

**LIST OF INSTRUMENTS/ EQUIPMENTS AVAILABLE IN CONSTITUENT COLLEGES OF THE UNIVERSITY FOR  
OUTSOURCHING**

S.No	Name of equipment	Name/designation of the I/c of the equipment with E-mail/Phone no	Function of the equipment	Utilization charge/fee for the equipment (₹)
<b>College of Agricultural Engineering and Post Harvest Technology, Ranipool, Gangtok, Sikkim</b>				
1	Human Energy Measuring system (K4B2)	Dr. NS Chauhan Professor and Principal Investigator, AICRP on ESA Department of Farm Machinery and Power Engineering nschauhan.fmp.caepht@cau.ac.in nsc_002@yahoo.co.in Mobile: 9434742243	Measurement of oxygen consumption and energy consumption by workers for performing task	2800 per subject
2	Soil bin with soil processing equipment, test trolley with force transducer and automated data acquisition system	Dr. S. K. Satpathy Asst. Prof. and I/c Farm Machinery Testing Center Department of Farm Machinery and Power Engineering sksatpathy.fmp.caepht@cau.ac.in sangramkishorsatpathy@gmail.com Mobile: 8918515200	Conduct of soil dynamics study on tillage tools	Rs.6608/day
3	Food texture analyzer	Dr. Said PrashantPandharinath, Assistant Professor Department of Processing and Food Engineering Email: psaid4@gmail.com Mobile: +91 9564435977	Measurement of texture of food samples	300.00/sample
4	Feed mixtures (Laboratory)	Dr. Sujata Jena, Associate Professor and Head Department of Processing and Food Engineering Email: drsujatajena@gmail.com Mob: +91 9434760411	Mixing of powders, solids and semisolids	200.00/sample
5	Laboratory Vacuum Tray Dryer	Dr. Sujata Jena, Associate Professor and Head Department of Processing and Food Engineering	Vacuum drying of food samples	300.00/day

		Email: drsujatajena@gmail.com Mob: +91 9434760411		
6	Laboratory Spray dryer	Dr. Sujata Jena, Associate Professor and Head Department of Processing and Food Engineering Email: drsujatajena@gmail.com Mob: +91 9434760411	Spray drying of liquid food samples.	400.00/day
7	Milk analyzer	Dr. Rakesh K. Raigar, Assistant Professor Department of Processing and Food Engineering Email: rakeshcaepht@gmail.com Mob: +91 9474682664	To measure the components of the milk	100.00/sample
8	Portable Chromameter	Dr. Said PrashantPandharinath, Assistant Professor Department of Processing and Food Engineering Email: psaid4@gmail.com Mobile: +91 9564435977	To measure colour of the food samples	200.00/sample
9	Laboratory homogenizer	Dr. Rakesh K. Raigar, Assistant Professor Department of Processing and Food Engineering Email: rakeshcaepht@gmail.com Mob: +91 9474682664	Homogenization of liquid food samples	100.00/litre
10.	Automatic Form Fill Seal packaging Machine	Dr. Rakesh K. Raigar, Assistant Professor Department of Processing and Food Engineering Email: rakeshcaepht@gmail.com Mob: +91 9474682664	Packaging of solid/granular/powdered food	10.00/kg
11.	Fruit and Vegetable processing Plant	Dr. Sujata Jena, Associate Professor and Head Email: drsujatajena@gmail.com Mob: +91 9434760411	Processing of fruits and vegetables: beverages	3000.00/day for beverages excluding fuel
12.	Milk Processing Plant	Dr. Rakesh K. Raigar, Assistant Professor Department of Processing and Food Engineering Email: rakeshcaepht@gmail.com Mob: +91 9474682664	Processing of milk: Packed milk, butter, ice-cream, candy, etc.	Candy plant: 2000.00/day Ice-cream plant: 3000.00/day Flavored milk: 1000.00/day (Excluding fuel charges)
13.	Mini Rice Mill	Dr. Rakesh K. Raigar, Assistant Professor Department of Processing and Food Engineering Email: rakeshcaepht@gmail.com Mob: +91 9474682664	Processing of rice	4000.00/tonne

