



ELECTRONIC WASTE MANAGEMENT REPORT



**Guru Nanak Dev University
Amritsar
2020-2021**



राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद

विश्वविद्यालय अनुदान आयोग का स्वायत्त संस्थान

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

An Autonomous Institution of the University Grants Commission

Certificate of Accreditation

*The Executive Committee of the
National Assessment and Accreditation Council
on the recommendation of the duly appointed
Peer Team is pleased to declare the
Guru Nanak Dev University
Amritsar, Punjab as
Accredited
with CGPA of 3.51 on four point scale
at A grade
valid up to December 09, 2021*

Date : December 10, 2014



D. Singh
Director

Preserve

Protect
Environment

Save

Er. S.K.Goyal
M.E. (Env.), FIE (India)
Sr. Env. Engineer(Retd.)
Punjab Pollution Control Board(PPCB)



EIA Co-ordinator (QCI)
Chartered Engineer,PPCB

Certificate

Certified that a team of faculty members & students, under the leadership of **Prof. Ashwani Luthra, Director IQAC** of Guru Nanak Dev University, Amritsar has conducted a detailed **Environmental Green Audit of various Green Initiatives taken by the university** covering different aspects such as Green Cover, Green Mobility, Air Quality Monitoring, Water and Wastewater Management, Green Energy Initiatives, Solid Waste Management, Bio-Medical Waste Management, and E-Waste Management, for the preservation and protection of environment in its campus. Data and credentials in the report have been scrutinised and are found **Satisfactory**.

Efforts made by the leadership, faculty and students of the University towards environment and sustainability are commendable and worth appreciating.

Dated: NOV.25,2021


(Er. Samarjit K. Goyal)
Chartered Engineer
Pb Pollution Control Board

CENTRE FOR SCIENCE AND ENVIRONMENT

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LEAVES
OF
IMPORTANT
SURVIVAL
TREES
IN
INDIA —
MAHUA,
KHEJDI,
ALDER,
PALMYRA
AND
OAK

November 29, 2021

The Coordinator
Centre for Sustainable Habitat
Guru Nanak Dev University
Amritsar

Subject: Certification for different Audits under Green Campus Initiatives

Dear Sir,

From the past six years, Centre for Science and Environment (CSE) and Guru Nanak Dev University (GNDU) Amritsar have been working together on CSE's Green Campus Initiative and audit programme. Under this engagement, CSE has supervised multiple environmental audits and trained the faculty, staff and students at GNDU as well as other universities and colleges across India. The results and outcomes of this engagement have been published by CSE in multiple reports such as 'A Green Campus Compendium: Incubation, Experimentation and Demonstration of a Green Future' and 'Green Campus Movement'. Appreciation letters have also been shared at the various stages of this programme. CSE appreciates that the faculty at GNDU has prepared the following audit reports:

1. Green Cover of GNDU
2. Green Mobility Initiatives
3. Air Quality Monitoring
4. Liquid Waste Management
5. Green Energy Initiatives
6. Solid Waste Management
7. Bio-Medical Waste Management
8. E-Waste Management

CSE commends GNDU's efforts towards realising Sustainable Development Goals and extends its full support and expertise in its future endeavours.

Yours' cordially,

Rajneesh Sareen
Programme Director
Sustainable Buildings and Habitat Programme
Centre for Science and Environment

Preface

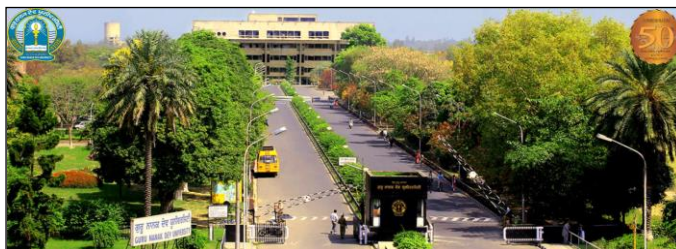
Electronic Waste (E-Waste) Management practices being followed at Guru Nanak Dev University Campus have been conceded for a period of five years i.e. 2018-2019 to 2020-2021. An audit of e-waste has been carried out to assess the waste generated in aggregate and by its type and efforts made for its management as per the guidelines of Punjab Pollution Control Board. The report on e-waste management in the university is prepared for Internal Quality Assurance Cell, GNDU by Mr. Chetan Marwaha, Nodal Officer, E-Waste, GNDU. The e-waste generated is analyzed for the whole campus and the procedure being followed to handover the e-waste to the authorized re-cycler/dismantler firms is looked into to appreciate the guidelines being followed to handle the e-waste.

