u>Table Top Refrigerated Centrifuge</u> Maximum Speed : 14,000 RPM Maximum RCF : 21,800g Temperature range : -9°C to +40 °C Display : Digital for speed, Temperature and time Timer : 0-99 Min and hold Mode Power : 220V/50Hz Rotors Fixed angle: Capacity : 48x1.5/2ml Maximum speed : 13,000RPM</p>	01 No

<p>RCF : 19,083xg Adaptors for 0.5ml, 0.2ml</p> <p>Or PCR Tubes</p> <p>Capacity : 30x1.5/2ml</p> <p>Maximum speed : 14,000RPM</p> <p>RCF : 21,000xg Adaptors for 0.5ml, 0.2ml PCR Tubes</p> <p>Capacity : 6x85ml</p> <p>Maximum speed : 12,000 RPM</p> <p>RCF : 18,500 g Adaptor for 15ml, 50ml tubes</p> <p><u>Swinging Bucket for tubes and Micro titer plates</u></p> <p>Capacity : 4x750ml</p> <p>Maximum speed : 3900 RPM</p> <p>RCF : 3,214xg Adaptor for 56x15ml, 28x50ml falcon tubes & MTP Buckets for spinning up to 16 micro titer plates & 4 deep well plates</p> <p>Other Features:</p> <p>Invitro Diagnostic Certification</p> <p>At set rpm” for even more 10e reproducible results (Timer starts when set speed is reached)</p> <p>Emergency Lid opening in case of power failure</p> <p>Built in Condensation drain to eliminate water accumulation and prevent corrosion</p> <p>Dynamic compressor control technology for optimized cooling performance</p> <p>Eco shut-off engages after 8 hrs of non use to reduce energy consumption and extend compressor life</p> <p>Aluminum with its high heat conductivity allows fast pre cooling and accurate temp control in ref. centrifuges</p> <p>Setting Of RPM/RCF, Time, and Temperature</p> <p>Frequency controlled induction drive system</p> <p>Automatic rotor Recognition</p> <p>Acceleration and Deceleration ramp</p> <p>Short spin & lid lock</p> <p>Values can be change during centrifugation</p> <p>Fast temperature function for rapid cooling of the centrifuge chamber</p> <p>Imbalance cutout</p> <p>Compatible Servo Voltage stabilizer</p>	
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8	<p>Distillation Unit</p> <p>Dist. Water Output Cap.(Approx) 2.5 lt/hr</p> <p>Electrical requirements 230-250 Volts Single phase 4.4kw</p> <p>Cooling Water consumption 100 lt/hr</p> <p>Distillate Quality Specifications</p> <p>Biological Activity Pyrogen Free</p> <p>pH 6.9-7</p> <p>Conductivity S/cm <1x10-6</p> <p>Total Organic Carbon (TOC) µg/l <500</p> <p>Organic Matter mg/lit Nil</p> <p>Total Solids mg/lit < 0.1</p> <p>Distillate Temp. 65-750C</p> <p>Total plate count 0</p> <p>Standard Plate Count 0</p> <p>Yeast and Mould 0</p> <p>KmnO 4 color retention 1 hr</p> <p>UV absorbance at 254 nm 0.007</p>	02 Nos
9	<p>Digital pH Meter</p> <p>pH range : 0-14 or continuous</p> <p>MV range : 0-1999 with auto polarity</p> <p>Accuracy pH : 0.5pH +/- 1 Digit.</p> <p>MV : 1 mV +/- 1digit</p> <p>Input Impedance : More than 10/12 Ohms</p> <p>Buffer Calibration : pH 7.0, pH 4.0/ 9.2</p> <p>Electrode : Unbreakable</p> <p>Display : 3½ Digit display with seven segment green 0.5” LED.</p> <p>Temp. Compensation : 0-100°C with ATC.</p> <p>Body : MS With powder coated body</p> <p>Input Voltage : 230V, 50Hz. A.C. Supply</p>	01 No
10	<p>Micro hematocrits</p> <p>Digital Speed Indicator</p> <p>Stepless speed regulator</p> <p>0-60 minutes digital countdown timer</p> <p>0-15 minutes digital countdown timer</p> <p>Safety Lid interlock to prevent cover opening during centrifugation</p> <p>Press Switch for quick acceleration to full speed</p> <p>Max. Speed rpm 16000</p> <p>Max. RCF ‘g’ 16600</p> <p>Max. Capacity ml 40</p> <p>W x D x H mm 280 x 350 x 290</p> <p>Supply: 220-240 Volts 50 Hz Single Phase.</p>	01 No

11	Incubators	04 Nos
<p>Incubator Stackable orbital shaker incubator with two adjustable stationary shelves located above the 18” x 18” rotating platform. Gentle to vigorous agitation is accomplished with variable 15 to 500 rpm (+/- 1 rpm) speed control or 15 to 300 rpm when stacked.</p> <p>The unit is controlled by a digital push-button controller. Speed will be displayed in rpm with an LED display. The shaker will rotate in an orbital fashion with an orbit of 0.75 inches.</p> <p>Chamber temperature is controlled by a PID microprocessor controller to an accuracy of +/- .1C at 37C in flask over a range of ambient +10C to 80C. The shaker will have a timer that operates from 0.1 to 999 minutes, 0.1 to 999 hours or continuously.</p> <p>The shaker will have over temperature protection via an independent, hydraulic thermostat.</p> <p>The unit will shut down when the chamber door is opened.</p> <p>All set points are retained by non-volatile memory, thus the shaker will automatically re-start following power failure and after power is restored.</p> <p>Unit should operate in a 0 to 40C and 20 to 80% non-condensing humidity environment.</p> <p>Physical Specifications:</p> <p>The unit should have a triple eccentric drive mechanism with a steel shaft in a cast-iron housing with six sets of permanently lubricated ball bearings and can accommodate a load capacity of up to 50 lbs.</p> <p>The shaker should have a solid-state brushless DC motor. The shaker should accommodate an 18”x18” universal platform and shake various combinations of vessel clamps (flask holders, plate holders and test tube racks).</p> <p>The platform and vessel clamps should be constructed out of stainless steel.</p> <p>An ABS control housing should surround a polyester control panel. The shaker exterior should be constructed of cold-rolled, powder-coated steel and has dimensions of 33”L x 27.5”W x 40.5”H.</p> <p>The chamber should measure 21”L x 22”W x 27”H and should have a 9 Watt, 550 lumens, fluorescent bulb for easy sample viewing.</p> <p>An electrical splash resistant outlet that can operate from -20C to 100C, inside the chamber to provide power for safe operation of shakers, stirrers or rotators.</p> <p>Large viewing window built into the door measuring 19” W x 24” H which permits monitoring of samples for harvesting without disturbing the chamber atmosphere.</p> <p>A dual tiered 18 x 18” platform can be mounted inside of the chamber doubling the vessel capacity of the shaker.</p>		

	All required accessories like clamps/ racks and sticky mats should be quoted <u>Certifications:</u> UL, cUL and CE (240 V models) Warranty: 1 year	
12	Hot Air Ovens	05 Nos
a	<p>Inner chamber is made of Highly Polished Stainless Steel. Outer chamber is made of Mild Steel Sheet duly pre-treated in seven tanks process for surface treatment & are finished with durable Powder Coated Paint. 75 mm gap between the walls is filled with special grade glass wool for proper insulation and to avoid heat losses. Inner chamber is fabricated with ribs to adjust shelves to any convenient height. Supplied with 2 or 3 removable shelves. Shelves are made of polished SS Sheet. Insulated door is fitted with heavy hinges with a special design spring – loaded door closing device. Door gasket made of synthetic rubber compound instead of Asbestos. Heating elements are made of high grade imported Nichrome wire which are insulated inside the porcelain beads and are generally placed suitably in Air Path for uniform temperature all over the space.</p> <p>Temperature is controlled by an electronic digital temperature controller-cum-indicator, provided with air Circulating fan for providing homogenous temperature through out the chamber with wide temperature 50°C to 250°C ovens for various applications.</p> <p>Air ventilator ports provided on both sides at top to ventilate, gases and fumes if any.</p> <p>Control Panel : The equipment is provided with a panel having a digital temperature control knob. ON/OFF switch, two pilot indication lights and provision for fixing the TIMER.</p> <p>Supplied with cord and plug. Suitable to operate on 220 V single phase, 50 Hz, AC supply.</p> <p>Inner Chamber 455Wx605Hx455D S.S. (304 grade)</p>	03 Nos
b.	Hot air oven with three sides heating elements, temperature range 50 ⁰ C to 250 ⁰ C +/- 1 ⁰ C controlled by imported thermostat, made of S.S. W x H x D 605 x 910 x 605mm, fitted with Air Circulation Fan and L shaped Thermometer	01 Nos
c.	2-3 shelves made up of wire mesh in the inner chamber. Temperature control from 50- 300 degrees, with control knob. Temperature to be adjusted with reference to thermometer, provision to insert glass thermometer and electronic digital control cum indicator. Circulating fan with motor for uniform temperature, with electronic digital timer with alarm.	01 Nos
13	Water bath	01 Nos
	<p>SIZE: 355X405X100mm, 12 holes of 75mm diameter.</p> <p>Double walled automatic temperature controlled room temperature 30 C to 110 C plus/ minus 1C thermostat. Stainless stell inside glass wool insulation provided with concentric rings with thermometer fit.</p>	

14	Dark field Microscope	01 No
	<p>Microscope frame with quintuple revolving nosepiece, mechanical stage (right handle), 30W Koehler illuminator, filter 32.5C-2, Wide Field Trinocular tube, Wide field eyepiece 10X, 30W Halogen bulb, Power cord, Dust cover, Interference day light filter 45mm dia, Immersion oil in 8cc bottle, Universal condenser condenser for Dark field, Bright Field as well as phase contrast.</p> <p><u>Objectives:</u> Plain achromatic objective 4X/0.1, WD 18.5, Plain achromatic objective 10X/0.25, WD 10.6, Plan achromat objective 40X/0.65, WD 0.6 (spring), Plain achromatic objective 100X/1.25, WD 0.13 (spring, oil)</p>	
15	Autoclave	01 No
	<p>Advanced 14nodized 14d PLC based control ensures repeatability and high accuracy. Inbuilt documenting feature.</p> <p>Exclusive built in features like automatic water fill, multiple temperature sensors with control on all, power failure restore, PC connectivity & many more.</p> <p>Conformance to National & International Standards.</p> <p>User settable alpha numeric batch number with operator name Service & Calibration reminders</p> <p>Internal Chamber, lid and flange fabricated from SS 304 and external parts are of SS 304.</p> <p>Single lever pronged closure system</p> <p>Easy lift and closing of the lid by assisted support.</p> <p>Castors for ease of movement.</p> <p>Touchscreen PLC which provides high control accuracy along with user level flexibility for sterilizing various types of loads efficiently.</p> <p>Online documenting of 4 temperature + 1 pressure channel + cumulative F calculations of 1 temperature 0 channel to external DMP (optional) or PC (optional).</p> <p>Built in recipes.</p> <p>Temperature controlling on all 4 temperature channels.</p> <p>Password protection upto 3 levels.</p> <p>Fail safe program for power failures.</p> <p>Spring loaded safety valve for over pressure.</p> <p>Independent over temperature safety cut out.</p> <p>Pressure interlock on door.</p> <p>Door interlock for cycle start.</p> <p>Audio & Visual alarms for sensor open.</p> <p>MCB for electrical safety.</p> <p>Over pressure alarm.</p> <p>Single phase power 230V, 50Hz with suitable MCB.</p> <p>Distilled water line with line pressure between 0.5 to 2 bar.</p> <p>Sufficient space all-around for ventilation.</p> <p>Drain at level below the Autoclave bottom.</p> <p>Three cycles in an eight hour shift.</p> <p>Support pressure system for liquid sterilization especially in sealed pouches.</p> <p>Free steaming (positive pulsing / grade heating) for deeper penetration of porous</p>	