14.	Turmeric processing Unit	Dr. Said PrashantPandharinath, Assistant Professor Department of Processing and Food Engineering Email: psaid4@gmail.com Mobile: +91 9564435977	Processing of turmeric into: Dry (whole & sliced) turmeric, turmeric powder	400.00/Day
15.	Ginger processing unit	Dr. Said Prashant Pandharinath, Assistant Professor Department of Processing and Food Engineering Email: prashant.pfe.caepht@cau.ac.in Mobile: +91 9564435977	Processing of Ginger into: Dry (whole & sliced) Ginger, ginger powder	400.00/Day
16.	Spectrophotometer UV vis Double beam	Dr. Ch. Birendrajit, Assistant Professor (Soil Science) Department of BEAS Email : biren.uas@gmail.com Mobile :8250721930	It is used to determine phosphorus and sulpher in soil and plant samples.	For Soil Sample : Rs 500 per soil sample For Plant sample : Rs 400 per plant sample

**College of Food Technology, Lamphelpat, Manipur**

Sl. No.	Name of Equipment	Name/ Designation of I/c of equipment with E-mail/Phone no.	Function of equipment	Utilization charge (Rs)
1	Rotary Evaporator-Vacuum Pump Chiller,	Dr. Ng. Joykumar Singh, Dean i/c , College of Food Technology, CAU, Imphal	Evaporation of juice under vacuum	1000 for per run
2	Hunter lab colorimeter	Email: dean.coftimf@gmail.com	For measurement of colour	100 for 10 samples
3	Kelplus Nitrogen estimation system (Pelican Equipments) Model: Classic Dx (Vats)	Dr. Angam Raleng Dr. Ashok Kumar, Assistant Professor, College of Food Technology, CAU, Imphal Email: dean.coftimf@gmail.com	For estimation of Protein content	700 for 4 samples
4	Socsplus Extraction system (Pelican Equipments)	Dr. Angam Raleng Dr. Ashok Kumar Dr. H. Dayanidhi,	For estimation of fat content	1000 for 4 samples
5	Fibre Extraction	Assistant Professor,	For estimation of fibre content	3000 for 4 samples

	system (Pelican Extraction system)	College of Food Technology, CAU, Imphal Email: dean.coftimf@gmail.com		
<b>College of Community Sciences, Tura, Meghalaya</b>				
Sl. No.	Name of Equipment	Name/ Designation of I/c of equipment with E-mail/Phone no.	Function of the equipment	Utilization charge/Fee for the equipment
1.	Automatic Washing Machine	Dr. Anupama Mishra HOD & Associate Professor, Department of Textile and Apparel Designing, College of Community Science, Tura, Meghalaya anupamamishra8@gmail.com	For washing various kinds of cloths	Ranged from Rs. 100 -Rs. 700/- (depending upon material/cloth like woollen, silk)
2.	Dry Cleaning Machine	9997541341	For Dry cleaning of silk, wool and cotton fabric	-Do-
3.	Jacquard Loom Computerized	Dr. Mamoni P. Borah Assistant Professor (Senior scale), Department of Textile and Apparel Designing, College of Community Science, Tura, Meghalaya mamoni.p.borah@gmail.com, 8638141464	For weaving	Rs. 500 /hr
4	Bicycle Ergonometer (Ergoselect – 100)	Prof.Swapnali Borah, FRM Dept. swapanli.frm.cocs@cau.ac.in	Physical Fitness	1% of the cost of the equipment (6,05,900/-)
5	Colorimeter	Dr. Indu	Nutrient analysis	Rs.500 per food sample
6	Cooling centrifuge	HOD & Assoc. Prof. Department of FSN, College	Nutrient analysis	Rs.500 per food sample
7	Texture analyser	of Community Science, Tura, Meghalaya indukvk20@gmail.com 8415801656	Texture properties of foods	Rs.500 per food sample
<b>College of Post Praduate Studies in Agricultural Sciences, Barapani, Meghalaya</b>				
Sl. No.	Name of Equipment	Name/Designation of i/c of the equipment with E.mail/phone no.	Function of the Equipment	Utilisation Charge/ Fee for the equipment
1	Centrifuge 5810R	Dr. V. Ram, In-charge & Prof. SNRM Email:ramvishramcau@gmail.com	Separation of particles suspended in a liquid according to particle size and density,	Rs. 100/- per sample