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GURU NANAK DEV UNIVERSITY

With the glorious history of past fifty years, Guru Nanak Dev University was established at Amritsar on November 24, 1969 to mark the Birth Quincentenary of Sri Guru Nanak Dev Ji, the apostle of universal brotherhood, truthfulness, non-violence, compassion, tolerance, harmony, humanity, strict observance of moral & ethical values in daily life, who is also revered as the founder of Sikhism. It won't be an exaggeration to state that His teachings and preaching & His own personal life are perfect examples to be emulated by the entire mankind even after about four and half a centuries and will remain so eternally. Ever since its foundation the endeavour of the university has always been to meet the objectives enshrined in the Guru Nanak Dev University Act 1969, which emphasized that the new University would make provision for imparting education and promoting research in the humanities, learned professions, sciences, especially of applied nature and technology. Studies and research on the life and teachings of Guru Nanak, in addition to working towards the promotion of Punjabi language and spreading education among educationally backward classes and communities are the other commitments. In consonance with these expectations, the university in its eventful history of 50 years has taken long strides in spreading the message of Guru Nanak Dev ji and promoting education in such fields as Science, Arts, Management, Information Technology, Industrial Technology, Environment, Planning and Architecture. To fulfil its commitment, the tuition fee charged from the students of the departments of Guru Nanak Studies and the School of Punjabi Studies has been waived. The UGC conferred this University with status of "University with Potential for Excellence" in 2012. The National Assessment and Accreditation Council (NAAC), Bangalore in November 2014 reaccredited the university in 3rd cycle with CGPA of 3.51 out of 4 point scale at "A++" grade, the highest in the region.



Guru Nanak Dev University is a high performing state public university as it has improved its ranking from 80 in 2017 to 51 in 2020 among all Central, Public and Private Universities in the country (NIRF, MHRD, GoI). It is reckoned among top 9% universities of the world and top 10 state public universities of India by Centre for World University Ranking (CWUR), a leading international agency engaged in grading the top ranking universities world-wide since 2012. QS I-GAUGE Rating System has rated the university in the Diamond Category in the field of 'research, faculty quality and infrastructure' by the. It was also shortlisted for the University of the Year Award in the 16th FICCI Higher Education Summit 2021 organized by FICCI jointly with the Ministry of Education and Ministry of Commerce & Industry, Government of India. High quality research has improved the H-index of the university from 64 to 119 with top 10 percent highly cited papers in Scopus. The university is placed among the top 4 Institutions in Punjab and 10 Institutions in North India by Nature Index,

The University today boasts of 43 teaching departments at the Campus and 149 affiliated colleges, 16 Constituent & University Colleges and 53 Associate Institutes, many of which are located in the rural areas. The university has always strived hard to make the benefits of higher education accessible to the rural masses. More than twenty thousand students, an overwhelming majority of them being women, are enrolled in various Departments at University Campus and Constituent Colleges. On-line admission, on-line counselling, on-line re-evaluation, introduction of Credit Based Continuous Evaluation Grading System etc. are a few hallmarks of the university. All the results have been computerized and OMR (Optical Magnetic Recognition) system is being used to bring in more efficiency and transparency. This is the first University in the region to have computerized its examination and registration system. The students now have an all-time access to their results through SMS service. It

acts as a model higher education institution for digital initiatives like e-office management system, digital library, Wi-Fi enabled campus, high speed online teaching modules, and smart classrooms to name a few.

Academically also, the university has carved a niche for itself in the field of Higher Education in the country. Our University is recognized as one of the leading institutions in North India in the domain of Science and Technology. Many coveted projects from the apex bodies like the DST, CSIR, BARC and other organizations worth crores of rupees have been awarded to our faculty members. One of the four Nodal Calibration Centres established by Bhabha Atomic Research Centre is set up at our campus. The Centre of Emerging Life Sciences equipped with the state-of-the-art scientific instruments worth crores of rupees, well-maintained Botanical Garden, Department of Sports Medicine & Physiotherapy are a few of the jewels in the crown of the university. To more strengthen the university infrastructure and to prepare students for employments, computer lab with the help of TCS is also established. Further, the UGC has granted the University the Centre with Potential for Excellence in Life Sciences and Centre for Advanced Study in Chemistry.

