

## **Minimum Standard for Affiliation / Continuation of Provisional affiliation of MSc MLT degree course in Colleges Affiliated to KUHS**

### **1.Introduction:**

MSc(MLT) course is a Post Graduate degree course in Medical Laboratory Technology. It is one of the practical oriented Courses dealing with various laboratory diagnostic procedures in the specialty of Microbiology/Pathology and Biochemistry. The course is intended to produce specialized technologists/Laboratory Scientists/Laboratory Supervisors /Quality control officers in Manufacturing units/faculties etc in the field of health and Allied Institutes. After acquiring the degree, their service as a specialized technologist shall be utilized in the diagnostic/manufacturing field of modern medicine, Homoeo, Ayurveda, Veterinary, fisheries departments as well as in its research field. They are also trained to become resource faculties for the DMLT, BSc(MLT),MSc(MLT),paramedical or other Allied courses and Research programmes.

### **2. Duration – Two years plus one year internship**

**3. Eligibility:-** BScMLT degree from any of the University in Kerala with a minimum of 50% marks.

### **4.Intake**

A maximum of 6 students in each specialty ( Biochemistry, Microbiology & Pathology )

### **5. Eligibility for starting MScMLT**

#### **General Eligibility criteria**

- i) An Institute or College is eligible to apply for the MScMLT course if they are fulfilling the following criteria :
  - a) It should have the experience of conducting BScMLT degree course affiliated to KUHS for the last five years.
  - b) One batch of BScMLT degree holders should have passed out from the Institute.
  - c) The track records of conducting BScMLT degree course should be credible in respect of conducting the course, examination, Internal/ External Examination,, projects, Service conditions of faculties and students activities.
  - d) For the last four years they should have  $\geq$  than 50% pass percentage in the regular university examination of concerned subject in each year for which PG course has been requested.
  - e) They should have their own Hospital run by the same board of management/ charitable society or other body and that have been approved by the Govt.

- f) They should acquire the NOC of the statutory council/PMC and Govt.of Kerala.
- g) Fulfillment of Minimum facilities required for the conduct of the course as per the minimum standard prescribed by KUHS.
- h) They should acquire the eligibility certificate to continue the BScMLT course after the latest inspection.

## 6. Animal house

There shall be a Animal House with Guinea pig, Mouse, Rat and Rabbit (35 M<sup>2</sup> ) for maintenance, breeding and supply of animals and facilities for experiments etc.The central animal house facility of the hospital / Institute shall be utilized for the purpose. In case of no facility of animal house in the institute, the managements shall make their own arrangements to ensure the training in the animal management and experiment with their own expense.

## 7.Electricity:

There shall be continuous electricity supply round the clock with generator facility.

## 8.Sanitation and water supply:

Adequate sanitary facilities and safe continuous drinking water facilities must be provided for the teaching staff, students (men and women), technical and other staff as required.

## 9.Incineration / waste disposal facility:

There shall be an incineration facility. The central incineration facility of the Hospital /Institute shall be shared for the purpose.

**10. Hospital Facility-** The Hospital, Clinical, academic and hostel facilities should be owned by the same management or the charitable society formed for the purpose or the Government. Other forms of hospital facility like those governed by others Or by any forms of memorandum of understandings etc will not be permitted for the conduct of BScMLT

## 11. Course Description

### I . MSc MLT- Biochemistry

#### a) Syllabus

FIRST YEAR	
Paper	Subject
Paper-I	General Biochemistry & Chemistry of Biomolecules
Paper-II	Enzymology, Metabolism & Inborn errors of metabolism
Paper- III	Vitamins & Hormones

Paper- IV	General Physiology ,Nutrition &Mineral metabolism
SECOND YEAR	
Paper -V	Molecular Biology & Immunology
Paper -VI	Diagnostic Biochemistry, Recent advances in clinical chemistry and Biostatics
Paper VII	Dissertation