		Ph. No.: 8258811434	viscosity of the medium, and rotor speed	
2	Thermocycler	Dr. D. Thakuria, Prof. SNRM Email:thakuria.dwipendra@yahoo.co.in Ph. No.:8787343877 Dr. Pranab Dutta, Assoc. Prof. SCP, Plant Pathology, Email: pranabdutta74@gmail.com M.No. 9678906650/9101551247	PCR (n x n)	Rs. 2000/- per sample for a minimum of 6 samples
3	Nanodrop Spectrophotometer,	Dr. D. Thakuria, Prof. SNRM Email:thakuria.dwipendra@yahoo.co.in Ph. No.:8787343877	Quality check of nucleic acid sample	Rs. 1000/- per n x n batch of 6 samples
4	Binocular Microscope Model: LEICA DM 750	Dr. D. Thakuria, Prof. SNRM Email:thakuria.dwipendra@yahoo.co.in Ph. No.:8787343877	Observation of microorganisms	Rs. 500/- per sample
5	Denaturing gradient gel electrophoresis apparatus set, IV-1030 Complete System for DGGE,CDGE,TGGE,SCP,HA:IA-1	Dr. D. Thakuria, Prof. SNRM Email:thakuria.dwipendra@yahoo.co.in Ph. No.:8787343877	DNA Fingerprinting analysis	Rs. 2500/- per run of 16 hours
6	Double Beam Atomic Absorption Spectrophotometer, Model: SL-194, (CH. No. AQ25471751)	Dr. N. J. Singh, Asstt. Prof. SNRM Email:naorem2005@gmail.com Ph. No.: 9402196160	To determine the concentration of an element in a sample.	Rs. 200/- per sample for students & farmers and Rs. 400/- per sample for others
7	Microscope Zeiss software operated microscope	Dr. Pranab Dutta, Assoc. Prof. SCP, Plant Pathology, Email: pranabdutta74@gmail.com M.No. 9678906650/9101551247	It is a light microscope technique used to enhance the contrast of images of transparent and colourless specimens. It enables visualization of cells components, bacteria, fungus etc.	Rs. 1000 per day (sample processing not included)
8	Real-time PCR machine	Dr. D. Thakuria Prof. SNRM Email:thakuria.dwipendra@yahoo.co.in Ph. No.:8787343877	Qualitative PCR	Rs. 500 per sample (Template and primer to be provided by the user)

		Dr. Ng. Tombisana Meetei, Asstt. Prof., SCI Email: ntmeetei@gmail.com M. No: 9402196140		
<b>College of Fisheries, Lembucherra, Tripura</b>				
<b>Sl. No.</b>	<b>Name of Equipment</b>	<b>Name/Designation of i/c of the equipment with E.mail/phone no.</b>	<b>Function of the Equipment</b>	<b>Utilisation Charge / Fee for the equipment</b>
1.	Inverted Microscope	Dr. H Priyadarshi E-mail- priyadarshimansu@gmail.com Phone No.- 9862346943	To visualize and capture the live cell	Rs. 1500/- per hour
2.	Multi-probe water quality meters	Dr. A.B.Patel E-mail- anin.b.patel@gmail.com Phone No. .- 9436540812	To measure the different water qualityparameter	Rs.50/- per sample
3.	Proximate composition analysis system	Dr. A.B.Patel E-mail- anin.b.patel@gmail.com Phone No. .- 9436540812	Nltrogen Analysis withauto-sampler, crude fibre and crudelipid analyses	1. Crude protein-Rs. 1200/- per sample 2. Crude Fat-Rs.1000/- per sample 3. Crude fibre- Rs. 1200/-per sample 4. Ash- Rs. 200/- persample 5. Moisture - Rs. 70/- persample
4.	Electro fishing apparatus	Dr. M.K.Datta E-mail- mkdatta2005Jgmail1.co Phone No.-98626763 43	For fishing in hilly terrain	Not fixed (Will be fixing shortly)
5.	Twin screw extruder	Dr. R.K.Majumder E-mail- drrkmcof@gmail.com Phone No.- 9862441057	To produce extruded fish product	Not fixed (Will be fixing shortly)