In the field of culture and sports also, the achievements of the university are noteworthy. The university has been national Champion for 10 times & the winner of the North-Zone-Inter-Varsity Cultural Championship for 13 times. The winning of the coveted Maulana Abul Kalam Azad Trophy, the highest sports award for a university in the country, for a record number of 23 times, speaks volumes about its supremacy in the field of sports. An Astro Turf for hockey, a swimming pool of international standards, a velodrome, a Gymnasium hall, shooting range & many other state-of-the art sports facilities are the prized possessions of the university. The Lifelong Learning Department of the university is successfully catering to the female folk of the region to make them self-dependent by offering various skill development programmes. The Track record of employment of our students by big business Houses and Multi-National Companies has been very satisfactory. Our students of engineering, management and commerce field are employed by companies in India and abroad. They are all contributing to the creditworthiness of the University by their hard work and diligence. In the last year alone, almost all our engineering and management students were recruited by various companies through campus placements. It goes without saying that all these achievements would not have been achieved, but for the heart and soul put in by the students, faculty members, and administration of the university. Undoubtedly, the university remains committed to achieve the lofty goals, for which it was founded after the name of Sri Guru Nanak Dev Ji.

The university is known for its GREEN CAMPUS initiatives in the field of energy, water, solid waste management, micro mobility and health and hygiene. Some of the key initiatives of the university are energy efficient buildings, rooftop solar energy plant, solar water heaters, sensor based urinals, toilets and wash basins, maintenance of lawns as water recharge systems, rooftop rainwater harvesting, on campus sewerage water treatment plant, organic waste management through bio-gas plant and vermi-compositing, natural processing to convert agro-waste into compost, involvement in recycling and reuse of paper, plastic, metal and other waste, efficient medical waste management, regular thickening of tree cover by planting tree each year, making the campus car free, facilitating the students, staff and the visitors by free of charge e-vehicle facility for micro mobility within the campus, developing lush green covered footpaths, regular sweeping of the roads and buildings at least twice a day and regular disinfectant spray to help the university bag the second cleanest State University in India awarded by the Ministry of Human Resource Development, Government of India under Swachh Campus Ranking for the last two years continuously.

1. INTRODUCTION

Higher education institutions (HEIs) are committed to provide quality education to their students in line with the targets set for SDG 4 i.e. 'Quality Education' which mandates to 'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all'. In the wake of achieving the seven targets set for the SDG 4, Government of India through its National Education Policy 2020 has directed all the HEIs to adopt advanced teaching techniques and technologies so that their graduates can compete in the globalizing world. Hence, these institutions have undergone tremendous transformations in teaching technologies and methods. The 'black board teaching' has largely been replaced by 'presentation based teaching'. They have been promoting internationalization of education and high quality research in varied disciplines by using various electronic and advanced computing devices since past two decades. It is evident that these electronic devices have their life, after which they need to be disposed off. Handling electronic waste (e-waste) has now become a major problem to create environmental and health issues not only in India but across the globe. Electronic Waste (e-waste) typically includes discarded computer monitors, motherboards, mobile phones and chargers, compact discs, headphones, television sets, A.C. and Refrigerators. According to the Global E-Waste Monitor 2017, India generates about 2 Million Tonnes (MT) of e-waste annually and ranks fifth among e-waste producing countries after USA, China, Japan and Germany. A report on e-waste presented by the United Nation (UN) in World Economic Forum on January 24, 2019 points out that the waste stream reached 48.5 MT and the figure is expected to double if nothing is done (Chaurasia et. al., 2021).



SDG 12 (Ensure Sustainable Consumption and Production Patterns) focus on waste management practices. It targets on reducing pollution and health impacts through environmentally sound management (ESM) of all waste, including electronic waste. The Electronic Waste Management Rules, 2016 framed under Environment (Protection) Act, 1986 are mandated to be followed in the states of India. Therefore, HEIs need to showcase to the communities and society their electronic waste management by following the innovative and best practices.



