# SANTOSH Deemed to be University



4.2.1 Teaching Hospital/s, Equipments, Laboratory and clinical teaching-learning facilities including equipment as per the norms of the respective Regulatory Bodies.



## FACILITIES AS PER THE STIPULATIONS OF THE RESPECTIVE REGULATORY BODIES

S.No	Name of the Facility	Page No
1.	Anatomy	1
2,	Physiology	3
3.	Biochemistry	6
4.	Pathology	8
5.	Microbiology	12
6.	Pharmacology	14
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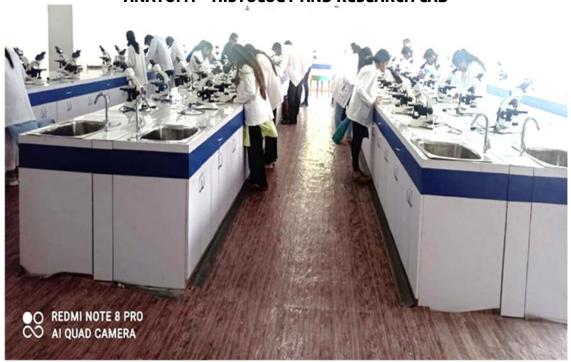


#### **ANATOMY**

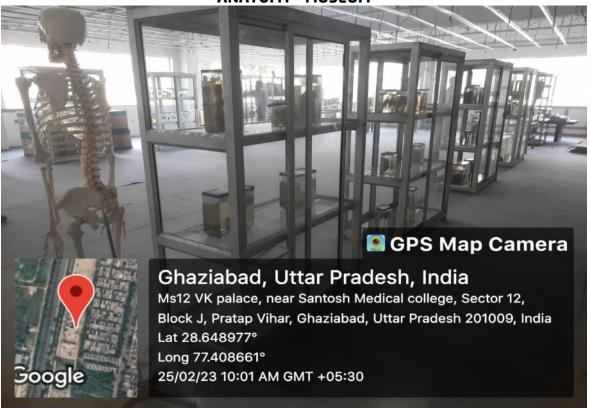
S.No.	NAME OF THE ITEMS
(A)	General
1	Table with marble or stainless steel tops with a minimum size of 6' x 2' x3'
2	Tables with marble or stainless steel tops - half standard size
3	Drill machine
4	Hand saw, preferably metal
5	Band saw for sectioning body and limbs
6	Brain knife
7	Mortuary cooler with arrangement to keep 1 body
8	Storage tank to hold 10 cadavers, static/movable, durable tank with input and
	output facility with lid
9	Plastic tanks for storing soft and dissected parts
10	Multimedia Projector with screen
11	Trolley Table (Steel)
12	Movie camera with projection screen
13	Computer with internet connection, & video CD library
14	X-ray viewing lobby
15	X-Ray plates/MRI/CAT scan/USG
16	Charts, Diagrams, Models, Slides etc.
17	Dissecting instruments for cadaveric dissection
18	Meat cutting machine for thin body sections (trans and vertical) for gross anatomy
	sectional study
19	Cadavers
20	Embalming Machine
(B)	Histology Laboratory
21	Microscopes, Monocular
22	Dissection microscope
23	Microtomes, rotary (Optional)
24	Microtomes, Sledge, large cutting
25	Cabinet for slides (1000)
26	Incubators
27	Paraffin embedding bath
28	Hot plates for flattening sections
29	Hot air oven for drying slides (45 oC)
30	Refrigerators (Minimum 165 litres)
31	Marking pencils
(C)	Museum
32	Articulated Skeleton set
33	Bones (Dis-articulated) sets
34	Specimen Wet
35	Steel racks