6.	Texture analyzer	Dr. R.K.Majumder E-mail- drkmc@gmail.com Phone No.- 9862441057	To analyze the texture of the fish product	Not fixed (Will be fixing shortly)
7.	Micromanipulation system with zoom microscope	Dr. A.S.Barman E-mail- barman.anindya@gmail.com Phone No.- 9612019657	to microinject in cell and embryo	Not fixed (Will be fixing shortly)
8.	Gel Documentation system	Dr. A.S.Barman E-mail- barman.anindya@gmail.com Phone No.- 9612019657	To visualize and capture the nucleotide	Not fixed (Will be fixing shortly)
9.	Automated DNA Sequencer	Dr. A.S.Barman E-mail- barman.anindya@gmail.com Phone No.- 9612019657	To sequence the particular gene fragment	Printer should be provided 1. Without DNA isolation Rs 700 per sample 2. Without DNA isolation Rs 1000 per sample
10.	Nano drop	Dr. A.S.Barman E-mail- barman.anindya@gmail.com Phone No.- 9612019657	To quantify the DNA/RNA	Not fixed (Will be fixing shortly)
11.	Spectroflurometer	Dr. A.B.Patel E-mail- anin.b.patel@gmail.com Phone No. .- 9436540812	To analysis the different parameter through UV ray	Not fixed (Will be fixing shortly)
12.	Colour Analyser	Dr. S. C.Mandal E-mail- scmandal02fip@gmail.com Phone No.- 9402169213	To analyze the color of the particular product	Not fixed (Will be fixing shortly)
13.	Nutrient Auto-Analyzer	Dr. A.B.Patel E-mail- anin.b.patel@gmail.com Phone No. .- 9436540812	To measure the different water quality	Rs.50/-per sample

14.	Blood auto analyzer fully automated Bio chemistry analyzer truly open system	Dr. Himadri Saha E-mail- sahaofcau@gmail.com Phone No.- 9774325853	To analyze different blood parameter	Rs.1000/- per sample
15.	Upright transmitted light bright field and reflected light fluorescene research microscope	Dr. A.S.Barman E-mail- barman.anindya@gmail .com Phone No.- 9612019657	To view the histology of the tissuesection	Rs.1500/- per hour
16.	Trinocular stereo microscope for transmitted & reflected light with digital imaging workstation	Dr. A.S.Barman E-mail- barman.anindya@gmail .com Phone No.- 9612019657	To view the egg development and larval development	Rs.1500/- per hour
17.	PCR	Dr. H Priyadarshi E-mail- priyadarshimansu@gmail.com Phone No.- 9862346943	To amplify gene fragment	1. Without DNA isolation Rs. 500/-per sample 2. Without DNA isolation Rs. Rs. 700/- per sample
18.	Real Time PCR	Dr. J. Parhi E-mail- iiparhi@gmail. com Phone no: 8974580427	To study the expression of gene	Primer should be provided 1. Rs 2000/- per sample 2. Rs 4000/-per sample (including)
<b>College of Horticulture and Forestry, Pasihat, Arunachal Pradesh</b>				
<b>Sl. No.</b>	<b>Name of Equipment</b>	<b>Name/Designation of i/c of the equipment with E.mail/phone no.</b>	<b>Function of the Equipment</b>	<b>Utilisation Charge/ Fee for the equipment</b>