**b) Infrastructure**

**MScMLT -Biochemistry**

Sl. No.	Description	Nos	Specification
1.	Area - Municipality & Corporation Limit - Other		* Shall be shared with BScMLT course
2.	Building		619 M <sup>2</sup> (6654 sq.ft)
3	** Seminar room with LCD projector and high speed internet facility.	1	56 M <sup>2</sup>
4	Lecture Hall with LCD projector		56 M <sup>2</sup>
5	PG Laboratory	1	<b>Biochemistry</b> 84M <sup>2</sup> (903sq.ft) for 6 students (1) 58(7.6x7.6) M <sup>2</sup> for exclusive Laboratory living space with adequate double sided work benches with 2 tier bottle rack (500cm length x100CM height and 150 cm breadth)x2. It shall be provided with cupboard with lock and key, gas and water connections and ceramic wash basins with water taps (swan neck) and Chrome Plated Lever Action Surgical Jumper Valve control . Adequate drainage facilities with a corner sink (60X60X60CM) and electrical plug points (5Amp) to connect with minor equipments .One wash basins shall be fitted between four seats. Also the lab should have a side PCC slab of total length 6 metre (Breadth 75CM,Height-

			<p>75CM ) with a minimum of 5 Nos.of 15Amp socket and 10Nos,of 5 Amp sockets with adequate distance so as to connect the Hot air oven ,incubator and other equipments. The Laboratory shall be fitted with ground glass writing board or white board so that all the students can have a direct view or with turning not more than 90 ° from their seat.</p> <p>(2) instrument room 16 M<sup>2</sup>. with sufficient PCC slab with granite or ceramic top.(75 CM Breadth and 75 CM height)It shall be fitted with 4 Numbers of 15 Amp and 3 No. of 5 Amp sockets.water connection with swan neck taps with lever control and also with gas connection.</p> <p>(4) washing area 10 M<sup>2</sup></p>
6	Molecular Biology Lab		50 M <sup>2</sup> Biocontainment Laboratory
7	**common room for boys and girls with toilet facilities for staff and students,		Separate common room for boys and girls.with toilet facilities for students 28 M <sup>2</sup>
8	**Store ó General Chemical	1	15 M <sup>2</sup> x 2Nos. with 3/more side slabs separate compartment to keep glassware and chemicals.
9	**Common Instrument Lab	1	56 M <sup>2</sup> with one side pcc slab with suuicient plug points
10	*Auditorium	1	140 M <sup>2</sup> Shall be shared with BScMLT course / other allied courses
11	**Library	1	58 M <sup>2</sup> with 1000 books of related subjects including journals and internet with wifi facility
12.	*Animal House	1	56 M <sup>2</sup> equipped to house rat , guinea pig, rabbit, sheep .
13.	Other		Teaching aids, OHP, LCD projector and computer facilities etc..

14	Hostel facilities for Boys and Girls		Separate rooms for each students
15	Faculty room bath attached	1	18 M <sup>2</sup>

**c) Hospital Facility**

Sl. No.	Description	Nos	Specification
1	Bed strength		400 beds
2	Out patients		800 patients daily
3	Clinical lab	1	Biochemistry

Hospital should be within 8 kilometers from the institute and have Specialties and Super Specialty Departments -Cardiology, Neuro Medicine, Respiratory Medicine & Chest disease, Nephrology, and Gastroenterology.

Institution should do suitable transportation arrangements for students training.

**d) Clinical laboratory facilities are available for the students**

**Clinical Biochemistry laboratory :**

Average number of specimens /month : 6000

Hospital Laboratory should be equipped with Auto analyzer, Semi auto analyzer, Chemiluminescence assay facility and facilities to perform all routine and special investigations .