36	Laptop
37	Desktop Computer, with Printer
38	Photocopier and Scanner

#### **ANATOMY - HISTOLOGY AND RESEARCH LAB**



**ANATOMY - MUSEUM** 

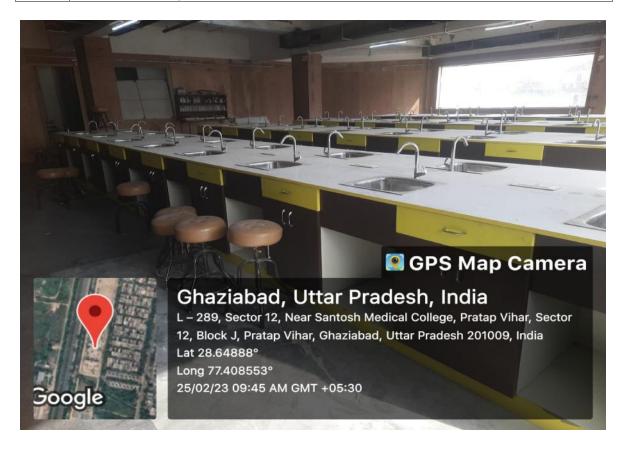


### **PHYSIOLOGY**

S.No.	NAME OF THE ITEMS
1	Sherrington Starling kymograph (electrically driven)
2	Myograph stand
3	Inductorium
4	Simple key
5	Short circuiting key
6	Pohl's commutator
7	Vibrating interrupter
8	Muscle trough
9	Muscle lever
10	Muscle grip of femur clamp
11	Hook and Weight set
12	Heart lever (simple &Starling)
13	Frog board for dissection
14	Enamel tray
15	Frog board cork lined with boss head
16	Low voltage unit for tapping 2 and 4 volts for stimulation
17	Electromagnetic time marker
18	Tuning fork time marker 100/sec
19	Electrodes
20	X-blocks
21	Spirit lamps
22	Marey's tambour
23	Microscopes, oil immersion
24	Demonstration eye piece
25	Double demonstration eye piece
26	Stage incubator
27	Westergren's pipette for E.S.R. on stand(with space pipette)
28	Wintrobe's pipette for ESR and PCV with stand
29	Perimeter Pristely Smith S/LP.984 B & T
30	Hemoglobin-meter Sahli's or Hellige (with spaces)
31	Hemocytometer
32	Sphygmomanometer (digital) (Mercury based instruments to be replaced withsuitable alternatives)
33	Stethoscopes
34	Stethoscopes, demonstration with multiple ear pieces
35	Polygraphs
36	Venous pressure apparatus
37	Spirometer, ordinary
38	Gas analysis apparatus, Halden's student type
39	Van Slyke's apparatus manometric

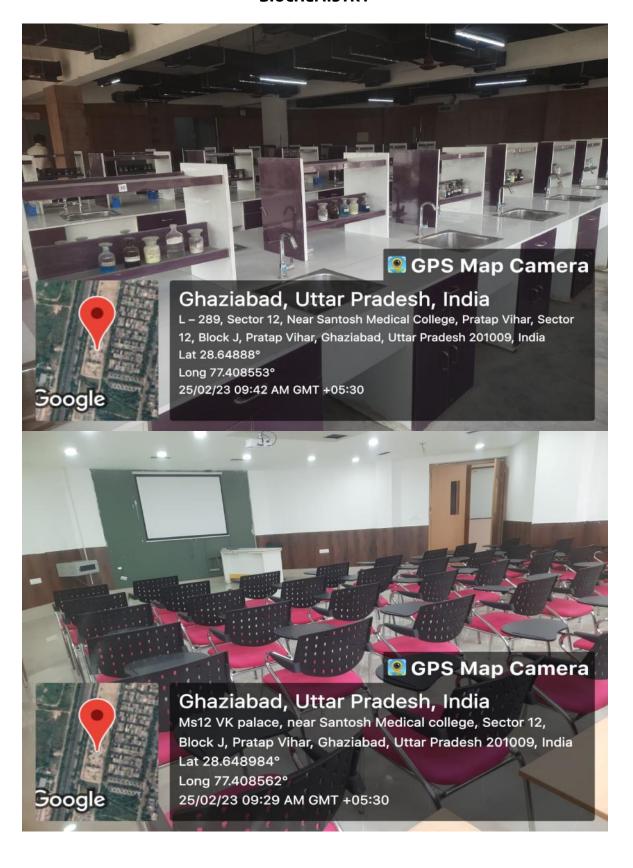
40	Gas analyser automatic for CO2, O2, N2
41	Douglas bag, complete
42	Basal metabolism apparatus
43	Mosso'sErgograph
44	Clinical thermometer (Mercury based instruments to be replaced with suitable
	alternative)
45	Compass aesthesiometer
46	Thermo-aesthesiometer
47	Algometer
48	Apparatus for passive movement
49	Knee hammer
50	Stethograph
51	Bicycle Ergometer
52	Olfactometer
53	Ophthalmoscope
54	Schematic eye
55	Phakoscope
56	Perimeter with charts (Lister's)
57	Color perception lantern Edridge green
58	Maddox rod
59	Newtons color wheel
60	Tuning fork to test hearing 32-10000 cps(sets-100, 256, 512 hz)
61	Dynamometer
62	Otorhinolaryngoscope
63	Sterilizer electrical
64	Instrument trolley
65	Stop watch
66	Multi channel Physiograph, 3 channels, complete with accessories
67	Student physiograph, (single channel) with accessories
68	Centrifuge, high speed with technometer
69	Colorimeter, photoelectric
70	pH meter electric
71	Refrigerator
72	Oxygen cylinder with trolley
73	CO2 cylinder with trolley
74	Electronic stimulator
75	Water distillation steel with spare heating elements
76	All glass distillation apparatus double stage
77	Voltage stabilizer
78	Thermometers, balances, microslides and glassware
79	Digital Physiograph
80	Models and Charts