1.	Double Beam Atomic Absorption Spectrophotometer	Dr.A.S.Mailappa Associate Professor (SS AC), Email: sumayilii@redilfmail.com Mob: 9402474635	Determination of micronutrients	1. Farmers samples/ Students of other Institutes: Rs 50/- 2. Other than Farmers' sample: Rs.300/-
3.	UV-Visible spectrophotometer.	Dr. Mahesh Kumar, Assistant Professor. Mo. No.-+91-9547891299 Email: maheshbiochem@gmail.com	Quantitative analysis of Enzyme activity and Kinetics; Wavelength scan; Absorption maxima determination, etc	Rs. 50/sample
4.	Themocycler	Dr. Amit Kumar Singh. Assistant Professor Mo. No.- 8787466875 email- geneamit@gmail.com	DNA amplification	Rs. 300/sample (Minimum sample size=50 samples)
5.	Gel documentation system	Dr. L. Wangchu, Associate Professor; Mo. No.-+91- 7005628150 Email: lobsang1974@gmail.com	Gel pictures of DNA and proteins	Rs. 50/sample system
6.	High performance liquid chromatography	Dr. Siddhartha Singh, Assistant Professor; Mo. No- +91-9402477043; Email siddharthasingh786@gmail.com	Amino acid Rs 2500/sample profiling. quantification of pesticides residues etc	Rs 2500/sample
<b>College of Veterinary Sciences &amp; Animal Husbandry, Jalukie, Nagaland</b>				
<b>Sl. No.</b>	<b>Name of Equipment</b>	<b>Name/Designation of i/c of the equipment with E.mail/phone no.</b>	<b>Function of the Equipment</b>	<b>Utilisation Charge/ Fee for the equipment</b>
1.	Fully automatic Bio-chemistry analyzer EM200	Dr. M. G. Jayathangaraj, Professor &HOD ☎9444128098 mgjayathangaraj@gmail.com hodvcccovscjlk@gmail.com	To analyze the biochemical parameters. -Liver Function test -Kidney Function test -Lipid Profile	Rs 200/test
<b>College of Agriculture, Imphal, Manipur</b>				

1.	Pineapple Processing Unit	Dr. Ng. Joykumar Singh, Assistant Professor Email: joyngang@gmail.com Phone no: 9612168301	Production of pineapple powder and juices	Not yet fixed
<b>College of Veterinary Sciences &amp; Animal Husbandry, Aizawl, Mizoram</b>				
<b>Sl. No.</b>	<b>Name of the equipment</b>	<b>Name/ Designation of i/c of the equipment with email/phone no.</b>	<b>Function of the equipment</b>	<b>Utilization charge/ Fee of the equipment</b>
1.	Refrigerated Centrifuge machine	Dr. S. K. Borthakur Email: <i>borthakurvet@gmail.com</i>	For high speed centrifugation	
2.	Semi Motorized Rotary Microtome	Dr. P. C. Kalita <i>kalitapc@yahoo.co.in</i> 9436365873	Tissue sectioning for Histological and Histopathological examination	Rs 200/- per process sample Rs 500/- per sample ( Fixed sample without process)
3.	Real time PCR	Dr. P. K. Subudhi, Asst. Prof. Department of Veterinary Microbiology Phone: 9436354435 Email: <i>subudhipk@gmail.com</i>	PCR based realtime detection of nucleic acids, determination of gene expression	• For detection: Rs 1,500/- per sample Gene expression: Rs 3,000/- per sample
4.	BD Phoenix automated bacterial identification system	Dr. T. K. Dutta, Prof.& Head Department of Veterinary Microbiology Phone: 9862335294 Email: <i>tapandutta@rediffmail.com</i>	Confirmation of bacterial species from pure colony of unidentified bacteria	• Bacterial identification: Rs 1500/- per sample Identification with AST: Rs 3000/- per isolate
5	Multiscan Go plate reader	Dr. P. Roychoudhury, Assoc. Prof. Department of Veterinary Microbiology Phone: 88372 62227 Email: <i>parimal73@rediffmail.com</i>	Recording of result of ELISA and determination of nucleic acid purity & quantity	• Plate reading: `200/- per reading 1. Nucleic acid: Rs 200/- per sample