	loads and for reducing lag times in media in flasks. Drain (exhaust) cooling for protecting the drain utilities from the scorching steam exhaust Working Chamber Size (Ø x D) / Capacity : 40 x 60 cm / 75 lit Carrier (Ø x D): 1 of Ø35 x 55 cm External Dimension L/B/H in mm: 670 x 490 x 870+400 App. Shipping Details Net / Gr. / Volume: 79 kg / 129 kg / 0.80 m ³										
16	Microscope with attachment for Micro photographs		01 Nos								
	Microscope Frame	<table border="1"> <tr> <td>Optical system</td> <td>UIS2 optical system</td> </tr> <tr> <td>Focus</td> <td>Vertical stage movement: 25mm stage stroke with coarse adjustment limit stopper, Torque adjustment for coarse knobs, Stage mounting position variable, High sensitivity fine focusing knob (minimum adjustment gradations: 1µm)</td> </tr> <tr> <td>Illuminator</td> <td>Built-in Koehler illumination for transmitted light, light intensity manager switch High color reproductivity LED light source, 6V/30W halogen bulb (pre-centered)</td> </tr> <tr> <td>Revolving Nosepiece</td> <td>Interchangeable reversed sextuple nosepiece</td> </tr> </table>	Optical system	UIS2 optical system	Focus	Vertical stage movement: 25mm stage stroke with coarse adjustment limit stopper, Torque adjustment for coarse knobs, Stage mounting position variable, High sensitivity fine focusing knob (minimum adjustment gradations: 1µm)	Illuminator	Built-in Koehler illumination for transmitted light, light intensity manager switch High color reproductivity LED light source, 6V/30W halogen bulb (pre-centered)	Revolving Nosepiece	Interchangeable reversed sextuple nosepiece	
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Revolving Nosepiece	Interchangeable reversed sextuple nosepiece										
	Observation Tube	Widefield (F.N. 22)	Widefield trinocular								
	Stage	Ceramic-coated coaxial stage with left or right hand low drive control: rotation and torque adjustment mechanisms, optional rubber grips available (Non stick grooved coaxial, plain, rotatable stages are also available)									
	Condenser	Abbe (N.A. 1.1), for 4x–100x									
	Objectives	Plan achromat 4X,10X,40X & 100X Oil									
	Eye Piece	Widefield eyepiece 10X, focusable									
5 MEGA PIXEL CCD camera with software:											

	<p>High quality 2/3” 5.0 mega pixel color CCD camera, Pixel pitch: 3.4 x 3.4 µm (Sony ICX282), Resolution up to 2560x1920 Pixel, Binning modes 2x2, 3x3, 4x4 in full color, 1.6µs to 17.9min in 1µs increments exposure/ integration control, Peltier thermoelectric cooling to -10 degress below ambient, 10 bits digital output, 25 fps full field of view, IEEE 1394 Firewire digital interface.</p> <p><u>Capturing Software:</u> Real time image preview and capture; independent control of preview and capture provides maximum flexibility, Advanced color management; built-in ICC color profiling for Qimaging cameras provides superior color imaging; color correction algorithms ensure accurate, true color imaging, Background and darkfield correction, Time-lapse sequences, Auto exposure, auto white balance, auto contrast (dynamic and manual controls),</p>	
17	Stethoscopes with multiple ear pieces	03 Nos
	<p>Stethoscope, Chest piece finish- gold, chest piece technology- single sided, colour group- black, Diaphragm diameter- 1.75 “/ 4.4 cm, Diaphragm material- epoxy/ fibre glass, Diaphragm type- tunable Diaphragm, Ear tip type- soft seaing with extra ear tips, head set material- wide diameter aero space alloy/ 16nodized aluminium with gold platingotized aluminium with gold plating, length- 27”/ 69 cm, occupation- veterinarian, warranty period- 3 years</p>	
18	Conference / discussion table Round table of 4 to 6 Capacity	12 Nos
	Wooden 3 X 3 feet, 4 to 6 Chair Capacity	
19	Chairs	30 Nos
	Plastic Good Quality equilent to Nilkamal or Cello	
20	Chart Stands	02 Nos
	Model of Collapsible brochure stand	
21	Compact Set which Contains all the items	02 Nos
	<p>Compact set which contains all the items (Amplifiers(2 models, Stage mikes A.S.M. 7, Horns, Unit, Hooters) i.e. Lecterns Built in 60W amplifier, 60 W column speaker with one tweeter and three woofers; Two MIC inputs, one line input and four AUX inputs; Two handheld or collar wireless MICs with range of 100 mts; 60 w rated power output; Flexible goose neck mike with length 47 cm (built-in); Wooden top and steel bottom, steel body; Podium reading light of lamp length 45 cm (built-in); facility to connect to external speakers and amplifier to handle 300-350 audience.</p>	
22	Display boards	02 Nos
a	LCD display board Electronic Scroll Display system 30x42” - Translit with 10 slides.	01 Nos

b	<p>Interactive white board Clarity MiBoard Interactive Board with mouse control and recording of writing and play back capacity, Portable and light weight, easy to carry. Sensitive receiver Convert any white board/flat surface into an interactive white board. Pen board: 1x AA 1.5V Power: USB Technology: Ultrasonic and Infrasonic technology. Response time: 3m/sec Port : USB 2.0</p>	01 Nos
23	Tents, campers ropes, pegs, threads etc.	01set
	To accommodate 100 persons (sitting capacity)	
24	HP color Laser Photographic Printer	01 Nos
	<p>Printer type- ink jet (piezoelectric) Nozzle configuration- 90 nozzles black, 90 nozzles each color. Print direction- bi-directional printing, uni-directional printing PRINT FUNCTION MAXIMUM RESOLUTION 5760x1440 dpi (with Variable-Sized Droplet Technology) MINIMUM INK DROPLET VOLUME 1.5 pl PRINT SPEED *1 MAX BLACK DRAFT TEXT – MEMO (A4) Approx. 34ppm (Draft) MAX COLOR DRAFT TEXT – MEMO (A4) Approx. 34ppm (Draft) MAX PHOTO DRAFT – 10X15CM/4X6IN *2 *3 Approx. 11 sec per photo (W/Border) Approx. 13 sec per photo (Borderless) PHOTO DEFAULT – 10X15CM/4X6IN Approx. 27 sec per photo (Borderless) Paper feed method- Friction feed NUMBER OF PAPER TRAYS 1 PAPER HOLD CAPACITY INPUT CAPACITY 120 sheets, A4 Plain paper (75g/m2) 20 sheets, Premium Glossy Photo Paper. Output capacity- 50 sheets, A4 plain paper Max paper size- 8.5”x44” Color matching-ICM profiles (windows), Adobe (RDG) (windows) PRINTER INTERFACE USB Hi-Speed USB – Compatible with the USB 2.0 Specification INPUT DATA BUFFER 64KB USB Hi speed –compatible with 2.0 specification OPERATING SYSTEM COMPATIBILITY Windows® 7 (32-bit, 64-bit) / Windows Vista® (32-bit, 64-bit) / Windows XP SP1 or higher (32-bit) / Windows XP Professional x64 Edition. Power- AC 220-240V.</p>	

25	Phase Contrast microscope	01 Nos
	<p>MEA53300- Inverted microscope Eclipse Ti S Main body (100-240v) equipped with side port. Coaxial coarse/fine focus w/tension adjustment on course Light-distribution 100 Eyepiece and 20 Eye-80 Left(*) MXA29009- Anti-mould agent MXA22062- Vinyl Cover Type 108</p> <p><u>EYE PIECE TUBE BASE UNIT</u> MEB55800- TI-T-B-Eye piece Tube Base Unit</p> <p><u>EYE PIECE TUBE</u> MEB52320- TI-TD Eyepiece Tube D</p> <p><u>EYE PIECES</u> MAK10100- CFI 10X w/diopter adjustment (F.O.V.22mm) MAK99000- CFI UW Eyepiece Guard(for 10x eyepiece lens)</p> <p><u>STAGE</u> MEC54100- TI-SP Plain stage MEC55100- TI-SAM Attachable mechanical stage</p> <p><u>HOLDER</u> MFC35015- C-HU Universal Holder: Slide Glass (76.5x27.0mm),Haemocytometer(76.0x35.0mm),petri Dish (0.30 to 0.65), Microplate, Terasaki(81.5x56.0mm)</p> <p><u>DIASCOPIIC ILLUMINATION</u> MEE59905- TI-DH Diascopic illumination Pillar 100w MBE75225- D-LH/LC Percentered Lamp house MXA30434- Halogen Lamp 12v-100w LL MEF51001- TI-100WRC 100W Lamphouse Remote Cable MEF52251- TI-P5100W/A Power supply 100-240V/A MBF11300- Power Cord Type BE fro 220-240v</p> <p><u>FILTERS</u> MBN11200-Filter 45mm, GIF MBN11500- Filter 45mm, Heat absorbing MBN11710- Filter 45mm,NCB 11, Day light colour balance MBN21802- Filter 45mm,ND2 A, Neutral Density MBN21816- Filter 45mm, ND16 A, Neutral Density</p> <p><u>TURRENT CONDENSER</u> MEL51000-TI-C System Condenser Turret MEL56200- TI-C-LWD LWD Lens for system condenser Turret N.A. 0.52 W.D.(O.D.) 30mm MEH41100- TE-C LWD PH-1 Module</p> <p><u>SEXTUPLE NOSEPIECE</u> MEP51315- TI-N6 SEXTUPLE NOSEPIECE MXA2204- Nosepiece Cap</p> <p><u>OBJECTIVES</u> MRP00042- CFI Acromate 4x N.A. 0.10, W.D.30.0mm MRP40102- CFI Acromate ADL10XB N.A. 0.25, W.D. 6.2mm, PH-1</p>	

	<p>MRP46202- CFI Acromate WD ADL 20XF N.A.0.40, W.D.3.1mm,PH-1 MRP45422- CFI Acromate WD ADL 40XC N.A.0.55, W.D.2.7-1.7mm,Corr 0-2.0mm,PH-2</p> <p>MQA11020- Digital camera head DS-Fi2 2/3” high density- CCD; Total no of pixels: 5.24 Megapixels, Digital output: 14bit, Gain:1-46x, Binning modes:2x2, 4x4, Exposure time: 130micro second to 60sec. Dynamic range:more than 1000:1</p> <p>MQA25020- CAMERA CONTROL UNIT DS-U3 (NIS Elements F Software for image aquisition)</p> <p>MQF11010- DS Camera I/F cable 20/26 MQF52055- AC adopter 2 MBF11300- Power cord BE (220-240v) MQD42000- C-Mount TV Adopter A <u>SPARE LAMP</u> <u>HALOGEN LAMP</u> MXA20434- Halogen lamp 12v-100w LL</p>	
26	Slide Cabinet	04 Nos
a	Stain less steel micro slide cabinet of 1000 Micro slides capacity, horizontal type.	01 Nos
b	For keeping 75x25 mm slides in vertical position one after the other. Made of CRC steel with powder coated paint finish. Drawers and slides in vertical position Movable drawers in a slot ,completely removable for easy lifting of slides . Accomodable slide capacity 50000 slides and lockable doors.	01 Nos
c	Each aluminium tray can accommodate twenty 75x25 mm slides in flat position . 1000 slides capacity.	02 Nos
27	Slide Boxes	10 Nos
	Capacity: 100 slides	
28	Desssicator	02 Nos
	3082 Dessicators ,with coverand porcelainplate ,plastic knob,Borosil.product code 3082088.ApproxID Ground Flange mm 250	
29	Water Bath	05 Nos
a	YSI-415 Yorco High Precision water bath with strirrer Very tightly controlled temperature with an Accuracy of 0.1 ⁰ Cof digital temperature.controller. Inner chamber W H D 430 x 240x265mm	01 Nos

b	<p>High-strength cabinet constructions with 304 stainless-steel interior tank to withstand the most critical applications. Shall be comprised of two independent units: a bath chamber and a refrigeration system module with identical dimensions Shall have microprocessor with RTD probe that provides simple, accurate and repeatable temperature Control while optimizing control parameters during operation Shall have digital temperature display, simultaneously reads set point and water temperature. Recessed control module to protect against dirt and moisture Single-stage, centrifugal pump with independent supply/return ports for maximum circulation Heat Removal 3000 BTU/hr. at 27°C (nominal) Cooling Capacity 1095w Power Consumption 2535w (including cooling) Bath Capacity – about 26L Integrated industrial-strength pump for internal circulation maintains precise temperature uniformity throughout the liquid medium Rounded corners for better water circulation, improved uniformity and easier cleaning Built-in drain with ON/OFF valve Moisture-proof blanketed fibre glass insulation surrounding water chamber improves temperature stability and energy efficiency Long-life heating elements for quick response to controller Protective non-skid rubber feet protect the lab bench Attractive front panel bezel for easy cleaning</p> <p><u>Refrigeration System</u> Should allow accurate control at temperatures near or below ambient conditions Quiet-running, hermetically sealed refrigeration system High volume heat removal capacity rated at 3000 BTU/hr. at 27°C (nominal) Ideal for use with 60%/40% ethylene glycol/water mixture to prevent icing at temperatures below 10°C Independent ON/OFF switch – system can be switched OFF for operation above ambient temperatures.</p> <p><u>Adjustable High-Limit Control</u> – Shall prevent critical process over temperature conditions at any point over the bath operating range. Shall protects bath and its load by Interrupting heat and flashing visual warning. Shall have fixed over-temperature safety, factory set 105°C, shut off bath power; pushbutton manual reset. Shall include – System, cover and concentric rings.</p>	03 Nos
30	Total Counter	02 Nos
	YSI 152 Yorco blood cell counter 9 units clay adams type.	