81	ECG Machine
82	Laptop
83	Desktop Computer, with Printer
84	Photocopier and Scanner
85	Multimedia Projector with screen



	BIOCHEMISTRY
S.No.	NAME OF THE ITEMS
1	Analytical Balance : upto 200g/1gm increment
2	Urinometers calibrated (Mercury based instruments to be replaced with other alternatives)
3	Hot air oven (More than 200 litres)
4	Digital Colorimeters
5	Student Microscopes
6	Glucometer with strips ( For POCT )
7	Thermometer 0 - 250 degree Celsius (Mercury based instruments to be replaced with suitable alternatives)
8	Semi autoanalyser
9	Boiling Water baths
10	Constant temperature water bath Tank Capacity: (Temperature range 5 to 80o Celsius)
11	Laboratory Reagent Refrigerators, capacity > 200 litres
12	Complete Chromatographic Unit for paper & TLC
13	Centrifuge clinical for ≥ 8 tubes
14	pH meters of wide range digital
15	Fixed volume pipettes 1ml,0.5ml,0.2ml,0.1ml and 0.02ml
16	Complete Electrophoresis apparatus with power supply (Paper, PAGE, agarose)
17	Densitometer with computer
18	Bottle dispensers
19	All glass distillation apparatus
20	Vortex mixers
21	Incubator 37oC
22	Variable and fixed volume micro auto pipettes
23	Glass ware & accessories
24	Fume cupboard
25	Digital Analytical Balance
26	Balance Micro
27	Spectrophotometer
28	ELISA (Demonstration)
29	Laptop
30	Desktop Computer, with Printer
31	Photocopier and Scanner
32	Multimedia Projector with screen