The clinical Lab should have sufficient space /work benches to accommodate both BScMLT and MScMLT students

**e) Additional Staff Required in the Department for MScMLT ( Biochemistry\_)**

Sl. No.	Designation	No. of posts	Qualification
1	*Professor	1	Shall be shared with BScMLT
2	Associate Professor in MLT-Biochemistry	1	1)MBBSand MD in the concerned subject OR BSc(MLT) and MSc(MLT) in the concerned subject (2)8 years of post PG teaching experience in MLT in the concerned subject in any Institute or Medical College approved by the Kerala University of Health Sciences and Govt. of Kerala.

3	Technical Assistant (Medical Laboratories)	1	BScMLT
4	*Animal house supervisor	1	+2 /VHSE with 6 months training in animal handling and managements
5	* Clerk	1	Graduate with computer knowledge
6	*Animal Attender	1	VIII std pass
7	Cleaner	1	VII std pass

(All faculties and staffs should be with Govt./PMC and KUHS approved qualifications)

**f) List of equipment for the practical lab for a batch of 6 students**

**Biochemistry**

**\*\* - indicate it can be shared with other MScMLT specialty**

**\* - indicate that it can be shared with BScMLT course**

Sl. No.	Name of the equipment	No
1	Colorimeter	2
2	**Spectrometer attached with computer	1
3.	Glucometer	1
4	Flame Photometer	1
4	Deionizer ( Four column )	1
5	*Distillation apparatus ( Single and Double )	1
6	* Millipore water preparation unit	1
7	Paper Chromatographic apparatus with sprayer	1
8	Thin layer Chromatography apparatus with accessories	1
9	Hand spectroscope	1
10	Electrophoretic apparatus ( Slide gel & immersion ) with Power pack	1
11	Paper Electrophoresis Apparatus with power pack	1
11	Reflux flask with condenser	1
12	pH Meter	1
13	Electronic Balance,sensitivity 1 mgm	1
14	*Analytical Balance	1
15	Vortex mixer	1
16	** Tissue Homogeniser	1
17	Magnetic stirrer	1
18	Centrifuge	1
19	Hot air oven	1
20	Lab incubator	1
21	Water bath	1
22	**Water bath with shaker	1

23	Refrigerator	1
24	**Deep freezer ( -60°C )	1
25	**Filtration unit with Suction apparatus	1
26	**Laminar air flow class III	1
27	Electric Heater	2
28	** Steam Jacket Autoclave	1
29	Binocular Microscope	1
30	Reagent Dispenser	3
31	Micro pipette Fixed volume with varying volume	5
32	Micro pipette variable volume	5
33	Pipette washer	1
34	Gas liquid chromatography apparatus	1
35	**Computer with Printer	1
36	**Computer Scanner	1
37	** Photostatting Machine	1
38	**Nephelometer	1
39	**High speed Refrigerated centrifuge	1
40	** PCR Machine	1
41	**Blotting Apparatus	1
42	**HPLC Apparatus	1
43	**ELISA Plate washer	1
44	**ELISA Reader	1
45	**Cell Sonicator	1
46	**Millipore filtration unit	1
47	** Ultra Violet light port	1
48	PAGE ( Both Disc & Slab gel ) apparatus with power pack	1

- g) Glass wares, chemicals, reagents and miscellaneous items should be provided by the department.

## **II MSc MLT ( Microbiology )**

### **a) Syllabus**

Paper	Subject
Paper-I	General Microbiology
Paper-II	Systematic & Diagnostic Bacteriology
Paper -III	Medical Parasitology and Mycology
Paper- IV	Immunology
Second year	
Paper -V	Medical Virology

Paper -VI	Applied Medical Microbiology and Recent Advances
Paper VII	Dissertation

