

Prakash Shikshan Mandal's
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URUN-ISLAMPUR

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ANNEXURE 1
Pathology, Microbiology, Biochemistry
Department Of Pathology



Sr.No.	NAME OF THE ITEMS	Qty.
(A)	General	
1	Desktop Computers with High Speed Internet,	14
	Laser Black & White Heavy duty Laser Printers,	1
	Color Inkjet Printers,	1
	Scanners, Photocopy (Xerox) Machines, Telephone with STD facility, Fax Machine etc. Every faculty & Resident must have separate	1
	Desktop/Laptop with high speed Internet facility.	1
	Office table small and big, office chairs; museum almirahs; study table, staff room, and library almirahs, stock almirahs, , 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.	1
	store room racks	1
(B)	Morbid Histology and Morbid Anatomy	
2	Specimen identification solution	1
3	Weighing machine for cadavers (300 Kg.)	1
4	Manual Rotary Microtome	2
5	Automated Rotary Microtome	1
6	Cryostat	1
7	Hot plate	2
8	Paraffin embedding bath	2
9	Heated Paraffin Embedding Module	2
10	Cold Plate for Modular Tissue Embedding System	1
11	Automated Tissue Processor –Histokinette	2
12	Autoclave	2
13	Ultrapure water solutions - Distilled water plant	1



14	Water bath	
5	Centrifuge machine	
16	Cabinet for slides	0
17	Autopsy tables	2
18	Digital SLR at least 20 megapixel with micro, macro, wide angle zoom lenses, Flash and other accessories	1
19	Digital Automatic camera > 5 megapixel	1
20	Fully Automated high throughput Multi-Stainer Workstation	1
21	Fully Automated Embedding System (Heated embedding module & cold plate)	1
22	Fully Automated Flexible Coverslipping Workstation	1
23	Standalone paraffin dispensing module cold plate holding more than 100 cassettes	1
24	Stand alone cold plate	1
25	Troughs for staining	18
26	Coplin jars	24
27	Water bath (Tissue Flootation)	2
28	Single Pan Digital Balance, Chemical	2
29	Balance, chemical with weights	2
	Microscopes	
30	For Students – LED Binocular with Scanner, 10X, 40X, & Oil immersion lenses and inbuilt Battery backup power source	60
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)	1
32	For every Professor, Associate & Assistant Professor : Binocular Microscopes with High end Semiapochromatic Optics of international standard.	7
33	For every Tutor – Binocular Microscope with suitable high end lenses.	5
34	Penta Head Microscope with High end Optics with HDMI Multi output Photographic camera (> 5 MP) including Software	1
35	Deca Head Microscope with High end Optics with HDMI Multi output Photographic camera (> 5 MP) including Software	1
36	Grossing Station - 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.	1
37	Fully Automated Immuno-histo-chemistry Setup with Continuous supply of Important Antibodies, Lymphoma Panel etc.	1



38	Automatic High Speed Slide Scanner for converting Slides in Digital Format with software and Database Management with backup for Data Storage	
39	Demonstration eyepiece	
40	Colorimeter photoelectric klett	1
41	Microphotographic apparatus	1
42	Micro projection apparatus	2
43	Double demonstration eyepiece	4
44	2x2 slide projector	3
45	Over head projector	1
(C)	Hematology Lab:	
46	Five part Fully Automated Cell Counter	1
47	Three Part Fully Automated Cell Counter	1
48	Coagulometer (Fully automated)	1
49	Magnifying lens	3
50	Blood pressure instrument	5
51	Laboratory Counter	8
52	Laboratory stirrer	1
53	Automatic timer	5
54	Balance for weighing organs	1
55	Saws, wire for cutting bones	1
56	Slide boxes for 100 slides for students	200
57	Drill for boring glass	2
58	X-ray viewing box (LED)	2
59	Sternal puncture needle adult size	2
60	Sternal puncture needle child size	2
61	Liver Biopsy needle	2
62	Stop watch reading at 1/5 second.	5
63	PH Meter electric	5
64	Electrophoresis Set Up	1
65	LED Wireless Projector	3
66	Museum jars.	300
67	Surgical instruments.	5 Sets
68	Glassware, stains, chemicals reagents etc. for histological work.	As required
69	Hemoglobinometer sahils type	90