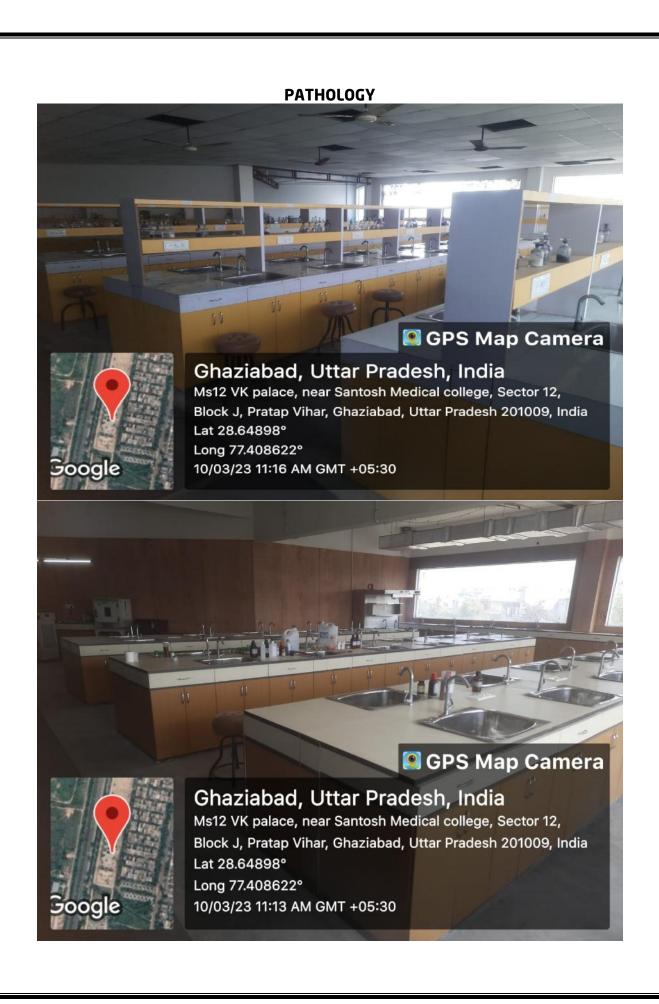
#### **BIOCHEMISTRY**



	PATHOLOGY
S.No.	NAME OF THE ITEMS
(A)	General
1	Desktop Computers with High Speed Internet, Laser Black & White Heavy duty Laser Printers, Color Inkjet Printers, Scanners, Photocopy (Xerox) Machines, Telephone with STD facility, Fax Machine etc. Every faculty & Resident must have separate Desktop/Laptop with high speed Internet facility. Office table small and big, office chairs; museum almirahs; study table, staff room, and library almirahs, stock almirahs, store room racks, lockers with coat hangers and drawers as required. Laboratory benches with cupboards and rack for reagent bottles, water, gas and electric points, operation tables etc. as necessary.
2	Specimen Identification Solutions
3	Weighing machine for cadavers (300 Kg.)
4	Manual Rotary Microtome
5	Automated Rotary Microtome
6	Cryostat
7	Hot plate
8	Paraffin embedding bath
9	Heated Paraffin Embedding Module
10	Cold Plate for Modular Tissue Embedding System
11	Automated Tissue Processor -Histokinette
12	Autoclave
13	Ultrapure water solutions - Distilled water plant
14	Water bath
15	Centrifuge machine
16	Cabinet for slides
17	Autopsy tables
10	
18	Digital SLR at least 20 megapixel with micro, macro, wide angle zoom lenses, Flash and other accessories
19	Digital Automatic camera > 5 megapixel
20	Fully Automated high throughput Multi-Stainer Workstation
21	Fully Automated Embedding System (Heated embedding module & cold plate)
22	Fully Automated Flexible Coverslipping Workstation
23	Standalone paraffin dispensing module cold plate holding more than 100 cassettes
24	Stand alone cold plate
25	Troughs for staining
26	Coplin jars
27	Water bath (Tissue Floatation)
28	Single Pan Digital Balance, Chemical
29	Balance, chemical with weights