**b) Infrastructure**

**\*\* - indicate it can be shared with other MScMLT specialty**

**\* - indicate that it can be shared with BScMLT course**

Sl. No.	Description	Nos	Specification
1.	Area - Municipality & Corporation Limit - Other		Shall be shared with BScMLT course
2.	Building		634 M <sup>2</sup> (6815 sq.ft)
3	** Seminar room with LCD projector and high speed internet facility.	1	58 M <sup>2</sup>
4	Lecture Hall with LCD projector		56 M <sup>2</sup>
5	PG Laboratory	1	<b>Microbiology Laboratory</b> 97M <sup>2</sup> (1042sq.ft) for 10 students (1) 58 M <sup>2</sup> for exclusive Laboratory living space with adequate work benches of either one sided or double sided (500cm length, 75cm height and 150 cm breadth)x2 seating arrangements. It shall be provided with cupboard with lock and key, gas and water connections, ceramic wash basins with water taps (swan neck) with Chrome Plated Lever Action Surgical Jumper Valve control, tube lights. Adequate drainage facilities and electrical plug points to connect the three pin plugs of microscopes in each seat. One wash basins shall be fitted between two seats in case of one sided work benches or between four seats in case of double sided seats. Also the lab should have a side PCC slab of total length 5 metre (Breadth

			<p>75CM,Height-75CM ) with a minimum of 5 Nos.of 15Amp socket and 6Nos of 5 Amp sockets with adequate distance so as to connect the Hot air oven ,incubator and other equipments. The Laboratory shall be fitted with ground glass writing board or white board so that all the students can have a direct view or with out turning not more than 90 ° from their seat.</p> <p>(2) Room/Cabin for Technical staff(7M<sup>2</sup>) preferably transparent glass fronted with clear view to the Lab.,</p> <p>(3) Lab store 7 M<sup>2</sup> with sufficient slab/Almarah to place the glasswares, miscelaneous materials and chemicals.</p> <p>(4) Media room with a minimum area of 7M<sup>2</sup> (a glass sided cabin) with 2 meter PCC slab with granite or ceramic top and with sink, water and gas connection. There should have two 15 Amp socket and two 5Amp socket.</p> <p>*(5) Washing room and sterilization section of 18M<sup>2</sup> with sufficient PCC slab with granite or ceramic top. It shall be fitted with 4 Numbers of 15 Amp and 3 No. of 5 Amp sockets.</p> <p>(6) Height adjustable revolving half chair or stool (1 for each students.)</p>
6	Molecular Biology Lab		50 M <sup>2</sup> Biocontainment Laboratory
7	**common room for boys and girls with toilet facilities for staff and students,		Separate common room for boys and girls.with toilet facilities for students 28 M <sup>2</sup>
8	**Store ó General	1	15 M <sup>2</sup> x 2Nos.

	Chemical		with 3/more side slabs separate compartment to keep glassware and chemicals.
9	**Common Instrument Lab	1	56 M <sup>2</sup> with one side pcc slab with sufficient plug points
10	*Auditorium	1	140 M <sup>2</sup> Shall be shared with BScMLT course / other allied courses
11.	**Library	1	58 M <sup>2</sup> with 1000 books of related subjects including journals and internet with wifi facility
12.	*Animal House	1	93 M <sup>2</sup> equipped to house rat , guinea pig, rabbit, sheep .
13	Other		Teaching aids, OHP, LCD projector and computer facilities etc..
14	Hostel facilities for Boys and Girls		Separate rooms for each students
15	Faculty room bath attached	1	18 M <sup>2</sup>

**c) \* Hospital Facility**

Sl. No.	Description	Nos	Specification
1	Bed strength		400 beds
2	Out patients		800 patients daily
3	Clinical laboratory	1	Microbiology

Hospital should be within eight kilometers from the institute and have all Specialties and Super Specialty Departments -Cardiology, Thoracic Surgery, Neuro Surgery, Neuro Medicine, Respiratory Medicine & Chest disease, Nephrology, and Gastroenterology.

**d) Clinical lab facilities required for the students in the Hospital Microbiology laboratory :**

Average number of specimens /month: 3000 ( All sections ),culture and sensitivity tests-300/month

Hospital Laboratories with various sections viz Bacteriology, Serology, Parasitology Mycology, Virology etc. If virology section is not available in the institute provide two weeks training in a reputed hospital / institute where the facility is available .Laboratories should have facilities to perform all routine and special investigations.