31	Dissection Set	05 Nos
32	Ophthalmoscope	02 Nos
	<p>Choice of XL 3.5 V xenon lamp or HL 2.5 V halogen lamp.</p> <p>Easy-to-operate aperture hand-wheel with semi-circle, small/medium/large circle fixation star, slit and red-free filter with contrast-enhancing effect.</p> <p>Optimized high-performance optics with aspherical condenser lens</p> <p>Parallel beam path</p> <p>Dust-proof</p>	
33	Laryngoscope	02 Nos
	<p>Laryngoscope with 4 blades of different sizes for pediatric and adults.</p> <p>LED light source</p>	
34	Tracheoscope	03 Nos
	<p>Karl Storz Swiss Model Tracheoscope</p> <p>Distal Od:14mm Length:25.5cm</p>	
35	Oesophagoscope	03 Nos
	<p>Oesophagoscope which is fixed with fiberoptic light carrier graduated in centimeters.</p> <p>Oesophageal speculum available in polished metal Fibre optics provide a cool distal ring of light with no reflections, no obstructions.</p> <p>Made from autoclavable stainless steel for convenience and durability.</p> <p>Graduated tube with removable tip for fibre cleaning</p>	
36	Otoscope	02 Nos
	<p>Veterinary video otoscope</p> <p>UB CAM PRO</p> <p>UB CAM Pro 2.0TM Videoscope</p> <p>A useful tool for various applications in veterinary clinics</p> <p>Lightweight, allowing single hand use</p> <ul style="list-style-type: none"> • Excellent image quality • Live view with still image and video capture • Review data with client or for referral • Easy file/save image documentation 	

37	Electrocardiogram	01 No
	<p>Lead selection standard: Single 12 leads. channel CMRR: greater than 120 db.</p> <p>Available with high resolution thermal printing system, with high precision. 12 leads collection in phase, as well as 3 leads printing in phase.</p> <p>3-channel</p> <p>12-channel Ssecg in ce1023 & iso-13845 classified. An India manufactured equipment.</p>	
38	Haemocytometers	15 Nos
	Should contain bright line counting chamber, RBC pipette W.B.C. pipette, With two rubber tubes, two coverslips	
39	Haemoglobinometers	20 Nos
	Should contain complete set of hemoglobinometer	
40	Small animal examination table (Hydraulic)	04 Nos
	Dimension: 1880mm x 500mm, Adjustable Ht.: 790-1040mm, Trendelenburg and reverse trendelenburg: 30°±3 Lateral tilting position: 20° Lifting position 250mm±12mm Flex position;90° Reflex position 220° Head plate 20° up and 90° down.	
41	Instrument trollies	03 Nos
	Fully stainless steel with one box lock. Size: (660*440*880 mm)	
42	Trevis	03 Nos
	Tubular, Galvanized Rust free Large animal trevis	

43	Phonendoscope	03 Nos
	Rubber tubing with 5cm diameter chest piece	
44	Plexor and Pleximeter	04 Nos
	Triangular rubber part, With metallic handle	
45	Hydraulic table	02 Nos
	Dimension: 1880mm x 500mm, Adjustable Ht.: 790-1040mm, Trendelenburg and reverse trendelenburg: 30°±3 Lateral tilting position: 20° Lifting position 250mm±12mm Flex position;90° Reflex position 220° Head plate 20° up and 90° down.	
46	Examination table	01 No
	Examination with stainless steel top Size: L 5 fts , w 2 ½ “ H 3” Legs M S Squire pipe 1 ½” with (small “o” Hole at the center for drainage)	
47	Crash cart	01 No
	Cylinder provision and I v stand with Stainless steel Frame with ALKON Modular system box, 6” Wheels , padprovision	
48	X-ray illumintor	02 Nos
	X-Ray Illumination Box High quality imported X-ray Single Viver Four side x-ray attachment provision	
49	Stretcher	01 No
	Stretcher on Trolley Size : 84” x 22” x 32” Fully Stainless Steel With 6” Wheels With Squire Pipe 1”	
50	Examination light	01 No
	Articulated arm with on/off light	

	Ln.of arm :69cm Voltage 230 V Halogen bulb 12v/ 50w Poly carbonate dome Chrome plated base	
51	Ultrasound machine (portable)	01 No
	Multifrequency probes (convex 2-6MHz and linear) 10.4" LCD monitor 2-24 cms depth, Built in flash memory 1000 images Good quality printer	
52	Vital signs monitor	01 No
	Multipara Monitor 12" screen Alfa MONITER 5 para Standard E C G. NIBP SPO2 RESP TEMP 12.1" Screen , 7 leads display , 96 Hours data storage .	
53	ECG machine with defibrillator	01 No
	Power supply: 100 to 230 V AC. Rechargeble sealed Lead acid battery Display: Monochrome LCD5.7" diagonal (120 X90mm), Paddle ECG and patient cable ECG (I, II & III standard leads, Thermal array recording, Paper size: 50mm x 20mts; print width 40mm, Defibrillator-paddles (adult & padiatric)	
54	I.V.Stands	03 Nos
	I V Stand Fully Stainless Steel with Four Hooks	
55	Infusion pump	01 No
	With drop control facility Adjustable delivery rate automatically, Compatable with any standard i.v.set < > = min 25drops \pm 2% Rate control mode after calibration Delivery rate 1-400 drops	

	With facility of rapid injection @ 600ml/hour	
56	Boyles anaesthetic apparatus (Isoflurane vaporizer)	01 No
	<p>Should have 1500cc heavy duty “Coaxial” absorber, recessed. Preferably molded Canister</p> <p>Should have Single large thumbscrew canister release</p> <p>Should have .1 to 4 lpm precision Oxygen flowmeter and Rotary float and large scale for improved readability.</p> <p>Should have recessed flush valve to prevent accidental activation and Quick connect fresh gas outlet for easy and secure switching between breathing circuits.</p> <p>Should have creservoir bags 0.5L,1l, 2l, 3l, and 5lts.</p> <p>Should Selectatec compatibility manifold for easy and quick installation of any model Vaporizer.</p> <p>Should have Large Quick Lock Inspiration and Expiration domes for easy access and visibility.</p> <p>Instrument shelf, stainless steel</p> <p>Momentary closed feature incorporated into our pop-off valve.</p> <p>Circuit pressure gauge, easy to read and large</p> <p>Patient circuit pressure alarm audible.Rotating bag mount for ease of visibility and easy access</p> <p>fairly good built in Evacuation connector.</p> <p>High stability frame with good long lasting finishing.</p> <p>Large heavy duty cushioned castors, 2 with locks, for easy glide and long life.</p> <p>Easy compatibility for easy installation of brain circuit and scavenger interface.</p> <p>Oxygen supply hose 9ft, Patient circuit with 2 and 3 L bags</p> <p>Drawer module atleast 4 drawers with Larger Monitor shelf.</p> <p>Scavenger interface, Preset regulator</p> <p>Should have all sizes of available Veterinary specific masks with diaphragms from small feline to large canine.</p> <p>Minimum Three year Onsite warranty.</p> <p>Should have supplied similar machine to some veterinary institution and if required demonstration should be given</p>	
57	Diathermy	01 No
	<p>Monopolar cut, monopolar coagulation and bipolar</p> <p>Size: 310(L)X280(w)X150(H)</p> <p>Input supply: 230V AC</p> <p>E-Light 200watts</p>	
58	Air Conditioner (2 ton, split)	04 Nos
	<p>Split Air Conditioner of reputed brand suitable for laboratory installation.</p> <p>Units with filters to filter out bacteria and fungi are preferred.</p> <p>Digital display of room temperature / set temperature with remote.</p> <p>Compatible stabilizer. 5 Star rating</p>	

59	Blood gas analyser (Automatic)	01 No
	Test menu: pH, pCo2, pO2, Hct, cK+, can+, cCa2+,cCl- On spot recording with integral printer, CO/CO2 ratio RS-232 out put Efficiency indication:0-99.99%, Excess air indication: 0 -28.8%, Suction pressure 500MHz	
60	Surgical packs	03 Nos
	Stainless steel, corrogen free, autoclavable	
61	Ambu Bag	02 Nos
	Ambu bag silicon adult autoclavable Heavy duty	
62	Oxygen cylinder	02 Nos
	7cubic meter capacity, Empty cylinder wt. =51kg, Ht. : 4'	
63	Blood pressure monitor	02 Nos
a	Blood pressure monitor with pediatric cuff for veterinary use Digital <ul style="list-style-type: none"> ■ The large 2.8" color LCD display panel shows readings of blood pressure, pulse rate and optional SPO2 displayed simultaneously. ■ Three-user data storage ■ three patient measurement mode for Infant , Pediatric and Adult . <ul style="list-style-type: none"> ■ internal battery back up ■ option of measurement units of mmHg and kPa ■ power off automatically if device left idle up to 5 minutes. ■ Measurement Method: Oscillometry ■ Measurement Position: Upper Arm ■ Measurement Range: Pressure:0~290mmHg(0~36.0kPa),Pulse Rate:40~240bpm,Spo2:35%~100% ■ Measurement Accuracy: Blood Pressure: ± 3 mmHg, Pulse Rate: large of 3bpm and ± 3%,Spo2:±2% in 70%~100% range ■ 2.8" digital LCD ■ 4 AA Size Alkaline Battery or optional AC/DC Adapter (not included) 	01 No
b	Neonate Blood Pressure Cuffs for Veterinary Use, 5 size available , no connector Product Description 5 size options . Size 1 (3.5-5.7cm) (1.4-2.25 inch), Size 2 (4.3-8cm) (1.7-3.15 inch),Size 3 (5.8-	

	10.9cm) (2.28-4.3 inch),Size 4 (7-13cm) (2.75-5.1 inch) ,Size 5 (8-14 CM) (3.15.-5.5 INCH	
64	Biochemical analyzer	01 No
	<p>Optics: static photometer, range 340-700nm, 8 standard filters: 340, 405, 450, 505, 546, 578, 630 & 670 nm.</p> <p>Reading volume: Minimum 200 microlitre</p> <p>Printer: thermal printer that prints all types of curves and graphs with ON/OFF control.</p> <p>Interphase: should be interfaced to any computer</p> <p>Light source: A powerful long life quartz</p> <p>Key board: Rugged, water proof, 24 key membrane panel</p> <p>Power: 70W, 230V/110V+/-10% 50 Hz</p> <p>Photometric range: 0-2.5 OD</p> <p>cuvette: unique triple cuvette system with peltier, Electronics Temp. control (25, 30, 37 degree centigrade. 33microlitre flow cell cuvette, manual square cuvette, manual round tube for coagulation & Elisa.</p> <p>Photometric precision: Better than 1% CV</p> <p>optical module: static photometer with photometric range (340-670nm), 8 interference filter 340, 405, 505, 546, 578, 600, 670 nm, silicon photo diode detectors, photometric range from 0 to 2.5 OD, quartz halogen lamp of 12V, 20W</p>	
65	Trinocular microscope with digital camera	01 No
	<p>Microscope frame: CX21 FSI</p> <p>optical system: UIS2 (Universal Infinity System) optical system</p> <p>Illumination system: Built-in transmitted illumination system 6V 20 W halogen bulb 100-240 V 50/60 Hz universal voltage.</p> <p>Focusing: Stage height movement (coarse movement stroke 20mm) fine focus graduation: 2.5micrometre</p> <p>Revolving nose piece: fixed quadruple nosepiece</p> <p>Stage:</p> <p>wire movement mechanical fixed stage: 120x132mm</p> <p>Travelling range: 76mm (X) x 30mmY</p> <p>Single specimen holder</p> <p>Observation tube: 30 degree C inclined Trinocular tube interpupillary distance adjustment ranger 48-75mm</p> <p>Condenser: Above type with aperture iris diaphragm N.A.1.25</p> <p>objective: plan achromatic objectives (Anti-fungus)</p> <p>4x N.A.: 0.10 W.D: 18.5 mm</p> <p>10xN.A.: 0.25 W.D: 10.6mm</p> <p>40x N.A.: o.65 W.D: 0.6mm</p> <p>100x N.A.: 1.25 W.D: 0.13mm</p> <p>Eye piece (10x): Field Number (F.N):20 (Anti- fungus)</p>	