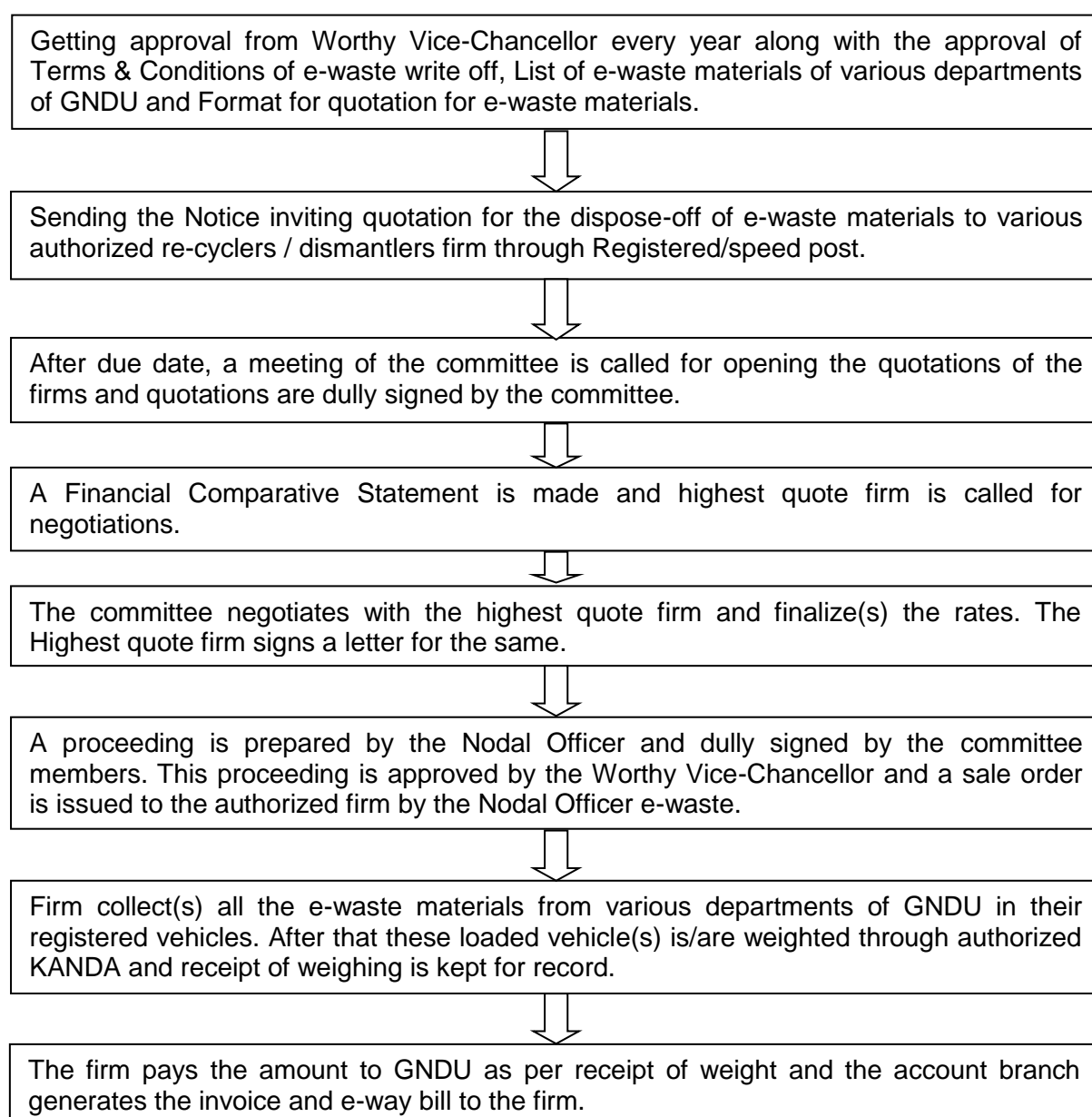
2. E-WASTE MANAGEMENT PROCEDURE AT GNDU

As per the guidelines of Central Pollution Control Board (CPCB), it is mandatory for the "Bulk Consumer" of e-waste to dispose-off its e-waste materials through authorized re-cycler/ dismantler firms registered on Central/ State Pollution Control

Board. Following the guidelines of CPCB, GNDU started its e-waste management in the academic year 2018-19. Each academic year, a committee is constituted by the Worthy Vice-Chancellor to execute e-waste handling procedure. The committee comprises of the following members.

- a) Registrar.
- b) Head, Department of Chemistry.
- c) Incharge, Centre for I.T Solutions.
- d) A.R. (General).
- e) A.R. (Accounts).
- f) Nodal Officer, E-Waste, G.N.D.U.

The university follows the following procedure to write off its e-waste.



3. E-WASTE GENERATION AT GNDU

The e-waste generated in GNDU and its Regional Campuses includes refrigerators, air conditioner, air cooler and water cooler, ups and batteries, electronic type writer, printer and scanner, computer (CPU)/ laptop, keyboard and mouse, electronic switches, photocopier machines, T.V, VCR and DVD player, speaker, hard disk and USB drive, projector and overhead projector, telephone and fax machine, etc. The e-waste items generated during 2018-2019, 2019-2020 and 2020-2021 by the university are listed in annexure I.