70	Sedimentation apparatus one western green & one wintrob	
(D)	Clinical Laboratory:	
71	Five Part Hematology Analyzer	1
72	Three Part Hematology Analyzer	2
73	Automatic Urine Analyzer	2
74	Binocular Microscopes with high end optics including 100X & LED Fluorescence for each Faculty/ resident working in lab plus 2 microscopes for technicians.	2
75	Albino meters esbachs & aufrech"s type	2
76	Urine glasset (conical)	12
77	PH meter	2
78	Incubator	2
79	Haemocytometers with red and white pipettes	90
80	Syringes disposable	As required
81	Staining jars for slides.	12
82	Automatic Hematology Slide Stainers.	1
83	Urinometers(Mercury based instruments to be replaced with other alternatives)	1
84	Centrifuge tubes graduated.	36
85	Graduated cylinders for various capacities ranging from 100 cc to1000 cc.	24
86	Pipettes of various sizes with disposal tips.	36
87	Reagent bottles	50
88	Dropping bottles	18
89	Reagents	As required
90	Balances –Digital Single Pan Sensitive Chemical balance	2
(E)	Specimens:	
91	Mounted Specimens	300
92	Wet Specimens	150

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Department Of Microbiology

Instruments



A. General

Sr.No.	Name Of Instruments	Quantity
01	Anaerobic jar	02
02	Autoclave	03
03	Balance Electronic Digital	02
04	Biosafety Cabinet Type- 4x2x2	03
05	B.O.D. Incubator	02
06	Centrifuge	04
07	CO2 Incubator/Candle Jar(CO2 Jar)	02
08	Computer Unit	03
09	Deep Freeze-20 degree Celsius & Deep Freezer	01
10	Distilled Water Plant	01
11	ELISA Reader	02
12	ELISA Washer	02
13	Hot Air Oven	03
14	Incubator	05
15	Lab Refrigerator(minimum 400 litres)	04
16	Laminar flow	01
17	Micrometer eye piece	02
18	Micrometer Stage	02
19	Microscope Binocular (student)	90
20	Microscope Binocular(Every faculty)	05
21	Microscope With universal condenser containing oil immersion, Bright field ,PhaseContrast& ,dark ground	01
22	Multimedia Projector	02
23	PH determination apparatus	02
24	Serum Inspissators	02
25	VDRL Shaker	02
26	Vortex Mixer	02
27	Water bath with variable temperature	02
28	Oil immersion lens for student microscope	80
29	Automated Blood Culture System	01

30	Colony Counter	01
31	Electrophoresis Complete Set	01

B . Consumables for Culture & Serological Diagnosis.



32	Antibiotic Discs for Antibiotic susceptibility testing	As Required
33	Antibiotic Zone Scale	As Required
34	Antisera- Salmonella	As Required
35	Antisera- Shigella dysenteriae	As Required
36	Antisera- Shigella flexenari	As Required
37	Antisera- Shigella sonnie	As Required
38	Antisera- Vibrio cholerae	As Required
39	ATCC strain – Enterococcus faecalis 29213	As Required
40	ATCC strain –E. coli 25922	As Required
41	ATCC strain –E. coli 35218	As Required
42	ATCC strain-Pseudomonas aeruginosa 27853	As Required
43	ATCC strain – staphylococcus aureus 25923	As Required
44	ATCC strain - staphylococcus aureus 29213	As Required
45	Bottles for Blood culture	As Required
46	Micropipettes – Multi channel & single channel	As Required
47	Digital Thermometers of different temperatures	As Required
48	Various Kits for Serological Diagnostics	As Required
49	Laptop	As Required
50	Desktop Computer,with printer	As Required
51	Photocopier and Scanner	As Required