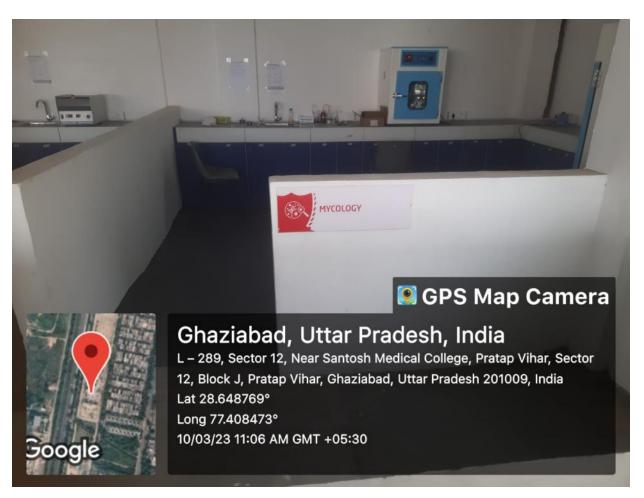
	Microscopes
30	For Students - LED Binocular with Scanner, 10X, 40X, & Oil immersion lenses and inbuilt Battery backup power source
31	For Diagnostic & Research Work - Trinocular head Microscope with Bright field, Dark field, Fluorescent & Polarizing Facility, high end Apochromatic lenses with Camera with HDMI Multi output camera Minimum 5MP with Projector & Ultra HD TV > 52 inches & Screen including Software Capable of Brightfield& Immunofluorescence Photography with connectivity to projector & LED TV (At least 55 inches Ultra HD)
32	<b>For every Professor, Associate &amp; Assistant Professor</b> : Binocular Microscopes with High end Semiapochromatic Optics of international standard.
33	For every Tutor - Binocular Microscope with suitable high end lenses.
34	Penta Head Microscope with High end Optics with HDMI Multi output Photographic camera (> 5 MP) including Software
35	Deca Head Microscope with High end Optics with HDMI Multi output Photographic camera (> 5 MP) including Software
36	<b>Grossing Station</b> - Stainless steel, with Control panel, air filtration system, Track mounted adjustable computer arm with articulation, LED lights that are color and intensity, Dedicated USB ports for camera control and data transfer adjustable, Integrated pathology camera system, Instrument Set (High quality) Height Adjustable Stainless Steel Chairs With Split AC of appropriate capacity.
37	Fully Automated Immuno-histo-chemistry Setup with Continuous supply of Important Antibodies, Lymphoma Panel etc.
38	Automatic High Speed Slide Scanner for converting Slides in Digital Format with software and Database Management with backup for Data Storage
39	Five part Fully Automated Cell Counter
40	Three Part Fully Automated Cell Counter
41	Coagulometer (Fully automated)
42	Magnifying lens
43	Blood pressure instrument
44	Laboratory Counter
45	Laboratory stirrer
46	Automatic timer
47	Balance for weighing organs
48 49	Saws, wire for cutting bones Slide boxes for 100 slides for students
<u>49</u> 50	
51	Drill for boring glass X-ray viewing box (LED)
52	Sternal puncture needle adult size
53	Sternal puncture needle child size
54	Liver Biopsy needle
55	Stop watch reading at 1/5 second.
	pH Meter electric
56	

58	LED Wireless Projector
59	Museum jars.
60	Surgical instruments.
61	Glassware, stains, chemicals reagents etc. for histological work.
62	Five Part Hematology Analyzer
63	Three Part Hematology Analyzer
64	Automatic Urine Analyzer
65	Binocular Microscopes with high end optics including 100X & LED Fluorescence for
	each Faculty/ resident working in lab plus 2 microscopes for technicians.
66	Sp. Gravity Measure
67	PH meter
68	Incubator
69	Haemacytometers with red and white pipettes
70	Syringes disposable
71	Staining jars for slides.
72	Automatic Hematology Slide Stainers.
73	Urinometers(Mercury based instruments to be replaced with other alternatives)
74	Centrifuge tubes graduated.
75	Graduated cylinders for various capacities ranging from 100 cc to1000 cc.
76	Pipettes of various sizes with disposal tips.
77	Reagent bottles
78	Dropping bottles
79	Reagents
80	Balances -Digital Single Pan Sensitive Chemical balance
(E)	Specimens:
81	Mounted Specimens
82	Wet Specimens