	<p>WITH <u>Digital Microphotography system:</u> consisting of: interchangeable Lens type live view Digital camera (above 12 mega pixels) along with zoom lens, rechargeable battery, charger, USB cable & Magnus optically corrected Microscope Adapter</p>	
66	Distillation set	01 No
	<p>With borosilicate boiler borosilicate condenser & Quartz Heater, Horizontal type. Dist. Water output capacity. (Approx) 1.5 lit/Hr, Electrical</p>	
67	Cooling High Speed Centrifuge	01 No
	<p>Cooling hi speed centrifuge Specifications Maximum Speed : 14,000 RPM Maximum RCF : 21,800g Temperature range : -9°C to +40 °C Display : Digital for speed, Temperature and time Timer : 0-99 Min and hold Mode Power : 220V/50Hz</p> <p>Other Features: Invitro Diagnostic Certification At set rpm" for even more reproducible results (Timer starts when set speed is reached) Emergency Lid opening in case of power failure Built in Condensation drain to eliminate water accumulation and prevent corrosion Dynamic compressor control technology for optimized cooling performance Eco shut-off engages after 8 hrs of non use to reduce energy consumption and extend compressor life Aluminum with its high heat conductivity allows fast pre cooling and accurate temp control in ref. centrifuges Setting Of RPM/RCF, Time, and Temperature Frequency controlled induction drive system Automatic rotor Recognition Acceleration and Deceleration ramp Short spin & lid lock Values can be change during centrifugation Fast temperature function for rapid cooling of the centrifuge chamber Imbalance cutout</p>	

	<p><u>Rotors</u> Fixed angle: Capacity : 48x1.5/2ml Maximum speed : 13,000RPM RCF : 19,083xg Adaptors for 0.5ml, 0.2ml PCR Tubes</p> <p>Or Capacity : 30x1.5/2ml Maximum speed : 14,000RPM RCF : 21,000xg Adaptors for 0.5ml, 0.2ml PCR Tubes</p> <p>Capacity : 6x85ml Maximum speed : 12,000 RPM RCF : 18,500 g Adaptor for 15ml, 50ml tubes</p> <p><u>Swinging Bucket for tubes and Micro titer plates</u></p> <p>Capacity : 4x750ml Maximum speed : 3900 RPM RCF : 3,214xg Adaptor for 56x15ml, 28x50ml falcon tubes & MTP Buckets for spinning up to 16 micro titer plates & 4 deep well plates Compatible servo voltage stabilizer 5kVA should be provided. 12 tubes of 15 ml and 50 ml capacity should be provided.</p>	
68	Colony Counter	02 No
	<p>Specifications Automatic weight compensation of Petri plates Anti-shock counting technology Ring light technology enables even illumination of the counting field Possibility of working with bright or dark background Mean value calculation function Standard marker (Optional marker for external counting) Petri plates adaptors (diameter < 120mm) Removable Wolfhugel scale plate Adjustable push force Sound and visual counting control Adjustable position of the magnifying glass Warranty 2 Years</p>	

69	Balance Chainomatchk (Electronic)	01 No														
	<p>Specification: Fine Range of Weighing Capacity of 100 with readability of 0.01mg Innovative all-glass draft shield, with smooth-action doors that open extremely wide Excellent, high-contrast, easy-to-read display, with especially large digits (16.5 mm) Built-in, motorized calibration weight. For the highest weighing accuracy at the touch of a key RS-232C serial interface port ISO/GLP-compliant logging of calibration, adjustment and weighing data using an optional data printer or a PC Monolithic weigh Cell Technology isoCAL calibration and adjustment function.</p> <p>Four digital filter levels allow the balance to be optimally adapted to the particular ambient conditions at the place of installation</p> <p>Built-in application programs: counting, weighing in %, net-total formulation; animal weighing; mass unit conversion by toggling between 2 units</p> <p>Technical Specifications :</p> <table border="1" data-bbox="219 995 1094 1262"> <tr> <td>Readability</td> <td>0.01 0.1 mg</td> </tr> <tr> <td>Weighing capacity</td> <td>100 220 g</td> </tr> <tr> <td>Weighing pan (mm)</td> <td>Ø 80</td> </tr> <tr> <td>Response time</td> <td>< 6 3 s</td> </tr> <tr> <td>Repeatability</td> <td>≤± 0.05 0.1 mg</td> </tr> <tr> <td>Linearity</td> <td>≤± 0.1 0.2 mg</td> </tr> <tr> <td>Calibration</td> <td>Internal</td> </tr> </table> <p>Warranty: 2 years</p>	Readability	0.01 0.1 mg	Weighing capacity	100 220 g	Weighing pan (mm)	Ø 80	Response time	< 6 3 s	Repeatability	≤± 0.05 0.1 mg	Linearity	≤± 0.1 0.2 mg	Calibration	Internal	
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70	Laminar Air flow vertical	01 No														
	<p><u>GENERAL</u> Cabinet should be certified - NSF 49 (2007) Class II (Laminar Flow) AND UNDERWRITER’S LABORATORY (UL) UL Standard 61010-1</p> <p><u>DESIGN AND PERFORMANCE CRITERIA</u> Provide biological safety cabinets with workspace for testing and experimentation of low to moderate risk agents in the Classes and Types indicated, as defined by NSF International NSF/ANSI 49. Class II cabinets shall provide protection of experiment from ambient environment and protection of ambient environment from experiment. Biological safety cabinets shall operate in an efficient and sustainable manner. Electrical consumption of new units shall be no greater than 200 watts nominal width 4 ft unit.</p>															

Cabinet

Nominal 4 ft width - 61.8”H x 51.2”W x 31.5”D (1568mm H x 1300mm W x 800mm D)

Cabinet shall be an NSF Listed and Approved Class II biological safety cabinet.

Cabinet should include an Adjustable Stand, UV Light, set of Arm rests as a package.

WARRANTY – 3years covering parts and labor

CONSTRUCTION

A. Cabinet shell shall use steel no less than 19 gauge (0.0394” thick) and validated to meet the NSF performance specification where top front edge shall not move forward more than 0.063 inches (1.6 mm) from the static position when a 250 lb (110 kg) lateral force is applied to the top rear edge and the top of the sides shall not move forward more than the same amount when the same force is applied to the top of the opposite side.

B. Unit shall have all metal plenums designed for easy removal at filter change. (Non-metal, fabric type plenums are not acceptable.)

C. To facilitate cleaning, the interior sides and rear wall of the work area shall be of one piece no less than 19 gauge (0.0394” thick) Type 304 stainless steel construction with No. 4 finish. The joints between the side and rear interior walls shall have coved corners of no smaller than 0.406” radii.

D. An efficient means of adjusting the down flow and inflow separately shall be provided. Additional penetrations of the shell of the cabinet should be avoided.

E. Corrosion resistant ball valve for drain from trough beneath the work surface.

F. Externally mounted fluorescent lighting fixture.

G. One supply and one exhaust, scan-tested, zero-probe HEPA filter, 99.995% percent efficient on most penetrating particle size (H14 per EN 1822), serviceable and removable from front of unit.

H. Two duplex receptacles, GFI protected with total load capacity of at least 5 amps.

I. Single power cord 12 ft in length with a NEMA plug 5-15P.

J. Corrosion resistant diffuser below the down flow filter.

K. Protective screen to prevent foreign objects from being drawn into fans.

L. A minimum of six media valves (at least three on each side, for vacuum or other) available on the cabinet.

M. A minimum of two replaceable 3 inch cable/tubing ports (at least one on each side)

PERFORMANCE REQUIREMENTS

Should have dual motors for independent control over inflow and down flow velocities.

The Dual motors should operate on DC saving energy consumption and emit lesser heat (around 15kw at 25Deg C ambient) in the area.

A. Work access opening inflow velocity: Acceptable operating range 100 – 110 fpm.

B. Inflow compensation controlling inflow velocity with 3% of set value with 100%

	<p>increase in filter loading.</p> <p>C. Visual indicator on the front panel for the following features:</p> <ol style="list-style-type: none"> 1. Compensation reserve capability. 2. Hours of operation 3. Inflow velocity display (feet per minute) 4. Downflow velocity display (feet per minute) 5. Night Set-Back mode 6. UV on 7. Receptacles on 8. Operating speed airflow 9. Front window position <p>D. No HEPA filter leakage $\geq 0.01\%$ of upstream concentration.</p> <p>E. Downflow velocity ± 5 fpm of NSF/ANSI validated nominal value.</p> <p>F. All downflow measurements within 20% of average.</p> <p>G. Separate downflow and inflow velocity flow alarms to signal overall variation greater than 20% from set values.</p> <p>I. Reduced flow or Night Set-Back mode allowing reduction in airflow and energy consumption while maintaining cleanliness and containment when not in operation.</p> <p><u>ERGONOMIC OPERATION REQUIREMENTS</u></p> <p>A. 10° sloped front (the top of the cabinet is slanted away from the operator) to provide operator the space to change position forward and back while working.</p> <p>B. Work area illumination: No less than 120 footcandles at the worksurface</p> <p>C. Noise: No greater than 65 dB(A)</p> <p>D. Front and back of window easily cleanable without special tools.</p> <p>E. Armrests must sit above front air intake grill and be easily removable</p> <p>F. Available UV disinfection cycle</p> <p>Adjustable UV exposure time saved in memory to facilitate consistent operation</p> <p>Safety interlock to prevent UV illumination when window is open</p> <p>While submitting your offer, please mention your service facility and also provide the list of users of your similar products in supplied in last 5/6 years.</p>	
71	Phantom Box	02 Nos
	6x3x2 Boxes with dummy calves	
72	Electroejaculator	01 No
	For Semen Collection from Bulls	
73	Oscilloscope	01 No
	For Studying Sperm Motility	
74	Palpation Table	03 Nos
	For Palpation of Female Reproductive Tract	
75	Embryotomy Set	03 Nos
	For Fetotomy Operations	

76	Kelver Traning Cow	01 No
	Artificial Cow with Anatomically Correct Reproductive Tract	
77	Vaginal Speculum (Cow, Ewe & Sow)	01 each
	Stainless Steel Made Speculum	
78	Water Suction Pump	01 No
	For Filling of Semen	
79	Computer Personal	20 Nos
	Core i3 processor , 500 Gb Hard Disk, 2GB RAM, OS Windows 7, R/W DVD Drive, 18.5" LED / TFT Monitor	
80	Paraffinbath	01 No
	Paraffin embedding center to work on 230 V <u>Capacities:</u> Paraffin reservoir 3l, Cassette bath:approx.100 cassettes, Cassette tray:8 cassettes, Cold plate:70 cassettes <u>Temperatures:</u> Paraffin reservoir, mold warmer and cassette bath at 45 to 70 ⁰ C and cold plate and cold spot at -5 ⁰ C	
81	Cryostat (Microtome)	01 No
	Cryostat Rotary microtome to work on 220 V with temperature range of 0 °C to -35 °C ±10% <u>Section thickness setting:</u> 1 to 60 µm: 1 µm increments from 1 to 10 µm,2 µm increments from 10 to 20 µm,5 µm increments from 20 to 60 µm, Horizontal specimen feed:25 mm <u>Cryocabinet Dimensions</u> Width (excluding handwheel),600 mm,Width (including handwheel),730 mm,Depth 730 mm, Height:1140 mm. <u>Defrosting:</u> automatic hot gas defrosting, temperature controlled,1 automatic defrost cycle/24 hours <u>Microtome knife:</u> 16cm –Profile C, steel	
82	Auto staining unit	01 No
	For Histopathology.Robotic stainer to process up to 11 racks at one time. (Capacity of each of rack – 30 specimen sides), 18 reagent stations and 5 wash stations of 450ml capacity, 15 programs up to 25 programmes steps each , Incubation time setting is from 0 second up to 99min., 59 seconds ,Integrated oven with temperature setting from 30° to 65°C for optimal slide drying, continuous loading and unloading of slides via rack entry and exit door, Load / unload station one each, Specimen slide throughput of at least 200 - 600 slides per hour, Agitation - programmable from 0 to 20 times or continuous, Fume extraction fan with charcoal filter to remove hazardous fumes and audible warning buzzer in case of any error during operation.	