It is evident from table 1 that GNDU generated about 30.551 ton of e-waste. During 2018-2019 about 5266 kilograms of e-waste was generated, which increased to 12.20 ton in 2019-2020, registering an increment by more than double (increase of 131.66 percent). The increment was on the account that after the initiative of the university to write off the e-waste items many departments started the process. Therefore, long pending e-waste was processed in 2019-2020, resulting in high volume of e-waste. The efforts kept going on and after following the procedure about 13.09 ton e-waste was sold to the authorised re-cyclers / dismantlers firm in 2020-2021.

Table 1: E-Waste Generation in GNDU (2018-2021)

Academic Session	Quantity of E-Waste (in Ton)	Percentage Change
2018-2019	5.27	
2019-2020	12.20	131.66
2020-2021	13.09	7.25
Total Weight	30.5512	

4. WAY FORWARDS

It is recommended that with the objective to ease this procedure, it is suggested that GNDU may make a regular contract with an authorized firm to collect the e-waste materials from GNDU for a period agreed upon by both the parties.

Annexure – I**List of items/materials for write off through e-Waste Management (Session 2018-19)**

Sr. No.	Name of Items	No. of Items
1.	PBT Telephone Set (Model-BPL 2790)	250
2.	PBT Telephone Set (Model-BPL 2790)	19
3.	PBT Telephone Set (Model-BPL 3600)	18
4.	PBT Set (Orpat)	02
5.	PBT Set (Beetal)	01
6.	PBT Set (TATA Spectra)	01
7.	PBT Set (Beetal Sigma)	01
8.	PBT Set (Beetal-802)	02
9.	PBT Set (BPL-5499I)	09
10.	PBT Set (Beetal-H22)	06
11.	PBT Set	01
12.	PBT Set	01
13.	PBT Set	01
14.	PBT Set	01
15.	PBT Set (Beetal Blue)	01
16.	PBT Set	01
17.	Model-BPL 2770	60
18.	Model-BPL 2770	02
19.	Model-Beetal	01
20.	Model-Beetal	17
21.	Model-Beetal	01
22.	Model-Siemens	01
23.	Model-Sony Eriksson	01
24.	Model-Motorola	01
25.	Model-Vectra (Two tons)	01
26.	Model-Voltas (1.5 tons)	01
27.	Sanyo	01
28.	Panasonic	01
29.	Panasonic	02
30.	Panasonic	01
31.	Sanyo-6700	01
32.	Sony	03
33.	Panasonic	01
34.	Panasonic(10CH)	02
35.	Panasonic	01
36.	Panasonic	01
37.	Sony	02
38.	Sayno (CLI-310)	01
39.	Sony (Double Line SPPM 502)	01
40.	Sony (SPPQ 110)	01
41.	Sony (Double Line)	01
42.	Sony (SP-206)	01
43.	Sony (Two Line SPPM 502)	01
44.	Sony (SPP 844 Single Line)	01
45.	Sony (Two Line SPPM 502)	01
46.	Sony (SP-151)	01
47.	Panasonic (1035 PXB Two lines)	02
48.	Panasonic Model-1035	01
49.	Panasonic Model-1085	01
50.	Panasonic Model-1035	01
51.	Panasonic Model-1035	01
52.	Panasonic Model-1085	01
53.	Panasonic Model-1035	01
54.	Beetal	01
55.	Beetal	01
56.	Beetal-53000	01
57.	Panasonic (1085)	01
58.	Beetal-53000	01
59.	Panasonic (1085BXB)	01
60.	Panasonic (Two Lines)	01
61.	Panasonic-two llnes (Model-2480)	01
62.	Panasonic-two llnes (Model-2480)	01
63.	Panasonic-two llnes (Model-1083)	01
64.	Beetal-53000	01
65.	Panasonic	01
66.	Panasonic (Two Lines)	01
67.	Panasonic (Two Lines)	01
68.	Panasonic	01
69.	Panasonic (Two Lines)	01
70.	Panasonic (Two Lines)	01
71.	Panasonic (2480- Two Lines)	01
72.	ID Caller	02
73.	ID Caller	02
74.	ID Caller	01
75.	ID Caller	01
76.	ID Caller	01
77.	Pager	01
78.	Pager	01
79.	Computer Bravo 59090 MS P/100 (AST middle east dubai)	1
80.	Computer Advantage + A-6066 (AST middle east dubai)	5
81.	HP Pentium P-166 Computers {Indocon Micro Engineer LTD (HP)}	2
82.	Pentium Computer { Indocon Micro Engineer LTD (HP)}	1
83.	Computer System SVGA nano Monitor(Indocon Micro Engineers LTD)	12
84.	Pentium System with 32 MB 102 FDD {Indocon Micro Engineer LTD (HP)}	1
85.	P-III 500 MHZ/128 MB SDRAM Server (HCL Infosystem)	1
86.	PIII 500 MHZ (HCL Infosystem)	5
87.	UPS/Volt Meter a) safe power- 4 b) datex- 4 c) HCM- 3 d) micro line-13 e) Elnova-5 f) data vision-1 g) Chirag Volt meter-1 h) Datex Volt meter-1	32
88.	INKJET COLOUR(HP) 660c	1
89.	Dot Matrix Wipro LQ 1050 DX	3
90.	HP Laser 4000N	1
91.	HP Laser 1100A	1
92.	HP Laser 4050	1
93.	HP Laser 4050	1
94.	HP Laser 5000	1
95.	Dot Matrix Wipro LQ 1050 DX	1
96.	HP Laser 8150	1
97.	Xerox M118 Printer	1
98.	HP Laser Printer 6 invono	2
99.	Remington 622878	1
100.	Facit-756179	1
101.	Remington 1682361	1
102.	Remington H-396769	1
103.	Godrej / Remington I-133385	1
104.	Remington H-351403	1
105.	Remington R-622591	1
106.	Remington R-626338	1
107.	Remington I-J407095	1
108.	Remington I-267542	1
109.	Remington I-140215	1
110.	Remington R-622822	1
111.	Remington I-167740	1
112.	Remington I-214318	1
113.	Remington 622373	1
114.	Remington R-627207	1
115.	CPU	13
116.	Monitor	6