Bacteriology, Serology & Immunology

Culture Facilities		
1	Themometers (Assorted)	12
2	Glassware	Required
2.1	Pipettes	
	0.1 ml	10
	0.5 ml	10
	1 ml	10
	2 ml	10
	5 ml	10
	10 ml	08
	25ml	08
2.2	Burettes	1
2.3	Beakers	
	50 ml	10
	100ml	10
	250ml	01
	500ml	10
	1000 ml	01
2.4	Conical Flasks	
	50ml	05
	100ml	10
	250ml	01
	500ml	10
	1000 ml	05
3	Autoclavable Petri Dishes of different Size(90mm Dia.*15mm)	104
3.1	Autoclavable Plastic Petri Dishes of different Size(90mm Dia.*15mm)	50
3.2	Autoclavable Glass Petri Dishes of different Size(90mm Dia.*15mm)	54
04	Reagent bottles	
4.1	Reagent bottles Plain	
	50ml	25
	100ml	25



	250ml	50
	500ml	15
	1000 ml	5
	2000 ml	10
4.2	Reagent bottles with stopper	
	60ml	70
	125ml	70
	250ml	96
	500ml	160
	1000 ml	48
	2000 ml	12
05	Test tubers hard glass	
	150 mm X 18 mm - 12Gross	12
	100 mm X 12 mm -25Gross	25
	75 mm X 12 mm -25Gross	25
06	PH Determination apparatus	2
07	Staining Troughs	100
08	Dropping Bottles For Stains (plastic)	750

Media



Sr. No	Name of Item	Quantity
1	Nutrient agar -500gm	As Required
2	MacConkey agar – 500gm	As Required
3	Mueller Hinton agar 500gm	As Required
4	Peptone water - 500gm	As Required
5	Urease agar – 100gm	As Required
6	Urea powder - 100gm	As Required
7	Citrate agar- 100gm	As Required
8	Triple sugar iron agar – 100gm	As Required
9	M R- V P broth – 100gm	As Required
10	Brain – heart infusion broth – 500gm	As Required
11	Robertson cooked medium – 500gm	As Required
12	Thioglycolate broth – 500 gm	As Required
13	Bile esculin agar – 100gm	As Required
14	Sabouraud dextrose agar – 100gm	As Required
15	Corn meal agar – 100gm	As Required
16	Thiosulphate citrate bile salt agar – 100gm (TCBS)	As Required
17	S-S agar -100 gm	As Required
18	XLD agar – 100gm	As Required
19	Wilson blair agar – 100gm	As Required
20	Glucose powder- 100gm	As Required
21	Sucrose powder -100gm	As Required
22	Maltose powder – 100 gm	As Required
23	Lactose powder – 100 gm	As Required
24	Mannitol powder – 100 gm	As Required
25	Inulin – 100 gm	As Required
26	Agar powder-500gm	As Required

Reagent and stains



Sr.No	No Of Item	Quantity
1	Indole reagent	As Required
2	Hydrogen peroxide	As Required
3	Cider wood oil	As Required
4	M R reagent	As Required
5	Na – hypochlorite	As Required
6	Conc. – H ₂ SO ₄	As Required
7	KOH Powder – 500gm	As Required
8	Barium chloride – 500 gm	As Required
9	Potassium chloride powder – 10 gm	As Required
10	Sodium chloride 500 gm	As Required
11	Oxidaze reagent 100 gm	As Required
12	Lugol's iodine 100 ml	As Required
13	Lacto phenol cotton blue – 100 ml	As Required
14	India Ink-100ml	As Required
15	Crystal violet -500ml	As Required
16	Grams iodine 500ml	As Required
17	Saffranine 500ml	As Required
18	Absolute alcohol	As Required
19	Spirit – 500 ml	As Required
20	Carbol fuchsiion – 500 ml	As Required
21	Methylene blue – 500 ml	As Required
22	Leishman's stain – 500 ml	As Required
23.1	Fields stain A – 500 ml	As Required
23.1	Fields stain B – 500 ml	As Required
24	Alberts : 'A' and ' B' – 100 ml	As Required