83	Heavy duty rotary saw for large animal PM	01 No
	Heavy duty rotary saw for large animal Post Mortem. Single gear front head design, totally enclosed heavy duty motor with built in water spray , overall length 20 inches , saw blade diameter 254 mm, saw speed 1200rpm, power 1.5 HP/ 1.12 KW.	
84	Platform balance (Large and small)	01 No
	1 Ton/1000Kg platform balance with readability 50g, ramp size 1.5X1 Metre and LCD display screen	
85	Monopan digital balance	01 No
	capacity 220g ,Readability 0.0001g, Pan Size 80mm	
86	LTC & COLD STORE	01 No
	Freezer Room capacity : 6Ft x 6Ft x 7Ft (LxWxH) with provision of anti room Insulation : Pre fabricated sandwich PUF panels for walls and roof With Floor Insulation of Freezer Room and Anti Room Single Swing door for each cold room with Clear Opening Door type : Manual Swing – Right Hand Side Opening Latches : Heavy duty latches and locking arrangement Freezer Room : -18°C to -20°C. Type of Compressor : Hermetically Sealed Compressor Condensing unit : Air cooled condensing unit Controller : Microprocessor based temperature control systems Display : Digital display	
87	Smoking Chamber Unit	01 No
	POSSIBLE OPERATIONS : Drying, Smoking, Cooking, Dry Cooking, Roasting and showering. TEMPERATURE RANGE : Adjustable temperature up to Max.150°C HUMIDITY/COOKING : Interval Water Injections AIR CIRCULATION : Continuous Air Circulation System CONSTRUCTION : Completely built of Stainless Steel, material 1.4301 DOOR SEALING : Consisting of heat and grease resistant Silicone SMOKE GENERATION : built-in drawer smoke generator for saw dust, manual operation CLEANING : Incorporated shower and cleaning system Capacity : Up to 50 kg	
88	Butter Moisture Balance	01 Nos
	Drying chamber dimensions : 120×120×20 mm User friendly LCD Display Drying modes : with 4 drying modes (standard, quick, stepped, mild)	

	Max capacity : 100g Reading unit : 10mg Max mass of sampling : 100g Accuracy of moisture reading : 0.01% GLP/GMP printouts and reports Halogen lamp Drying temperature : Maximum 150 ⁰ C Display : LCD (backlit) Heating module : Halogen	
89	Butyro Refracto Meter	01 No
	Built in light for accurate analysis Easy to read index scale Quick and convenient determination of refractive index and dispersion till the estimated fourth decimal Refractive Index Range of nD 1.3000-1.7000 With provision of Tungsten Lamp Brix percentage range 0-95% Accuracy of R.I.& Brix ± 0.0008 , $\pm 0.1\%$	
90	ROTARY MILK EVAPORATOR	01 No
	Speed range from 20 to 280 rpm Large 5L water-oil heating bath with heating temperature range of RT to 180°C Heating Temperature Range (⁰ C) : RT-180 Heating Control Accuracy (⁰ C) : ± 1 Temperature Display : LCD Timer : Yes Timer display : LCD Time setting range (min) : 1-999 Permissible ambient temperature : 5-40°C	
91	STUNNER	01 No
	ELECTRO-STUN-TONG FOR SHEEP, LAMB & GOAT Wide opening: for head & heart-stun (cardiac arrest) Extra-long spike electrodes for optimized skin-contact even through the wool Plastic rings around arms avoid bruising of fingers Robust design made from high grade stainless steel Wear-resistant spiral-cable	

92	Blender	01 No
	Durable for grinding, blending, chopping, and processing. Designed specifically with the daily requirements of a lab in mind Blender suitable for homogenization Heavy duty blender, 2 speed 22,000rpm & 18,000rpm, Epoxy coated motor housing, Container with handle & two piece vinyl & styrene lid.	
93	Homogenixer	01 No
	Durable for grinding, blending, chopping, and processing. Designed specifically with the daily requirements of a lab in mind Blender suitable for homogenization Heavy duty blender, 2 speed 22,000rpm & 18,000rpm, Epoxy coated motor housing, Container with handle & two piece vinyl & styrene lid.	
94	Butter Worker	01 No
	Rotary workers made of wood and steel	
95	Butter Print	01 No
	Rectangular molds and prints made of steel	
96	RICHMOND'S Scale and Stand:	02 Nos
	Hanging scale with digital LED display	
97	FREEZE DRYING UNIT	01 No
	Drying chamber size: 225mm Height X 150 Dia, Cylindrical, Made of thick gauge 304 Grade stainless steel. Ports: 8 port SS drum manifold with 8 Quick Seal Valves. Cold trap size: 350mm L X 150mm Dia, Cylindrical, Made of thick gauge 304 Grade stainless steel Cold trap Temperature : 55°C Facility for water drain. Separate Vacuum Pump Digital Temperature Indicator cum controller with LED Display Controls: Refrigeration-On/Off, Vacuum-On/Off.	
98	Flame photometer	02 No
	simultaneous determination of up to 4 alkali and alkali earth element concentrations in aqueous samples Auto analysing Fuel gas: Liquefied petroleum gas 1/3 hp rotary pump Nebuliser and mixing chamber Emitted wave length range: 550-850 nm Optical filter Flame colour quantified by photoelectric circuit Gas should be supplied at constant pressure to the burner Sensitive, rapid and reliable	

99	Steel Racks for Bone Store	07 Nos
	Steel racks made of high quality steel with four compartments and five steel planks back covered with steel plank from top to bottom.	
100	Glass almirah	03 Nos
	Made up of high quality steel with 18 and above gauge .Five compartments with steel planks and front glass door with lock system	
101	Show cases (Glass paneled)	06 No
	Three side covered thick high quality plastic (acrylic) sheet with four racks.	
102	Steel racks for wet specimens	10 No
	Steel racks made of high quality steel with four compartments and five glass planks ,back covered with thick high quality plastic (acrylic) sheet from top to bottom.	
103	Vacuum Pump for embalming	01 No
	Oil-less vaccum pump of piston or diaphragm with built-in rugged motor-standard-single phase, optional three phase. Permanently lubricated ball bearings, maintenance free. Portable, low noise levels smooth, low vibration operation. Built-in micro air filter. for acidic/alkaline gas application, offered with Teflon coated wetted parts and diaphragm. Standard fitments with tank-pressure switch, high pressure hose, pressure guaze, relief valve, solenoid valve, drain valve and outlet valve. Non-return valve for 5 ltrs tank	
104	Refrigerator (double door)	01 No
	310-350 litres capacity with less power consumption.	
105	Ice-Box	02 Nos
	One with 2liter and other with 5 litre capacity	
106	Membrane filter assembly with vacuum pump	01 No
	Filtration assembly (Autoclavable) 250 ml to 500 ml capacity. Reusable bottle top filter can be screwed onto standard glass reagent bottle Filtration flask material shall be non-toxic, compatible for cell culture media and serum filtration. Shall be compatible to hold 0.22 μ and 0.46 / 0.47 μ filters with maximum flow rate and through put. Appropriate lid Vacuum pump: Piston powered, oil free pump Power: 220 to 240 V/ 50 Hz Motor rotation: Minimum of 1400 RPM Horse Power: 1/8 HP Noise level: 50 dB Aluminum metal compact body	
107	BOD Incubator	01 No
	BOD Incubator 20cu.ft.(Approximately) Refrigerated Incubator: ideal for BOD applications	

	<p>Advanced microprocessor controlled with easy-to-use push buttons and set-points Connection for external chart recorder and RS-232 interface for data logging Holds more than 300 BOD bottles of 300ml Easy-to-clean, corrosion resistant construction Compressor relay for conservation of energy Microprocessor control with easy-to-read displays actual temperature within 0.1°C Push-button controls feature temperature set-point selection Forced air circulation to deliver excellent temperature stability CFC-free, foamed polyurethane insulation to prevent the heat loss RTD temperature probe and to protect set point and prevent accidental temperature change Door key lock protects samples from unauthorized access</p> <p>Temperature Range - -10°C to +50°C Capacity – About 560 Liters Uniformity @ 37°C - ±0.5°C Sensitivity @ 37°C - ±0.1°C Shelves – Minimum of 6 Nos Temperature Control – Microprocessor based Display – LED Dimensions (WxHxD) : about 26.5”x57”x20”</p>	
108	Micro Kjeldhal Apparatus	01 No
	For estimation of nitrogen content of bacterial cultures. Bench top model	
109	Ultra Violet Lamp	02 No
	3 feet length UV lamp full set of reputed brand	
110	Deep Freezer -70°C	01 No
	<p>-70°C to -86 °C Vertical Freezer Capacity should be to accommodate about 24000 samples of 2ml tubes Programmable Temp. Range from -20°C up to –86°C in increment of 1°C even at room temp up to 32°C The Capacity should be about 400 liter (14.5 cubic feet) Low Power consumption: approx 8.7 Kwh per day Highly efficient vacuum insulation panels with use of traditional urethane insulating foam to reduce the thickness of outer walls and provide energy saving It should have S.M.A.R.T. plus Diagnostic Software: System Monitoring & Reporting Technology Software built –In for fault diagnosis or set point variance. Pull down time 5.3 hours System should be single door with minimum 5 compartments with doors for each compartment. The freezer must have Heated air Vent to prevent ice formation with Spring-Assisted plunger to remove vacuum for easy opening.</p>	

	<p>The system should have Non- Volatile memory & Auto re-start and Battery Backup for the display</p> <p>The system must come with 4-digit password protection for temp. & alarm set-points</p> <p>CFC Free and HCFC free refrigerants with biodegradable Polyolester oil compressor.</p> <p>High efficiency freezers use high efficiency vacuum insulation panels in addition to a thick polyurethane ,providing a full 130 mm thick layer for superb insulating efficiency.</p> <p>Heated air Vent with plunger to break icing and prevents vacuum formation</p> <p>Battery Backup for the display, activates alarms and displays temperature during power outages.</p> <p>4-digit password protection for temp. & alarm set-points.</p> <p>Lockable security plates</p> <p>Five Compartments with four adjustable height SS shelves</p> <p>Door latch with Positive, single-handed cam action latch with lock</p> <p>Shall provide compatible servo voltage stabilizer.</p> <p>Shall provide ambient temperature facility for functioning of the deep freezer.</p>	
111	Triple distillery Water Purification (Cartridge based)	01 No
	<p>Triple distillery Water Purification (Cartridge based)</p> <p>Not less than the quality of conventional triple distillation.</p> <p>The cartridge shall be made from pure polypropylene.</p> <p>The cartridge shall contain activated carbon, nuclear grade ion exchanger resin and absorber resin for removal of inorganic and organic trace contamination.</p> <p>The system shall also be equipped with long lasting 0.2mm sterilizing filter.</p> <p>The system shall have built in UV photo oxidation with irradiation wavelengths of 185nm and 254 nm.</p> <p>Shall have built in cleanable and disinfectable long lasting UF.</p> <p>The system shall have a feed water conductivity monitor to keep a check on bad water coming to system.</p> <p>Facility for giving conductivity limiting values for inlet and product water conductivity should be provided so that bad water can be disallowed from passing inside the system.</p> <p>Instrument shall have automatic cleaning and disinfection facility to maintain cleanliness of the system interiors and avoid water contamination.</p> <p>Temperature display in °C with a accuracy of 0.1°C</p> <p>Temperature compensated and non-compensated conductivities should be displayed by the system. Facility to switch OFF the compensation should be provided.</p> <p>Flexible dispenser for filling larger vessels or glassware washing</p> <p>Integrated feed water monitoring</p> <p>Additional measuring of feed water conductivity. Any exceeding of the limiting value shall be immediately displayed to maximize cartridge life.</p> <p>Online TOC measurement with UV intensity monitoring</p>	1 No.