Institution should arrange suitable transportation for the students training.

e) **Minimum Clinical lab facilities and Specimens required are as follows:**

**Clinical Microbiology lab :**

Average number of specimens /month : 3000

Including specimens for Culture and sensitivity(300Nos),  
Serology Laboratory,Parasitology Laboratory,  
Mycobacterium Laboratory,Anaerobic Culture Laboratory,  
Mycological Culture Laboratory,  
Tissue Culture Laboratory etc

The clinical Lab should have sufficient space /work benches to accommodate both BScMLT and MScMLT students

**f) Additional Staffs Required in the Department for MSc MLT( Microbiology)**

**\*\* - indicate that it can be shared with other MScMLT specialty**

**\* - indicate that it can be shared with BScMLT course**

Sl. No.	Designation	No. of posts	Qualification
1	*Professor	1	Shall be shared with BScMLT
2	Associate Professor in MLT-Microbiology	1	1)MBBS and MD in the concerned subject OR BSc(MLT) and MSc(MLT) in the concerned subject (2) 8 years of regular post PG teaching experience in any Institute or Medical College approved by the Kerala University of Health Sciences and Govt. of Kerala
3	**Technical Assistant(Medical Laboratories)	1	BScMLT
4	Lab technician		DMLT/BScMLT
5	**Animal house supervisor	1	+2 /VHSE with 6 months training in animal handling and managements
6	*Clerk	1	Graduate with computer knowledge
7	**Animal Attender	1	VIII std pass
8	Cleaner	1	VII std pass

(All faculties and staffs should be with Govt./PMC and KUHS approved qualifications)

## g) List of equipment for Microbiology practical lab for a batch of 6 students

Sl. No.	Name of the equipment	No
1	pH Meter	1
2	Electronic Balance	1
3	Analytical Balance	1
4	*Physical Balance	1
5	Vortex mixer	1
6	** Tissue Homogeniser	1
7	Magnetic stirrer	1
8	Centrifuge	1
9	Hot air oven 18x18x18ö	1
10	Lab incubator 24x24x24ö	1
11	Water bath	1
12	**Water bath with shaker	1
13	Refrigerator	3
14	** Deep freezer ( -60°C )	1
15	**Laminar air flow class III	1
16	Electric Heater	2
17	**Steam Jacket Autoclave	1
18	Electrophoretic apparatus ( Slide gel & immersion gel ) with Power pack	1
19	Paper Electrophoresis Apparatus with power pack	1
20	Reagent Dispenser	3
21	Micro pipette Fixed volume	5
22	Micro pipette variable volume	5
23	Pipette washer	1
24	VDRL Shaker	1
25	**Computer with Printer	1
26	**Computer Scanner	1
27	**Photostatting Machine	1
28	Laminar air flow ( Class ó II )	1
29	**Deionizer ( Four column )	1
30	**Distillation apparatus ( Single and Double )	1
31	**Millipore water preparation unit	1
32	**Millipore filtration unit	1
33	Seitz filter	1
34	Vacuum pump	1

35	Binocular Microscope / High resolution monocular Microscope	6
36	**Fluorescent Microscope	1
37	*Phase contrast Microscope	1
38	* Inspissator	1
39	Anaerobic jar	2
40	**Nephelometer	1
41	**High speed Refrigerated centrifuge	1
42	**PCR Machine	1
43	**Blotting Apparatus	1
44	** HPLC Apparatus	1
45	ELISA Plate washer	1
46	ELISA Reader	1
47	**Cell Sonicator	1
48	*Ultra Violet light port	1
49	PAGE ( Both Disc & Slab gel ) apparatus with power pack	1
50	*Bacterial colony counter	1
51	*Meat minser	1
52	Lovibond Comparator	1
53	*Reuter Air Sampler	1
54	Autoclave- vertical 18ö diameter	1
55	Egg candlar 25 watt LED	1

Glass wares, chemicals, reagents and miscellaneous items should be provided by the department.