SPECIMEN



Sr. No.	NAME	Qty.
1.	P1- ROUNDWORM (ASCARIS MALE & FEMALE)	2
2.	P2-HOOKWORM	2
3.	P3-TAPEWORM	2
4.	P4-PINWORM	2
5.	P5-LIVER FLUKE (TREMA TO DES)	1
TOTAL		09

CHARTS



Sr. No.	Name
1.	Helminthic Eggs In Stool Of Man
2.	Life Cycle Ascar Is Lumbricoides
3.	Life Cycle Ancylostoma Duodenale
4.	Life Strongylodes Stecoralis
5.	Life Cycle Of Trchuris
6.	Life Cycle Muchereria Bancrofti
7.	Life Cycle Dracunculus Medinensis
8.	Life Cycle Of Teania Saginata
9.	Life Cycle Of Teania Solium
10.	Cysts Intestinal Protozoa Of Man
11.	Evolution Of Metadtatic Amoeriasis
12.	Cycle Of Entamoeba Histolytica
13.	Life Cycle Girdia Lamblia
14.	Life Cycle Leishmania Donovanii
15.	Pathogenic Protozoa
16.	Bacteria
17.	Viruses (Types Of Viruses)
18.	Ascaris Lumbricoides - Structure
19.	Plasmodium (Malarial Parasite)
20.	Filariasis (L.H.)

MODELS



Sr. No.	Name
1.	Simple Icosahedral Structure Virus
2.	Bacteriophage
3.	Icosahedral Capsid
4.	Cultivation Into Embryonated Egg
5.	Tobacco Mosaic Virus
6.	Helical Nucleocapsid
7.	Human Adeno Virus
8.	Poliovirus
9.	Rhabdo Virus
10.	Yeast Cell
11.	L.H. Of. Rhizopus
12.	Human Immunodeficiency Virus (HIV)
13.	Hepatitis-B virus
14.	Herpes Simplex Virus
15.	L.H.Of Penicillium
16.	L.H. Of Aspergillums
17.	Influenza Virus
18.	Auto Clave
19.	Blood Agar
20.	Maockoncey Agar

Department of Biochemistry



Sr.No.	NAME OF THE ITEMS	Available (Qty.)
1	Analytical Balance : upto 200g/1gm increment	2
2	Urinometer calibrated (Mercury based instruments to be replaced with other alternatives)	50
3	Hot air oven (More than 200 litres)	4
4	Digital Colorimeters	5
5	Student Microscopes	6
6	Glucometer with strips (For POCT)	2
7	Thermometer 0 – 250 degree Celsius (Mercury based instruments to be replaced with suitable alternatives)	5
8	Semi autoanalyser	2
9	Boiling Water baths	7
10	Constant temperature water bath Tank Capacity: (Temperature range 5 to 80o Celsius)	3
11	Laboratory Reagent Refrigerators, capacity > 200 litres	3
12	Complete Chromatographic Unit for paper & TLC	3
13	Centrifuge clinical for ≥ 8 tubes	6
14	pH meters of wide range digital	5
15	Fixed volume pipettes -- 1ml,0.5ml,0.2ml,0.1ml and 0.02ml	5 (of each volume)
16	Complete Electrophoresis apparatus with power supply (Paper, PAGE, agarose)	7
17	Densitometer with computer	1
18	Bottle dispensers	20
19	All glass distillation apparatus	3
20	Vortex mixers	3
21	Incubator 37oC	4
22	Variable and fixed volume micro auto pipettes	19
23	Glass ware & accessories	As required
24	Fume cupboard	2
25	Digital Analytical Balance	1
26	Balance Micro	8
27	Spectrophotometer	1
28	ELISA (Demonstration)	1
29	Laptop	1
30	Desktop Computer, with Printer	2
31	Photocopier and Scanner	1
32	Multimedia Projector with screen	2
33	Binocular microscope	2
34	Magnetic sterrer with hot plate	1