<p>Real-time TOC monitoring for continual measurement of organic substances present in the water Continuous monitoring of UV intensity to remove the risk of false TOC values due to diminished UV intensity Fault message alerts to user when the UV lamp intensity is no longer sufficient for accurate TOC measurements UV Photo-oxidation 185/254 nm High performance UV assembly to reduce the content of microorganisms and their metabolites Ready-to-use Feed water pressure switch, wall bracket, UV lamp, ultrapure cartridge, sterile filter, all included in one part number Measurement of conductivity/resistivity Conductivity cells calibration via built-in reference resistance with cell constants at 0.01 cm-1 Temperature measurements by a platinum chip sensor with $\pm 0.1^{\circ}\text{C}$ accuracy Quick-connect cartridge replacement Quick-connect capability to enable cartridge replacement within seconds even mid-operation</p> <p>Exact dosing High precision POM draw-off valve for dispensing with sterile filter Electronic dosing for fully automatic volume control of 0.01-65.0 L with < 0.5% accuracy Real-time clock and code-protected operating system to prevent unauthorized changes to system settings RS-232 interface with adjustable send interval for safe data transfer of all measured data, faults, date and time to a PC computer or log printer Digital microprocessor control automatically monitors and stores faults from the last four weeks USP-compliant conductivity measurement with temperature compensation can be switched on or off Tilting Control Panels for Easy Viewing Ergonomically designed controller tilts for ease-of-use and better visibility Illuminated four-line alpha-numeric display</p> <p>Performance : At least 2 ltr/min Bacteria count : < 1 CFU/ml TOC : 1 - 5 ppb Conductivity : 0.055mS/cm Pyrogens : 0.001EU/ml Particles 0.2mm : < 1 /ml Water yield : 100%</p> <p>Complete installation and demonstration shall be provided by factory-trained certified engineers. Certificate of factory training shall be provided. Vendor should provide all related consumable prices which shall be valid for 1 year</p>	
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	from date of purchase order.	
112	Metal Distillatory	01 No
	<p>Metal distillation unit with two heating elements to rapidly produce metal distilled water. Wall mounted with lid Shall be made of Non-corrosive metal Inlet, out lets for water along with tubing.</p>	
113	ELISA Reader	01 No
	<p>Shall be operated in Visible and UV range. System shall able to read 96 well & 384 well Microplate and cuvette 12.5 (W) x 12.5 (D) x 40-58 (H) mm (standard cuvette as well as low volume cuvettes of any path-length) for the applications Enzyme assays, Immunoassays, Protein assays, Cell proliferation and cytotoxicity assays, DNA or RNA quantitation, Apoptosis assays, Kinetic assays, GPCR assays, Monochromator wavelength selection with xenon flash lamp a light source. Wave length range from 200 to 1000 nm with 1 nm steps. Shall have inbuilt incubation and linear shaking of the microplate. Measurement speed for plates 6 s with 96-well plate, 10 s with 384-well plate Linearity at 450 nm; for 96 well plate, 0 - 2.5 Abs, 2% for cuvette, 0 - 2.5 Abs, 2% (beam window ≥ 2 mm) Accuracy for plates and cuvette at 450 nm; 1.0% + 0.003 Abs (0 - 2.0 Abs) 2.0% (2.0 - 2.5 Abs) Precision at 450 nm: Precision mode for both plates and cuvette, SD < 0.003 Abs or CV < 0.5% Spectral scanning; 200 to 1000 nm with 1 nm steps Incubation temp range for plates/cuvette; From ambient + 2° to 45°C USB connections: Personal Computer/ Memory device port for data export/ External printer. An external printer shall be provided to take printout of the readings. System should able to run in both stand-alone mode and with computer & software controlled. The instrument should have a memory of about 100 inbuilt protocols in stand-alone mode and color display for better visualization. System should have self-diagnostics option to give a guaranteed high quality data. System should have Power Save function for reduced energy consumption when the instrument is 'on' but not in use. Compatible cuvettes 2 pairs Should work at power supply at 100-240 volts (50/60 Hz) Online 3 KVA UPS with 2 hr back up shall be provided with the ELISA reader.</p>	

114	McFarland's Nephelometer	01 No
	To measure turbidity of bacterial culture. Shall accommodate tubes even with small volume of broth culture A compact model	
115	Gel Chromatography apparatus	01 No
	Medium pressure 10 ml columns (4 Nos.) with a stand to hold the column. Matrix material (reputed brand) of suitable pore size to separate immunoglobulins, sufficient to fill the four columns shall be supplied along with. One peristaltic pump for pumping the buffer and fraction collector to accommodate 1 ml tubes with 1 to 999 drops per minute.	
116	Immuno electrophoresis apparatus	01 No
	Electrophoresis tank of Midi Size to keep the antigen-antibody loaded slide Dimensions: 18 cm (L) x 16 cm (B) x 8 cm(H) No. of slides: Minimum five of 7.5 x 2.5 cm Buffer volume: About 200 ml Basic unit with platinum electrode Gel punch single well (1 No.) Trough cutter (1No.) Template: 3 Nos. Power card 1 set with lid <u>Power pack Features:</u> 300V maximum voltage, 700mA maximum current, 150W maximum power, Four pairs of outlet terminals, Timer with alarm function, Constant voltage or constant current operation, Advanced safety device design, Compact size. <u>Specifications:</u> Output Voltage / Inc : 2 - 300V / 1V Output Current / Inc : 1 - 700mA / 1mA Output Power : 150W Output : Constant voltage or constant current Control : Microprocessor controller Terminal Pairs : 4 Pairs Timer : 1~999 minutes with alarm, continuous Pause Function : Yes Safety Device : No load detection; Leakage detection Sudden load change detection Over temperature protection Over load detection Crossover : Yes Operation Temperature : Ambient to 40° C Unit Dimension : Appr. 190x 305x 95mm (W x L x H) Rated Voltage : 100 - 240V Stackable : Yes	

117	High Speed Centrifuge (16,000 to 20,000 RPM)	01 No
	<p>The refrigerated super speed floor model centrifuge must be able to run non-metallic, light weight and rust proof rotors Shall provide the lowest weight available for better ergonomics. Shall provide a full 15-year warranty. Shall provide corrosion resistance to chemicals used with the separation samples. Shall provide resistance to fatigue failure typical of metal rotors. Shall provide the highest Relative Centrifugal Force (RCF) performance for samples run in tubes and bottles with fill volumes of 50 mL (conical tubes), 15 and 1.5ml without the need for canisters or other additional sub-assemblies.</p> <p><u>Fixed angel Rotors required</u> 14 x 50ml rotor > 12,000 rpm or >28,000xg 24 x 15ml rotor > 19,000 rpm or > 51,000 xg 48 x 1.5ml > 18,000 rpm or > 37,000 xg</p> <p>The centrifuge must provide a fast, simple and secure push-button rotor exchange mechanism to automatically lock the rotor onto the drive adapter, eliminating the need for a tool or to hand tighten. The centrifuge must provide automatic and instant rotor identification, completed upon installation of the rotor into the centrifuge and before the run is started, to ensure safe and convenient operation by eliminating the need to manually input a rotor code and avoiding aborted or changed runs due to rotor misrecognition. The centrifuge rotor lid locking mechanism must include a special handle to make loading and unloading the rotors, as well as carrying them to and from the centrifuge, easier and safer. The centrifuge must be able to provide the following performance without the use of a vacuum system: The centrifuge must have swinging bucket rotor capacities of 4 x 1000 mL, 4 x250 mL wide mouth conical tubes, 96 x 15ml and 24 96-microplates, with an overall maximum speed of 5,500 Revolutions per Minute (rpm) and Relative Centrifugal Force (RCF) of 7,000 x g. The rotor cross must be Teflon-coated for improved corrosion resistance and for smooth bucket operation without the use of additional lubrication. The centrifuge shall have fixed angle rotor capacity of 4 x 1000 mL at 10,500 rpm and 20,584 x g. The centrifuge shall offer a temperature set range of -20 °C up to +40 °C, with a temperature control accuracy of +/-2 °C. The centrifuge shall be microprocessor-controlled, with touch screen operating controls that can be used with a gloved hand, and which displays both set and actual run conditions simultaneously during operation, and enlarges automatically during a run to enhance visibility from across a room. The centrifuge shall allow setting and controlling in both rpm and RCF directly for any selected rotor.</p>	

	<p>The centrifuge shall have at least 9 acceleration profiles and 10 deceleration profiles to support optimal reorientation of phases for different run conditions, (important for gradient separations to minimize pellet re-suspension and preserve the gradient resolution).</p> <p>The centrifuge shall have the capability to store up to 99 programs, and provide easy operation and run customization for multiple users.</p> <p>The centrifuge shall have an on-board rotor calculation feature that allows the comparison of run times between two different sets of rotors and/or run conditions.</p> <p>The centrifuge shall have run logging and reports</p> <p>The centrifuge shall have user access control with optional password protection.</p> <p>The centrifuge shall have a built-in integrator (w^2t) that provides exact run-to-run reproducibility by controlling the accumulating w^2t; operation in the w^2t mode allows the centrifuge to accurately reproduce critical runs.</p> <p>The centrifuge shall run quietly, at less than 59 dBA at top speed.</p> <p>The centrifuge shall have an imbalance tolerant drive up to 5% of opposing loads.</p> <p>The centrifuge shall have an energy savings mode (“sleep mode”) to reduce power consumption up to 15% by turning itself off if idle after a period of time.</p> <p>The centrifuge shall contain a built-in electrical management system to ensure instrument performance, even under poor power supply condition and must accept +/- 10% fluctuations in input line voltage.</p> <p>The centrifuge shall be able to satisfy cULus and CE safety requirements without being bolted to the floor, to greatly simplify installation and provide flexibility to relocate within the facility.</p> <p>The centrifuge shall have the following to minimize unnecessary service expense and downtime:</p> <p>Employ a brushless, high-frequency, direct drive motor with at least a 3-year non-prorated warranty to eliminate service maintenance due to service issues related to belt-driven drive systems.</p> <p>Employ a hermetically sealed refrigeration system that is protected by a 5-year non-prorated warranty; the refrigerant should be CFC-free.</p> <p>Select rotors must have been independently tested for bio containment by reputed international labs.</p> <p>Select rotors must be certified as autoclavable to 121 °C.</p> <p>Shall provide sufficient number of tubes for rotors specified in these specifications</p> <p>Shall mention service facility.</p> <p>Shall provide compatible servo voltage stabilizer.</p> <p>Shall provide ambient temperature facility for functioning of the centrifuge</p>	
118	Ultra Centrifuge (>60,000 RPM)	01 No.
	<p>Maximum Speed: up to 100,000 rpm</p> <p>Speed Control Accuracy: ± 10 rpm</p> <p>Maximum RCF: 802,000 g (Approx.)</p> <p>Maximum Capacity: 1.5 litre</p>	

	<p>Set Temperature: 0 to 40° C Ambient Temperature: 10 to 35° C Cooling System: CFC/ HCFC free Acceleration/ Deceleration Profile: 10/10 or more Programmability: 20 or more with step run facility Power: 210-240 VAC, 50 Hz, 30 A.</p> <p>Machine shall have features like eye-balancing of samples, User lock-out, delayed start/ stop, dual display of ‘Run’ & ‘Set’ parameters, data entry through key pad & touch pad, RPM/ RCF mode, Run Scheduling, Rotor Life Management. Machine shall accept rotors of other makes.</p> <p>Required Fixed Angle rotor volume 6 x 13ml, > 63,000 rpm and 3, 00,000 xg. 8 x 39 ml > 48000 rpm and 2, 50,000 xg x1.5ml > 48000 rpm and 2, 70,000 xg</p> <p>Fixed angle rotors shall be made up of rust proof, fatigue proof, light weight material that shall have a warranty of more than 12 years.</p> <p>Swinging Bucket rotor with volume of about 17 and 36 ml (28000 to 30,000 rpm or >165,000xg). Swinging rotor buckets shall be loaded and unloaded through top of rotor body only. Rotors shall be of Titanium only and each shall be supplied with tubes and caps suitable for various applications.</p> <p>Warranty on system shall be not less than 1 year, Drive 10 years and refrigeration 1 year. Mention the warranty period of the machine and the quoted accessories in details (prorated/ non-prorated etc.). Warranty shall be given by Principle manufacturer only. Machine shall comply with CE and other safety and regulatory standards. Anchoring or bolting down of machine on the lab floor will be a clear disadvantage.</p> <p>Shall provide sufficient number of tubes for rotors specified in these specifications. Shall mention service facility Shall provide compatible servo voltage stabilizer. Shall provide ambient temperature facility for functioning of the ultra-centrifuge.</p>	
119	Freeze dryer	01 No
	<p>Small Compact 1.0 Ltr Freeze Dry Systems designed to provide simplicity of use and convenience. The system shall enable to removal of 1 L of water and hold 1.0 L of ice before defrosting. Compact cabinet of durable epoxy-coated steel with brushed stainless steel front panel and rubber feet to prevent a sliding on surface.</p> <p>Cool collector temperature shall reach up to -58° F. Freeze Dry Systems when are clean, dry and without samples attached, shall reach a vacuum of 0.133 mBar within 10 minutes and shall achieve an ultimate vacuum of 0.033 mBar within 18 hours when the refrigeration is operating.</p> <p>Freeze dry system shall contain 1/3 hp HCFC/CFC-free refrigeration system to cool collector. The Freeze Dryer shall have facility to be configured in automatic mode to</p>	

start the vacuum pump when the collector temperature reaches -40°C . The display units for vacuum shall be selected in mBar, Pascal (Pa) or Torr and the temperature may be displayed as $^{\circ}\text{F}$ or $^{\circ}\text{C}$. The run time of the refrigeration system and the vacuum pump should be monitored in a system.