6	Inverted Fluorescence microscope	Dr. P. Roychoudhury, Assoc. Prof. Department of Veterinary Microbiology Phone: 88372 62227 Email: <a href="mailto:parimal73@rediffmail.com">parimal73@rediffmail.com</a>	Tissue culture plate, virus CPE observation	2. Rs 500/- per sample
7	Hatchery unit	Dr. Ranjana Goswami/ asstt. Prof (SG). E-mail: <a href="mailto:sksthakur2007@rediffmail.com">sksthakur2007@rediffmail.com</a>	Production of day-old chicks from fertile eggs.	Rs 2/-egg set in the incubator
8	Food Texture Analyzer	Dr. Pragati Hazarika	To analyze the texture/tenderness of food products.	Rs 50.00/sample
9	Clinical Biochemistry analyzer	Dr. M. Ayub Ali <a href="mailto:ayubali1969@gmail.com">ayubali1969@gmail.com</a>	Analysis of biochemical parameters	The charge will vary ranging from Rs 50 to Rs 300 per parameter depending on the parameter to be analyzed.
10	HPLC system	Dr. M. Ayub Ali <a href="mailto:ayubali1969@gmail.com">ayubali1969@gmail.com</a>	Purification of samples	Rs 500.00/ sample
11	Phase contrast microscope	Dr. T.C. Tolengkomba Email: <a href="mailto:drkhomba10@gmail.com">drkhomba10@gmail.com</a>	Reading of cytological slide	Rs 200.00 per sample
12	Multiscan	Dr. T.C. Tolengkomba Email: <a href="mailto:drkhomba10@gmail.com">drkhomba10@gmail.com</a>	Reading of ELISA plate, Nucleic acid purity and quantification ` 200.00 each	Rs 200.00 per sample

#### List of machineries available in the college for outsourcing

Sl. No.	Name of machine	Name of Faculty Members With Subject/Department	Function of equipment	Utilization charge
<b>College of Fisheries, Lembucherra, Tripura</b>				
1.	Feed mill	Dr. A.B.Patel E-mail- <a href="mailto:anin.b.patcl@gmail.com">anin.b.patcl@gmail.com</a> Phone No.- 9436540812	To produce pelleted fish feed	Will be fixing shortly
<b>College of Food Technology, Lamphelpat, Manipur</b>				
1	Makhana Seed Roasting & Popping Machine	Dr. Ng. Joykumar Singh, Dean i/c , College of Food Technology, CAU, Imphal	Roastng & Poping Makhana Seed	Will be fixing shortly

<b>College of Horticulture and Forestry, Pasighat, Arunachal Pradesh</b>				
1.	Honey processing plant (Capacity 250 kg)	Dr. P. Raja, Associate Professor and Head Department of Plant Protection, CHF, Pasighat Email: prajachf@gmail.com Phone No.: 8730998202 Dr.	Processing of honey	Rs. 15/- per kg of honey
2.	Crude palm oil extraction unit	Barun Singh, Assistant Professor Email: barunchfcau@gmail.com Phone No: 9436250944	Crude palm oil extraction	Rs 200/hour (excluding labour and fuel)
<b>College of Veterinary Sciences &amp; Animal Husbandry, Jalukie, Nagaland</b>				
1.	<b>Tractor</b> -MB Plough -Cultivator -Agri Harrow -Rotavator -Trailer -Bund Former	Mr. Helungsuipoing Mbungtsa Farm Manager (Agri) helungbung@gmail.com  ☎9366441678	Agri. Operation like primary tillage, secondary tillage, formation of bunds and transportation of materials.	Rs 700/hour