BIOCHEMISTRY DEPARTMENT CHARTS

SR.NO	NAME OF CHART	LOCATION
01	Structure of different osazone.	Laboratory
02	Bottle brush structure of Proteoglycan monomer	Laboratory
03	Proteoglycan aggregate	Laboratory
04	Diagrammatic representation of glycogen molecule	Laboratory
05	Classification of fatty acids	Laboratory
06	The steroid nucleus, Phenanthrene (ring A:B:C) to which cyclopentane D ring is attached	Laboratory
07	The structure of Cholesterol	Laboratory
08	Structure of lipoprotein where TG: triacylglycerol CE: Cholesterol ester	Laboratory
09	Diagrammatic representation of lipoprotein with increasing densities	Laboratory
10	Classification of amino acids based on Polarity	Demo Room
11	Schematic diagram for the primary structure of Protein	Demo Room
12	Formation of hydrogen bond in alpha helix	Demo Room
13	Schematic diagram of alpha helical structure of Protein	Demo Room
14	Anti-Parallel β -Pleated of sheet structure	Demo Room
15	Parallel β -pleated of sheet structure	Demo Room
16	Denaturation of Protein	Demo Room
17	Electrophoretic separation of serum Proteins on cellulose acetate strip	Laboratory
18	Densitometric scanning of normal serum Protein	Laboratory
19	---	--
20	Different electrophoretic Patterns of serum compared with normal serum	Laboratory
21	Plasma Proteins their functions of diagnostic importance	Laboratory
22	Schematic Structure of LgG to Show Basic Structure of Immunoglobulin Molecule	Dept. of Library
23	Sir Hans Adolf Krebs	HOD Office
24	Gerty Cori	Laboratory
25	Johann Heinrich Lambert (1728-1777)	Laboratory
26	Francis Crick	HOD Office
27	Peter D. Mitchell	Laboratory
28	Jacques Monod	Research Lab

29	Leonor Michaelis	Laboratory
30	--	--
31	Schematic representation of induced fit model of Koshland	Demo Room
32	Representation of formation of an ES Complex according to the fisher's lock and key model	Demo Room
33	Diagrammatic representation of competitive inhibition	Demo Room
34	Classes of enzyme inhibitors	Demo Room
35	Commonly used drugs that are enzyme inhibitors	Demo Room
36	--	--
37	Typical rise in serum enzyme activities following a myocardial infarction	Laboratory
38	--	--
39	--	--
40	Renin-angiotensin-aldosterone system (RAAS) in regulation of water and electrolyte balance	HOD Office
41	Catabolic pathway of hemoglobin	Dept. of Library
42	Conjugation of bilirubin with glucuronic acid in the liver	Dept. of Library
43	Source of Carbon and nitrogen atoms in the purine ring	
44	The Central dogma of molecular biology	Research Lab
45	Semiconservative DNA molecules	Research Lab
46	--	--
47	Replicating fork	Research Lab
48	--	--
49	Inhibitors of Transcription	Research Lab
50	Reverse Transcription	Research Lab
51	Activation of amino acid AAS: Amino acyl tRNA Synthase	Research Lab
52	Schematic diagram of lac operon	Research Lab
53	--	--
54	--	--
55	The Principal buffers of the blood	Laboratory
56	--	--
57	Action of hemoglobin buffer in lungs	Laboratory
58	Feedback Control of H ⁺ Concentration by respiratory system	
59	--	--
60	Metabolic importance of glycine	Dept. of Library




DEAN