In automatic mode freeze dry system shall start up by pressing one button and Freeze dry system should initiate collector refrigeration and vacuum. Vacuum pull down must be delayed to allow sufficient time for the collector to cool ensuring that moisture is trapped by the collector to protect the pump from contamination.

The LCD display shall show the actual temperature of the collector while running. The LCD provides easy-to-read digital readouts of vacuum in mBar, Pa or Torr and temperature in $^{\circ}\text{F}$ or $^{\circ}\text{C}$. It also displays service information such as total number of hours of refrigeration and vacuum pump operation and total number of hours since the refrigeration and vacuum pump were serviced.

The system shall have a feature of offset in MENU to the collector temperature or vacuum display with the use of an accurate traceable reference to compare the readings. Offset shall be varied $\pm 5^{\circ}$ in 1°C increments. Vacuum offset may be varied ± 0.010 mBar in 0.001 mBar increments.

The collector chamber shall be designed to make defrosting. Freeze dry system can be manually defrosted by pouring water into the chamber to melt the collected ice. A drain hose shall be provided for convenient emptying of the melted ice. Collector drain hose shall be accessible from the side for convenient defrost. It shall be extended and also retracted within the cabinet when not in use.

Freeze dry system shall be supplied with attachment lid to makes connection of accessories easy.

Freeze dry shall be CE listed and should carry the CE mark signifying they are certified to standards for laboratory equipment. The equipment should be compliance at Standards EN61326-1, EN55022, EN61010 & Application Council Directives 2006/95/EC, 89/336/EEC.

Vacuum pump shall be offered which are designed for rugged and reliable operation. The direct drive rotary vane pump shall be incorporated with a broad combination of design features like positive oil internal circulation system for lubrication. Vacuum pump shall be quiet and vibration free with effective gas ballast. Pump should be TEFC motor and should be protected with overheat. Vacuum pump should be included with all related accessories for smooth operation.

Freeze dry system should be equipped with SS cylinder for various capacities. Compatible servo voltage stabilizer for the freeze dryer.

120	Automatic pipette Washer	02 No.
	<p>Shall be made up of PP or HDPE material. Works on siphoning principal. Proper inlet and out let. Shall accommodate 1 ml, 2 ml, 5 ml and 10 ml pipettes. Shall accommodate pipettes of length of more than 35 cm. Shall be supplied with inlet and outlet tubing. Shall consists of pipette jar, basket, washer-rinser</p>	
121	Small animal Operation table (Hydraulic)	04 Nos
	<p>Dimension: 1880mm x 500mm, Adjustable Ht.: 790-1040mm, Trendelenburg and reverse trendelenburg: 30°±3 Lateral tilting position: 20° Lifting position 250mm±12mm Flex position;90° Reflex position 220° Head plate 20° up and 90° down.</p>	
122	Foot operated waste bin	03 Nos
	<p>Made up of Stain less steel 2 feet height With lid</p>	
123	Instrument sterilizer	01 No
	<p>Made up of Stain less steel 1X3X3' Provision for lifting the instruments Porous basal plate</p>	
124	Enamel iron tray	07 Nos
	<p>Made up of enamel 12x15 Inches</p>	
125	Enamel iron tray	07 Nos
	<p>Made up of enamel 8x10"</p>	

126	I.V.Stands	04 Nos
	I V Stand Fully Stainless Steel with Four Hooks	
127	Foot operated dressing drum stands	04 Nos
	Foot operated drum stand 2x3" Stainless steel body with outer and inner drum bins.	
128	Foot or elbow soap dispensers	04 Nos
	Should possess a sieve like body to let the water off. Should have two compartments	
129	Gray's mouth gag	10 Nos
	Should be made up of Stainless steel or German silver Should suit the mouth capacity of large animals.	
130	Endotracheal tubes	08 Nos
	No. 14,16,18 and 20 Should have radio opaque line Should have an inflatable cuff.	
131	Electrocardiogram	01 No
	Single channel Lead selection standard: 12 leads. CMRR: greater than 120 db. Available with high resolution thermal printing system, with high 3- channel precision. 12 leads collection in phase, as well as 3 leads printing in phase. 12- channel Ssecg in ce1023 & iso-13845 classified. An India manufactured equipment.	
132	Trevis	03 Nos
	Tubular, Galvanized Rust free Large animal trevis	

133	Large animal trolley cum operation table	02 Nos
	Manually operated 2 feet height 7 feet length 5 feet width	
134	Operation table for calves with drain	04 Nos
	Stainless steel top, Size: L 5 fts , w 2 ½ “ H 3”, Legs M S Squire pipe 1 ½” with (small “o” Hole at the center for drainage)	
135	Orthopedic instruments	01 Set
	Battery operated bone drill 9.4 V Plates of different sizes 2.7 mm & 3.5 System (5,6,7,8,9,&10 Hole DCP Plates) Drill bits 2mm & 2.5mm Diameter Bone Tabs 2.7 & 3.5 Diameter cortical Screw Hexagonal Screwdriver for 2.7 & 3.5 Screws Pin Cutters Wire cutters Plate benders	
136	X-ray unit trolley model with C-arm with fluoroscope, image intensifier, spot film, video recording and image freezing facility	01 No
	X-ray generator 50 kZ frequency 0.1-0.3 mA 30-80 mA Tube Head – mono block Rotating anode Focal spot sizes 0.6mm square and 1.5 mm (RAD) Imaging system: digital 9” (230mm) triple filed (normal 9”, zoom 4.5”) Monitors: 2nos 17” LCD monitor Memory: Green image (LDHD) 1Kx1K Imaging memory.	
137	Animal transport trolley for large animals	01 No
	Should have 2 wheels With 5X7’ measurement Provision for inclination for loading the animals at one end the other end is with handle bars for manual operation	

138	Stretcher for small animal	02 Nos
	Stretcher on Trolley Size : 84" x 22" x 32" Fully Stainless Steel With 6" Wheels With Squire Pipe 1"	
139	X-ray film viewers	02 Nos
	X-Ray Illumination Box High quality imported X-ray Single Viewer Four side x-ray attachment provision	
140	Shoeing equipment	1 set
	Shoes of different sizes and types Provision of drilling nails Shoe nail remover	
141	Large animal anaesthesia machine with ventilator	01 No
	With halothane and Isoflurane vaporizers Microprocessor based ventilator for ease of use and superior performance Large, easy to read LCD display of respiratory values Ascending bellows (18 liters) reduces the patient's work of breathing Quietest ventilator No disassembly required for cleaning GCX mounting rail for additional shelves or monitors Quick change soda lime canister Built to last custom designed frame protects all critical components	
142	Large animal X-ray machine with 1000 mA capacity	01 No
	Generator should be of latest technology with high frequency/inverter technology for constant output. 2 Output 80KW or more. 3 KVP range 40 KV-150 KV. 4 Output at 80 KV should be 1000 mA or more. 5 It should have automatic exposure control device. 6 It should have digital display or KVP & mAs. 7 Anatomical programming radiography should be possible. 8 It should have over loading protection. B X-Ray tube and Collimator : The x-ray tube should be rotating anode high speed, compatible with the	

	<p>generator and must have dual focus. Focal spots of the following sizes :</p> <p>Large focus: 1.2/2.0mm or less with minimum output 65 KW. Small focus: 0.6/1.0mm or less with minimum output 27 KW. Tube with anode heat storage capacity 350 KHU or more.</p> <p>2 Multi leaf collimator having halogen lamp/bright light source and auto shut provision for the light.</p> <p>It should have movements in all directions i.e.3D transverse 200 cm or more, longitudinal 300 cm or more (up and down-ward i.e. vertical 125 cm or more).</p> <p>It should have electromagnetic brakes with fully counter balanced mechanism.</p> <p>4 It should have facility to display FFD/SID.</p> <p>5 It should have provision of auto centering with table bucky centering.</p> <p>6 Tube rotation at vertical axis and horizontal axis ± 180 degree.</p> <p>E Vertical Bucky Stand (Optional): price to be quoted separately</p> <p>1 The unit should be provided with vertical bucky having tilting facility.</p> <p>2 It should have provision of do chest radiography without grid.</p> <p>3 It should have built in flat detector system of at least 40x40 cm size or more</p> <p>4 It should have automatic exposure control.</p>	
143	Computerized Radiography system	01 No
	<p>CR System complete with cassette scanner with software and hardware for in-house as well as mobile applications</p> <p>Veterinary specific software and have normal radiographic features for dogs, cats, cattle and horse, TPLO measurements, veterinary specific filters, archiving and DICOM features.</p> <p>CR System should have auto inline eraser</p> <p>Operating voltage 100-240 Volts / 50 – 60 Hz</p> <p>Compatible computer with TFT monitor</p> <p>Dry view laser imager for printing DIHL/dry films.</p> <p>Additional portable hard disk of 560GB capacity – two</p> <p>block made stable aluminum with skid proof rubber for taking hoof X rays</p> <p>Sleeves made from unbreakable polycarbonate - two in number (for each cassette size).</p> <p>Telescopic cassette holder.</p> <p>UPS (3kva) with a power back up to 15 minutes.</p> <p>Films for dry laser imager two cartridges (125 sheets/cartridge)</p> <p>Film for dry view laser imager two cartridges (100-125/cartridge)</p> <p>With Cassettes of following sizes</p> <p>8 x 10 Inches</p> <p>10 x 12 Inches</p>	

	12 x 15 Inches 14 x 17 Inches	
144	Manual and Hydraulically Operated Large Animal Operation Table	01 No
	<p>The Large Animal Table should have rust proof surface coating</p> <p>The table should be user friendly and can be used for equines, bovines etc.</p> <p>The table should be provided with 4 Vertical poles</p> <p>Minimum Height should not be more than 50cm.</p> <p>Maximum Height Should not be less than 1.10m.</p> <p>Should have features of Pelvic angle +/- 8 Degree and head support +/- 20"</p> <p>The Large Animal Table should be supplied with Anesthetic hose support for ease during anesthesia and moveable rack.</p> <p>The Large Animal Table should be provided with padding of 90-100mm thickness.</p> <p>Table should have locking device for the wheels should be mounted on the frame</p> <p>The side panels should be steplessly control by gas hydraulic cylinders. And should be easily removable</p> <p>Should be supplied with 2 horizontal bars with clamps and 4 clamps for belt</p> <p>Should be supplied with 4 coated foam strips for head section and side panel and 4 wedge-shaped foam paddings</p> <p>Table should have battery back up for atleast 20 lifts and charging time should not exceed 6 hours. The Table should work while battery is charged.</p> <p>The side supports and head supports should be detachable</p> <p>The Large Animal Surgery Table should be equipped with safety features at each corner and head support to avoid leg injury while lowering the table</p> <p>Should be supplied with following accessories. Large Colon Tray which can be placed caudally or laterally. Leg Support 2 leg support (Orthopaedic) – adjustable</p>	