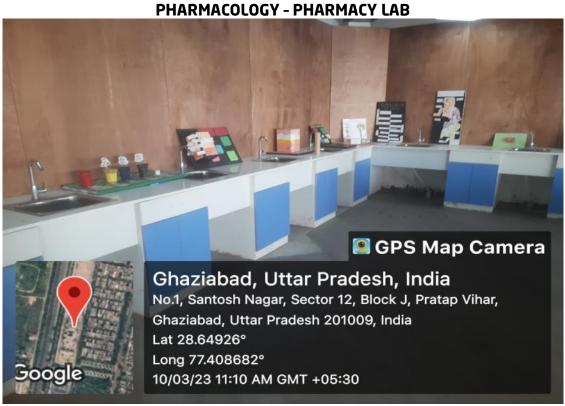
	MICROBIOLOGY
S.No.	NAME OF THE ITEMS
(A)	General
1	Anaerobic apparatus
2	Autoclave
3	Balance Electronic Digital
4	Biosafety Cabinet Type - 2A
5	BOD Incubator
6	Centrifuge
7	CO2 Incubator/Candle Jar
8	Computer Unit
9	Deep Freeze -20° C & Deep Freezer
10	Distilled water Plant
11	Elisa Reader
12	Elisa Washer
13	Hot Air Oven
14	Incubator
15	Lab Refrigerator (minimum 400 litres)
16	Laminar flow
17	Micrometer eye pieces
18	Micrometer stage
19	Microscope Binocular (Students)
20	Microscope Binocular
21	Microscope with universal condenser containing oil immersion, Bright field, Phase
	Contrast & Dark ground
22	Multimedia Projector
23	pH determination apparatus
24	Serum inspissators
25	VDRL shaker
26	Vortex Mixer
27	Water bath with variable temperature
28	Oil-immersion lens for student microscope
29	Automated Blood Culture System
30	Colony Counter
31	Antibiotic Discs for Antibiotic susceptibility testing
32	Antibiotic zone scale
33	Antisera-Salmonella
34	Antisera-Shigelladysenteriae
35	Antisera-Shigellaflexnari
36	Antisera-Shiegellasonnie
37	Antisera-Vibrio cholerae
38	ATCC strain - Enterococcus fecalis 29213

<ul> <li>39 ATCC strain - E.coli 25922</li> <li>40 ATCC strain - E.coli 35218</li> <li>41 ATCC strain - Pseudomonas aeruginosa 27853</li> </ul>	
41 ATCC strain Droudomonas agruginosa 27952	
41 ALCC Strain - Esendomonas geruginosa 27000	
42 ATCC strain - Staphylococcus aureus 25923	
43 ATCC strain - Staphylococcus aureus 29213	
44 Bottles for blood culture	
45 Micropipettes - Multi channel & Single channel	
46 Materials for preparation of various Culture Media	
47 Materials required for various Microbiological Stains	
48 Digital Thermometers of different temperatures	
49 Various Kits for Serological diagnostics	
50 Laptop	
51 Desktop Computer, with Printer	
52 Photocopier and Scanner	



	PHARMACOLOGY		
S.No.	NAME OF THE ITEMS		
1	Special Drug Delivery systems like Metered Dose Inhalers, Spacers, Rotahalers, Nasal sprays, Transdermal patches, Insulin infusion pumps, Insulin pen etc.		
2	Samples of dosage formulations of various types including rational and irrational FDC, Essential medicines		
3	Manikins for demonstration of intravenous injection, enema, local, intramuscular injections, intracardiac injection and other routes of drug administration		
4	Minimum 1 computer per 10 students (Maybe shared with a similar facility in the institution) Must have computers with standard configuration and connected to the internet, (Preferably broadband) along with an AV aids (Multimedia Projector and Screen). The PC should be installed with CAL programmes and other software for teaching experimental pharmacology. The students must have access to the National Essential Drug Lists, Standard Treatment Guidelines, Banned Drugs List of the CDSCO, PVPI, WHO, Price Controlled Drugs List, Antibiotic Guidelines, Hospital formulary, adverse drug reactions, and other resource material which the student can use for learning the principles of rational prescribing.		
5	For UG course, the facilities and equipment in the experimental lab can be shared with the Physiology department. The experiments included in the curriculum should be demonstrated through charts/photographs/models and videos.		
6	Stop watch		
7	Digital Sphygmomanometer		
8	Critical Flicker Fusion Apparatus		
9	Pupillometer		
10	Chart, Models and videos to illustrate the pharmacodynamic and pharmacokinetic properties of drugs, adverse drug reactions, drug administration techniques		
11	Laptop		
12	Desktop Computer, with Printer		
13	Photocopier and Scanner		
14	Multimedia Projector with Screen		