### III. MSc(MLT)- Pathology

#### a) Syllabus

Paper	Subject
	FIRST year
Paper-I	Hematology
Paper-II	Histopathology
Paper -III	Clinical Pathology & Cytogenetics
Paper IV	Cytology
	SECOND year
Paper -V	Blood banking & Immunopathology
Paper -VI	Laboratory Organization, QC, and Recent Advances in Pathology
Paper VII	Dissertation

b) Infrastructure**MScMLT -Pathology**

Sl. No.	Description	Nos	Specification
1.	Area - Municipality & Corporation Limit - Other		*Shall be shared with BScMLT course
2.	Building		621 M <sup>2</sup> (6675sq.ft)
3	** Seminar room with LCD projector and high speed internet facility.	1	58 M <sup>2</sup>
4	Lecture hall with LCD facility	1	56 M <sup>2</sup>
5.	PG Laboratory	1	<b>Pathology Laboratory</b> 84M <sup>2</sup> (903sq.ft) for 10 students (1) 58 M <sup>2</sup> for exclusive Laboratory living space with adequate work benches of either one sided or double sided (500cm length, 75cm height and 150 cm breadth)x2 seating arrangements. It shall be provided with cupboard with lock and key, gas and water connections and ceramic wash basins with water taps (swan neck) and Chrome Plated Lever Action Surgical Jumper Valve control, tube lights. Adequate drainage facilities and electrical plug points to connect the three pin plugs of microscopes in each seat. One wash basins shall be fitted between two seats in case of one sided work benches or between four seats in case of double sided seats. Also the lab should have a side PCC slab of total length 5 metre (Breadth 75CM,Height-75CM ) with a minimum of 5 Nos.of 15Amp socket and 6Nos of 5 Amp sockets with adequate distance so as to connect the Hot air oven ,incubator

			<p>and other equipments. The Laboratory shall be fitted with ground glass writing board or white board so that all the students can have a direct view or with out turning not more than 90 ° from their seat.</p> <p>(2) Room/Cabin for Technical staff(7M<sup>2</sup>) preferably transparent glass fronted with clear view to the Lab.,</p> <p>(3) Lab store 7 M<sup>2</sup> with sufficient slab/Almarah to place the glasswares, miscelaneous materials and chemicals.</p> <p>(4) Histotechnology and Immunopathology section- 12 M<sup>2</sup> with work benches and 5amp&amp;15amp sockets</p> <p>(4) Height adjustable revolving half chair or stool (1 for each students.)</p>
6.	*Molecular Biology Lab		50 M <sup>2</sup> Biocontainment Laboratory
7	**common room for boys and girls with toilet facilities for staff and students,		Separate common room for boys and girls.with toilet facilities for 28 M <sup>2</sup>
8.	**Store ó General Chemical	1	15 M <sup>2</sup> x 2Nos. with 3/more side slabs separate compartment to keep glassware and chemicals.
9.	**Common Instrument Lab	1	56 M <sup>2</sup> with one side pcc slab with suuicent plug points
10.	*Auditorium	1	140 M <sup>2</sup> Shall be shared with BScMLT course / other allied courses
11.	**Library	1	58 M <sup>2</sup> with 1000 books of related subjects including journals and internet with wifi facility
12.	*Animal House	1	93 M <sup>2</sup> equipped to house rat , guinea pig, rabbit, sheep .
13	Other		Teaching aids, OHP, LCD projector and computer facilities etc..