	The quoting company should have supplied similar unit to some veterinary institution in India and if required should be able to provide demonstration	
145	Egg grading machine	01 No
	<p>Innovating laser beam. 2.Measuring the aspect of egg faithfully. 3.Calculating Haugh unit in a second. 4.Reliable measurement of egg weight and yolk color 5.Easy operation of measuring eggshell strength</p> <p>Constitution Main unit,See-through tray x 2,Special mirror Printer, Eggshell thickness gauge*</p> <p>Dimension W=280mm,D=450mm,H=360mm</p> <p>Weight 20KG</p> <p>Power AC100V-240V 90W</p> <p>Measuring item Haugh unit,Egg weight,Eggshell strength,Yolk color,Eggshell thickness,Yolk index</p>	
146	Chick sexing machine	01 No
	200 watt lighting, Table & magnifying lens	
147	Trap nest	05 Nos
	Nest with three holes Iron	
148	Solar inverter (to run the hatchery)	01 No
	5KV UPS + Eight 150 A.H tubular batteries	
149	Automatic scalding	0
	<p>1 Killing cones, 2. Hot water Scalding with Automatic temperature control, 3. Feather Plucker drum, 4. Screw chiller, 5. Drip Roller drum, 6. Work Table, Evisceration Table & Trolleys 7. Portioning Cutter machine 8. Vacuum packing machine</p>	

	9. Vacuum suction gun for Lungs 10. Tools & packing cones etc.	
150	Shearing and clipping equipment	01 No
	Material 45# steel Frequency 50Hz/60Hz Weight 1.6(kg) Voltage AC 220 - 240V or 110V Full length 51(mm) The blade width 76(mm) Power 350(w) Shearing speed 2400(rpm) Packing Toolbox The outer packing 5 sets/box Weight 16(kg) Size 51.5* 44.5* 23.5 cm Electrical, with battery.	
151	Tattooing set tags	01 No
	Permanently mark for animals with a tattoo outfit. Good lasting marks. a cast aluminum plier which holds four 3/8" high characters, one set of numbers (0 to 9), and a 2 oz. jar of black tattoo ink. Green and black tattoo ink Determine the size of a digit by measuring the printing height of the character from a top pin to a bottom pin. Large - 3/8" Digits Tattooing foreceps, tattooing ink, Numers, Tagging foreceps and plastic tags small and big size.	
152	AI Equipment (Sheep, Goat, Pig & Poultry)	01 Set each
	Vaginal speculum and AI gun, Reusable rubber catheter, Semen collecting cup, Reusable rubber catheter, Semen collecting cup 2.Material: 304#Stainless steel 3.Packing way:1pcs/Bag,1000bags/CTN. 4.Application:A.I	
153	Maximum minimum thermometers	02 Nos
	Jumbo LCD display for easy readings from across the room Wireless sensor transmits temperature and humidity data from up 100 feet away Main display receives data from up to 3 sensors other 2 sold separately Toggles display from temperature to humidity bold digits for easy reading of both Memory for minimum and maximum recorded data such as temperature highs and lows	

154	Psychrometer	01 No
	<p>Sling Psychrometer, 25 to 120 F</p> <ul style="list-style-type: none"> • Red spirit filled thermometers • Designed for portability (7.5" long x 1" diameter) • Slide rule construction quickly converts temperature to relative humidity • Built-in water reservoir holds sufficient water for several hours of testing • Thin bulb design gives fast thermal response • Thermometers constructed of shock-resistant glass; stems have deep-etched numerals and 1" scale division for easy reading 	
155	Air hygrometer	01 No
	<p>The fast response thermo-hygrometer responds instantly to temperature and humidity changes, with a fast update rate of 0.4 seconds. Includes large 1.5 x 1.5" dual digital LCD display with backlight. Also calculates dew point and wet bulb (psychrometer). Includes carrying case and battery. Includes 1 year Ambient Weather Warranty</p>	
156	Milking cans	02 No
	10 lit capacity plastic.	
157	Milking pail	02 Nos
	2kg capacity round shallow plastic basins	
158	weighing balance	01 No
	<p>Hangingscale 0-100kg The fast response thermo-hygrometer responds instantly to temperature and humidity changes, with a fast update rate of 0.4 seconds. Includes large 1.5 x 1.5" dual digital LCD display with backlight. Also calculates dew point and wet bulb (psychrometer). Includes carrying case and battery. Includes 1 year Ambient Weather Warranty</p> <p>Hanging type digital spring balance with S shape hook with 3 hrs back up</p>	

159	Wheel barrows	02 No
	<p>All-poly construction with tubular steel axle Extra-wide wheel base provides overall stability Recessed tool tray keeps tools organized Tool clips on side for shovel, rake or hoe 10-Inch front wheels; 5-Inch rear wheels Product Dimensions (in-package/shipping size): Shipping Size : 44.0 in x 22.0 in x 30.0 in Shipping Weight : 18.00 lbs Wheel barrow, tubeless tyres with 100kg capacity</p>	
160	Column chromatography	02 Nos
	<p>Autosampler : Standard tray: 84 vials of 1.5 ml and 3 vials of 10 ml (standard) Maximum vial height: 47 mm Minimum vial height: 32 mm 2,000 µl (standard) or 50, 100, 200, 250, 500, 1,000, and 10,000 µl (optional) loops. 1,000 µl (standard) or 250 or 2,500 µl (optional) syringes Missing vial detection by vial sensor</p> <p>DuoFlow Pathfinder 80: (with PC & UPS) Flow rate : 40 ml/min Pressure 1,000 psi (66 MPa) at 40 ml/min Detection : UV Detection Standard BioLogic QuadTec UV/Vis detector for simultaneous 4-wavelength detection Conductivity : Standard pH : Standard (BioLogic DuoFlow Maximizer) Other Optional signal import module (SIM) adds refractive index, and fluorescence detectors. Fraction collector (if DuoFlow Pathfinder is not supplied with fraction collector then a separate fraction collector is to be ordered with following specification)</p>	
161	Chemical Balance	09 Nos
	<p>Capacity : 3000g Readability: 0.01g Pan size: 15cm Diameter Calibration: Internal</p>	
162	Microhematocrit	01 No
	Centrifuge. RM 120; 220/230V; 50-1φ AC, Ampere 1.4	
163	Flow Meter	02 Nos
	<p>2 Large vessel Flow Meter (6 to 29 mm) 2 Small vessel Flow Meter (1 to 6.5mm)</p>	
164	Tissue Chamber	09 Nos
	Thermostatic Organ Bath, INCO	

165	Spirometers	01 No
	Capacity 6 Lts with blow pipe	
166	Catheter (Silastic)	10 Nos
	45 Cm, ID 0.3mm OD 0.6mm 3 Nos	
167	Digestion set	01 No
	Kjeldatherm block digestion system	
168	Refracto Meter	01 No
	Digital Refractometers-Acm 52301 Measurement Range Minimum Scale Measurement Accuracy Measurement Time Output Terminal Brix 0.0 to 55.0% Brix 0.1% or 0.01% (selective by switching operation) Brix +/-0.1% or -0.15 to +0.14% (at 10 to 30 oC) Brix +/-0.2% or -0.25 to +0.24% (at 5 to 10 oC or 30 to 40 oC) 3 seconds Printer or RS-232C	
169	UV Microscope with UV Assembly/Immunoflorescent Microscope	03 Nos
a	UV Microscope with UV Assembly Inverted model for cell culture / virology / immunofluorescence Microscope frame, including 30W lamp socket AR3553, insert plate AQ1180, allen wrench GA3720, tag AD0764, 6V30WHAL (2 pcs) and Trinocular tube, Phase contrast slider, pre-centered, Wide field eyepiece 10X(2 no's), Interference light balance daylight filter, 45mm dia, Interference green contrast filter 45mm dia, Power cord, Dust cover, Attachable mechanical stage with provision for Petri-dish holder, Terasaki-plate holder, and Slide glass holder. Shall be useful for both slides and tissue culture flasks. <u>Objectives:</u> Plan achromat objective 4X/0.1, WD 18.5. Acromat phase (pre-center) objective 10X/0.25, W.D. 8.8mm Long working distance achromat phase contrast (pre-	01 no

	<p>center) objective 20X/0.4, WD 3.2 Long working distance achromat phase contrast (pre-center) objective 40X/0.55, WD 2.2</p> <p><u>Fluorescence Attachment (100 Watts System) With DAPI, GREEN & BLUE FILTERS:</u> 100 Watts Fluorescence illuminator, Lamp housing for 100W Mercury illumination, Power supply unit For 100 W Mercury, 100 Watts mercury burner, Neutral Density Filters, Power cord, Mirror Unit for fluorescence microscopy DAPI, Blue & Green Excitation.</p> <p><u>Scientific Digital Color Cooled CCD camera For Fluorescence Application with software:</u></p> <p>High resolution not less than 1.4 mega pixel color CCD camera, Pixel pitch: 6.45 x 6.45 μm, Resolution up to 1392x1040 Pixel, Binning modes 2x2, 4x4, 8x8 in full color, 1.6μs to 17.9min in 1μs increments exposure/integration control , 12 bits digital output, 10 fps full resolution @ 12bits, IEEE 1394 Firewire digital interface.. Tight synchronization with flash lamps, automated filters, shutters, & microscope stages. Linear Full Well 18,000e- (22,000e- with 2x2 binning), Dark Current 0.4 e/p/s at 25°, Actively cooled 25°C below ambient temperature for low dark current. Minimized thermal noise during low-light, long exposure imaging. Camera software: Q capture Pro 7 software & Q capture software.</p> <p>Compatible branded personal computer connected to the microscope to capture, process and store the image. Compatible 2 KV online UPS with one hour back up</p>	
b	<p>Fluorescent/Immunofluorescent Microscope Microscope should be with Infinity corrected optical system. Should have Three ways Trinocular tube (100:0, 20/80, 0:100), inclined at 30 degree with Field of View 22mm. 10X antifungal Eyepieces pair with diopter adjustment. Sextuple Revolving DIC Upgradeable Nosepiece & Universal Condenser for Bright field/Phase Contrast & Dark field up to 40X.</p> <p>Objective antifungal Nikon Lenses 4X,10X,40X Plan Achromat 100X oil Plan fluorite. Rectangular mechanical stage with double slide holding capacity. 12V-100 Watt Halogen lamp Pre-centered. The microscope should have eco switch for saving lamp life.</p> <p><u>FLUORESCENCE ATTACHMENT:</u> Fly Eye lens Fluorescence illuminator with EIGHT position Fluorescence Turret,</p>	02 Nos

	<p>100 Watts System Mercury burner, power supply for mercury burner, Neutral density filter, Power cord, Filter cubes for Blue, Green and DAPI.</p> <p><u>Scientific Digital Color Cooled CCD camera For Fluorescence Application with software:</u></p> <p>High resolution, colour balance 1.4 mega pixel color CCD camera, Pixel pitch: 6.45 x 6.45 μm (Sony ICX285), Resolution up to 1392x1040 Pixel, Binning modes 2x2, 4x4, 8x8 in full color, 1.6μs to 17.9min in 1μs increments exposure/ integration control, 12 bits digital output, 10 fps full resolution @ 12bits, IEEE 1394 Firewire digital interface.. Tight synchronization with flashlamps, automated filters, shutters, & microscope stages. Linear Full Well 18,000e- (22,000e- with 2x2 binning), Dark Current 0.4 e/p/s at 25°, Actively cooled 25°C below ambient temperature for low dark current. Minimized thermal noise during low-light, long exposure imaging. Camera software: Q capture Pro 7 software & Q capture software. Compatible stabilizer</p>	
170	Catheters (Portable)	01 No
	3 way folley Catheters	
171	Slide Cabinet (50,000)	02 Nos
	<p>Slide cabinets-50000 slides</p> <p>For keeping 75x25 mm slides in vertical position one after the other.</p> <p>Made of CRC steel with powder coated paint finish. Drawers and slides in vertical position. Movable drawers in a slot, completely removable for easy lifting of slides. Accomodable slide capacity 50000 slides and lockable doors.</p>	