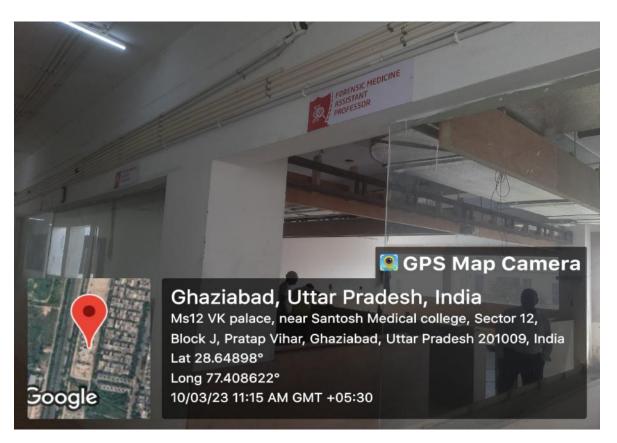


	FORENSIC MEDICINE
	NAME OF THE ITEMS
	Teaching
1	Multimedia Projector , CPU & Projection Screen
2	Television, DVD Player
3	Digital SLR Camera With Accessories
4	Microscope Student Type
5	X-Ray View Box Two In One
6	Stop Watch
7	Anthropometric Set including
	A) Folding Metal Rod Upto 7 Ft
	B) Osteometric Board
	C) Craniometer
	D) Mandibulometer
	E) Goniometer
	F) Vernier Calipers
	G) Equipment for Reporting Height
	H) Weighing Machine Dial Type Human
8	Digital pH Meter
9	Digital Spectrophotometer
10	Chemical Balance
11	Distillation Plant
12	Refrigerator
13	Centrifuge
14	Slide Warming Table
15	Hot Plate
16	Glass Cutting Pencil
17	Spectroscopic Lens With Adjustable Slit
18	Dissection Set Complete
19	Digital BP Instrument
20	Stethoscope
21	Charts and Models
22	Binocular Research Type With Attachment For Camera
23	Deep Freezer For Keeping Tissue
24	Automatic Tissue Processing Machine
25	Microtome With Knife
26	Paraffin Bath Embedding
27	Water Bath For Tissue Floatation
28	L Modes
29	Block Holder
30	Abrasive Powder
31	Thin Layer Chromatograph

32	Gas Chromatograph
33	Ultra Violet Spectroscope
34	Infra Red Spectroscope
35	Mass Spectrometer
36	Cold Storage For Dead Bodies
37	Weighing Machine For Dead Bodies
38	Autopsy Tables
39	Stryker Type Autopsy Saw With Accessories
40	Weighing Machine For Organs
41	Weighing Machine For Fetus
42	Dissection Set Complete
43	Brain Knife
44	Hack Saw
45	Rib Shear Left & Right
46	Measuring Tape( Steel Tape Roll)
47	Magnifying Lens
48	X- Ray View Box (4 In 1)
49	Tooth Extractor Left & Right
50	Hand Set Heat Sealer
51	Instrument Trolley
52	Stretchers for shifting dead bodies
53	Rectal Thermometer
54	Portable X-ray Machine (can be shared with Radiology Department)
55	Cold Storage For Dead Bodies
56	Autopsy Tables
57	Stryker Type Autopsy Saw With Accessories
58	Weighing Machine For Organs
59	Weighing Machine For Fetus
60	Dissection Set Complete
61	Brain Knife
62	Hack Saw
63	Rib Shear Left & Right
64	Measuring Tape( Steel Roll)
65	Magnifying Lens
66	X- Ray View Box
(D)	Consumable for medico legal work
68	Disposable Cap-Mask-Gown, Gloves Etc.
69	Cotton Rolls, Suture Materials Etc.
70	Formalin, Rectified Spirit,Lugol's Iodine
71	Swabs, Preservative Bulbs etc.
72	Viscera Bottles etc.
73	Syringe (5, 10, 50 ml)