117.	Water Cooler	1
118.	Xerox 5308	1
119.	WIPRO 10845M	34
120.	HCL Computer	10
121.	HCL Computer	28
122.	CPU	20
123.	Projector Multimedia	8
124.	HP Laserjet 1015	5
125.	Printer Sharer Auto	1
126.	HP CD Writer Plus	1
127.	Portable overhead Projector Twin Halogen Bulb	3
128.	Portable overhead Projector Twin Halogen Bulb	3
129.	Multimedia Projector	1
130.	UPS (Datex)	20
131.	UPS (Perfect)	72
132.	UPS	20
133.	UPS	6

134.	Vacuum Cleaner	1
135.	Episcope with 1200W Halogen Bulb	1
136.	Computer	01
137.	Computer Desktop	02
138.	Computer Desktop	02
139.	Printer LQ 5235	02
140.	Printer HP1160	01
141.	Printer HP-3550	01
142.	Printer HPLJ2015	02
143.	Printer TVS245	02
144.	UPS-650A	01
145.	UPS 1000VA	01
146.	UPS 500VA	02
147.	UPS 800VA	05
148.	UPS Offline 1KVA	12
149.	UPS Offline 1KVA	04

List of items/materials for write off through e-Waste Management (Session 2019-20)

Sr. No.	Item Description*	No. of Items
1.	Computer Systems	20
2.	Multimedia Kit	01
3.	Hard Disk	03
4.	Voltage Stabilizer	1+1(2)
5.	Projector Screen 180X230cm	01
6.	Fax Machine	01
7.	Air Conditioner (Window Type 1.5 Ton)	4
8.	UPS (0.8 VA)	1
9.	UPS Power 1 KVA-ETN	1
10.	A.C. Machine	20
11.	Fridge	1
12.	HCL Micro 2200	1
13.	Key Board	1
14.	Laptop	1
15.	Photostat Machine	2
16.	Printer	2
17.	Refrigerator	2
18.	Laser Printer	1
19.	Printer	2
20.	Computer	36
21.	Computer ACST	17
22.	UPS	2
23.	Circulator Refrigerator	1
24.	Computer 100 MHz	1
25.	Printer	1
26.	UPS 1KVA	2
27.	CVT 1 KVA	1
28.	UPS 1000 KVA	1
29.	UPS 5KVA	1
30.	Printer	1
31.	UPS system	1
32.	Printer	4
33.	Stabilizer	1
34.	UPS System	5
35.	Batteries	88
36.	Voltage stabilizer	1
37.	Circulator Refrigerator	1
38.	Computers	45
39.	Printer	05
40.	UPS	12
41.	CVT	10
42.	Laptop	02
43.	Projector	09
44.	Monitor	6
45.	Printer	3
46.	C.P.U.	6