14	Hostel facilities for Boys and Girls		Separate rooms for each students
15	Faculty room bath attached	1	18 M <sup>2</sup>

c) **Hospital Facility**

Sl. No.	Description	Nos	Specification
1	Bed strength		400 beds
2	Out patients		800 patients daily
3	Clinical lab	1	Pathology

Hospital should be within 8 kilometers from the institute and have all Specialties and Super Specialty Departments -Cardiology, Neuro Medicine, Respiratory Medicine & Chest disease, Nephrology, and Gastroenterology.

Institution should do suitable transportation arrangements for students training.

d) **Clinical laboratory facilities are available for the students**

**Clinical Pathology lab**

Average number of specimens /month : 2000

**Blood banking**

Average number of specimens /month : 500

**Histotechnology lab :**

Average number of specimens /month : 100

**Cytology lab :**

Average number of specimens /month : 30

e) **Average number of specimens available per month for the following investigations:**

i) Total urine samples 500

ii) Total stool samples 50

iii) Total blood samples for Routine examination 500

iv). Biopsies for histopathology investigations 100

v) special investigation/month 10

vi) Cytology specimens :	30
vii) Available number of Blood Donors :	100
viii) Total number of Blood transfusion/month :	100

The clinical Lab should have sufficient space /work benches to accommodate both BScMLT and MScMLT students

**f) Additional Staff Required in the Department for MSc MLT- Pathology**

Sl. No.	Designation	No. of posts	Qualification
1	*Professor	1	Shall be shared with BScMLT
2	Associate Professor in MLT-Pathology	1	1)MBBSand MD in the concerned subject OR BSc(MLT) and MSc(MLT) in the concerned subject (2) 8 years of full teaching experience in MLT in the concerned subject including 5yr of post PG teaching experience in any Institute or Medical College approved by the Kerala University of Health Sciences and Govt. of Kerala
3	**Technical Assistant (Medical Laboratories)	1	BScMLT
4	*Animal house supervisor	1	+2 /VHSE with 6 months training in animal handling and managements
5	*Clerk	1	Graduate with computer knowledge
6	*Animal Attender	1	VIII std pass
7	Cleaner	1	VII std pass

(All faculties and staffs should be with Govt./PMC and KUHS approved qualifications)

**g) Clinical laboratory facilities**

**Hospital Pathology laboratory:**

Average number of specimens /month : 6000 ( All sections )

Hospital Laboratories with various sections viz Clinical pathology, Cytology, Cytogenetics, Histopathology , Blood Bank with component separation unit etc. Laboratories should have facilities to perform all routine and special investigations.

Institution should do suitable transportation arrangements for students training

## h) List of equipment for Pathology practical lab for a batch of 6 students

**Pathology**

Sl. No.	Name of the equipment	No
1	pH Meter	1
2	**Electronic Balance(10mgm sensitivity)	1
3	Analytical Balance	1
4	Colorimeter	1
5	Vortex mixer	1
6	**Tissue Homogeniser	1
7	Magnetic stirrer	1
8	Centrifuge	1
9	Micro Haematocrit Centrifuge	1
10	Cytospin Centrifuge	1
11	** High speed Refrigerated centrifuge	1
12	Hot air oven	1
13	Incubator	1
14	Water bath	1
15	Refrigerator	1
16	**Deep freezer ( -60°C )	1
17	** Laminar air flow III	1
18	Electric Heater coil type	1
19	Hot Plate	1
20	**Steam Jacket Autoclave	1
21	Coagulation study Equipment	1
22	Reagent Dispenser	3
23	Micro pipette Fixed volume	5
24	Micro pipette variable volume	10
25	Pipette washer	1
26	Computer with Printer	1
27	**Computer Scanner	1
28	*Photostatting Machine	1
29	** Laminar air flow ( Class ó II )	1
30	**Deionizer ( Four column )	1
31	**Distillation apparatus ( Single and Double )	1
32	*Millipore water preparation unit	1
33	**Millipore filtration unit	1
34	**Vacuum pump	1
35	Microscope, rechargeable, LED monocular microscope, stain resistant enamel finished body, Fully	1 for each