74	Preservative Salts
75	Packing and Sealing materials
76	Victim examination table (Gynecological Examination table with leg stirrups)
77	Screen
78	OT light Shadowless adjustable
79	Hymenoscope
80	Colposcope
81	Sims Speculum
82	Cuscos Speculum
83	Sponge holding forceps
84	Toothed forceps
85	Ovum forceps
86	Proctoscope
87	Torch
88	Desktop Computer
89	Laptop
90	Printer with Scanner
91	Photocopier machine

#### **FORENSIC MEDICINE**



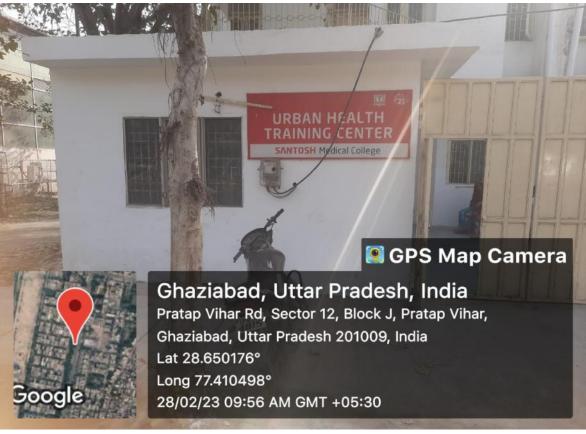
COMMUNITY MEDICINE		
S.No.	NAME OF THE ITEMS	
1	Barometer (Mercury based instruments to be replaced with other alternatives)	
2	Filter, Pasteur Chamberland, complete set	
3	Filter, Berke fed	
4	Hydrometres, Spirit	
5	Hydrometres, milk	
6	Hydrometers, wet and dry bulb	
7	Incubator, electric (can be procured from Microbiology)	
8	Museum jars	
9	Models, charts, diagrams, specimen	
10	Balance Analytical 200 gm.	
11	Balance for weighing food stuff(Capacity 2 Kg).	
12	Centrifuge clinical	
13	Weighing machine adult	
14	Baby weighing machine	
15	Salters Baby weighing machine	
16	Harpender Calipers (for skinfold thickness)	
17	Height measuring stand	
18	Refrigerator 9 cu.ft.	
19	Ice Lined Refrigerator (I.L.R.) (at Health Centre)	
20	Dissecting microscope	
21	Microscope oil immersion	
22	T.V. and DVD player	
23	Autoclave (Can be shared with Pathology/Microbiology department)	
24	Computer with printer, scanner and photocopier and Internet facility	
25	Vehicles for transport of students/interns/faculty/ paramedical staff to the RHTC and UHTC	
26	Multimedia Projector with Screen	
27	Public Address system (2 portable for field based activities and one each for RHTC & UHTC)	
28	Chloroscope	
29	Horrock's Apparatus	
30	MUAC tapes	
31	Haemoglobinometer	
32	BP Apparatus (Digital)	
33	Stethoscope	
34	Kata Thermometer	
35	Globe Thermometer	
36	Anemometer	
37	Sound level meter	
38	Soil testing kit	
39	Water sampling bottle from any depth	

40	Needle Shredder
41	Vaccine carrier
42	Craft water testing kit
43	Protective devices for occupational safety
44	Ear muffs
45	Ear plugs
46	Safety helmet
47	Goggles
48	Safety boots
49	Swine flu kit
50	Gloves
51	Triple layer surgical mask
52	High efficiency mask
53	Long sleeved cuffed gown
54	Protective eye wear
55	Сар
56	Disposable delivery kit
57	Treatment kits as per national health programs
58	lodine testing kit
59	Glucometer
60	Slide set for entomology
61	Mosquito catching kit
62	Clinical Thermometer
63	Sling psychrometer
64	Solar radiation thermometer
65	Treatment kits as per National Health Programs
66	lodine testing kit
67	Glucometer
68	Slide set for entomology
69	First Aid Kit
70	Spirometer
71	Audiometry
72	Otoscope
73	Ophthalmoscope
74	Laptop
75	Portable X-ray (Maybe shared with other departments)
76	ECG(Maybe shared with other departments)

#### **COMMUNITY MEDICINE**



#### **UHTC**



#### **UHTC**



#### **RHTC**