47.	Microwave Diathermy with 3 radiators	1
48.	Complete Electrotherapy Unit	1
49.	Massage Unit	1
50.	Neuro Perfect NCV System	1
51.	1.5 Ton Blue Star Windows Air Conditioner	1
52.	Over Head Projector RO-200-03	1
53.	Computer HCL	1
54.	HP Deskjet Printer 695 CCI	1
55.	CVT Make "ELENT" 500 VA	1
56.	UPS (650 VA)	1
57.	HP (Laserjet) LJ 1000M Printer	1
58.	56.6 K External Modem	1
59.	0.6 KVA UPS	1
60.	Computer (HCL)	2
61.	HP All in One 3380 Printer	1
62.	Laptop	1
63.	Fax Machine, Model FC-123	1
64.	Multimedia Projector – EP 739	1
65.	Scanner – HP 2200 C	1
66.	Cyclostyle Machine	01
67.	Computer	02
68.	UPS 600 VA	02
69.	HP All in one (Scan/Print/Copy/Fax)	02
70.	Electronic Type Writer	1
71.	UPS for Computer	4
72.	Printer HP Inkjet 640C	1
73.	Printer HP Laser 1320	1
74.	Printer HP Laser	1
75.	Scanner 2200 C	1
76.	Automatic Voltage Stabilizer 5KVA Capacity Dynamic	1
77.	Monitor HCL & Speaker	1
78.	Speaker	2
79.	Speaker	1
80.	Monitor Samsung	1
81.	Printer Dot Matrix	1
82.	Printer HP Deskjet	1
83.	Samsung TV	1
84.	Refrigerator	1
85.	Portable Genset Model EBK 1200 A	1
86.	Tape Recorder	1
87.	Gestetner Duplicating Machine Model 320 A/L	1
88.	Room Heater Chetak	2
89.	Room Heater Maharaja Whiteline	1
90.	Room Heater Orpat	1
91.	Set Top Box & Dish	1

92.	DVD Player	1
93.	Pentium P-I	2
94.	Server Infinite P-II	1
95.	Nodes:- Infinite 2000 BL	5
96.	Infinite - 2000 BL, P-II	1
97.	Infinite -2000	6
98.	HCL Net Manager server P4 Xeon	1
99.	HCL Busy Bee PIV 2.4 GHz	5
100.	Computer (CPU only)	6
101.	HCL Eze bee P-III	3
102.	UPS 1 KVA	3
103.	HP LaserJet Printer 1160	2
104.	Hp LaserJet Color Printer 3500	1
105.	UPS Model – T650A with SMF Batteries	8
106.	HP Laser Printer LJ 1150	3
107.	Transformer 2 KVA	1
108.	UPS APC 1100 VA Serial No. JB0829016047, 8Bo829016275, 8BO8244R300815	3
109.	HP LasreJet Printer 1008	2
110.	Dot Matrix Printer Epson LQ1150	1
111.	EPSON LQ 1150 II Serial No JNVY048742, EPSON FX 2175, Serial No. JSKY0001848, HDD External 500 GB	3
112.	HP LaserJet Printer 3005	1
113.	Dot Matrix Printer EPSON LQ1150 II	4
114.	APC Backups 1000 VA, Sr No. JB1017018723, JB1017018717	2
115.	650 VA offline 390 watts, Input 230 V output, 230 V UPS	2
116.	Portable DVD Writer	1
117.	HDD 500Gb External	1
118.	HP LaserJet Printer 1020	1
119.	UPS 1 KVA online	1
120.	HP LaserJet Printer 1020	3
121.	Xerox 3121 Printer	1
122.	HP Laserjet 1000 Printer	1
123.	UPS Perfect 800VA	1
124.	UPS Datex Accure 500VA	1
125.	FAX	1
126.	UPS	1
127.	Floor Fan	1
128.	Scanner HP 3670C	1
129.	Computer	04
130.	UPS (UPS 800 VA)	01
131.	UPS (UPS 1 KVA)	03
132.	Printer (HPLJ1000M)	01
133.	Television (Samsung 29' CTV)	01
134.	Printer	04
135.	Computer	03
136.	UPS	03
137.	Logic Laboratory ETB 810	1
138.	Automatic Digital IC Tester	2
139.	64 bit Static Random Access Memory LTB Type-851	1
140.	1024 bit Static Random Access Memory Type-852	1
141.	Sequential Timer ETB-63	1
142.	Seven Segment Display DB-5	1
143.	Digital Demultiplexer LTB-853	1
144.	Binary Adder Subtractor DB-4	1
145.	Microwave Oven	1
146.	Krystron Tube X-Band	4
147.	Gun Power Supply X-110/111	5
148.	Klystron Power Supply 10/10	6
149.	VSWR Meter SW- 410	10
150.	Klystron 723/AB ORK 27	3
151.	1GHz- Digital Frequency Counter	1
152.	Automatic Slide Projector (35mm with Slide Light Projection)	1
153.	LCD Multimedia Projector KYAN	1

	Compact Media Centre	
154.	Over Head Projector	3
155.	Projector Screen	2
156.	LCD Multimedia Projector 3m SVGA	1
157.	Digital Capacitance Meter (Motwane)	02
158.	CRO (Dual Trace Oscilloscope) (PM 3206 15 MHz) Phillips	10
159.	CRO (Oscilloscope) (PM3262 100 MHz)	3
160.	CRO (Oscilloscope) (50 MHz)	01
161.	CRO (Oscilloscope) 20MHz	15
162.	CRO (Oscilloscopes) (15 MHz)	14
163.	CRO (Meltoron) IE-63	05
164.	Electronics Multimeter	02
165.	Electronics Multimeter	07
166.	Multimeter Philips PM2618 12Ms(4 Digit)	4
167.	Multimeter 4 Digit	02
168.	Multimeter	7
169.	Function Generator 2821 HIL+APLAB	25
170.	Function Generator 1013 Systronics	8
171.	Function Generator (ETB-69)	01
172.	Function Generator (20 MHz)	04
173.	Function Generator with Digital Read	1
174.	Power Supply (VS-300V)	02
175.	Power Supply (Dual Regulated)	10
176.	Power Supply (0-30V)	10
177.	Power Supply (0-30V) LS-30/2	12
178.	Transistor Power Supply (0-30V)	02
179.	Power Supply PS-IV	10
180.	Regulated Power Supply (0-300V) 5A	02
181.	Electronic Temp Monitor	01
182.	Cardio Scope Mini Battery Charger	01
183.	Audiometer Model AUG 64A	01
184.	Alpha Logic Probes	05
185.	Alpha Logic Clips LCU-16	05
186.	Monostable Multivibrator	01
187.	Hybrid Parameter of Transistor	01
188.	Transistor Curve Tracer	01
189.	Relative Difference between CE, CB and CC (Coo4)	01
190.	Lux meter Blue Line GIM-403	02
191.	Lux meter Blue Line GIM-430	02
192.	Millivolt Meter	01
193.	ET-Thyset (1M)	1
194.	ET-Thyset (2 M)	1
195.	Et-Thyset (3 M)	1
196.	Et-Thyset (4M)	1
197.	ET-Thyset (5M)	1
198.	ET-Thyset (7M)	1
199.	ET-Thyset (8M)	1
200.	ET-Thyset (9M)	1
201.	ET-Thyset (10M)	1
202.	ET-Thyset (11M)	1
203.	ET-Thyset (12M)	1
204.	ET-Thyset (13M)	1
205.	ET-Thyset (14M)	1
206.	ET-Thyset (15M)	1
207.	ET-Thyset (16M)	1
208.	ET-Thyset (17M)	1
209.	(LCR Bridge) (921)	02
210.	Crystal Oscillator ETB-74	01
211.	Anderson's Bridge DS02	2
212.	Wien's Bridge DS03	2
213.	Thermocouple for temperature measurement	1
214.	HP Scanner 3300 USB	01
215.	Inkjet Printer	01
216.	Printer (HP 3323)	01
217.	HP desk jet printer 690C	01
218.	Laser Printer	01
219.	Laser Printer HP-1100	1
220.	H.P. Colour Scanner	1

221.	Panasonics printer 9 pin head 80 colane	02
222.	Ups .625VA	05
223.	Ups 1 KVA	01
224.	Ups 650VA	03
225.	Ups 1kVA power pack make 150v to 270v(7) 1KVA 650VA(10)	17
226.	UPS	01
227.	UPS 1000 KVA PERFECT	01
228.	UPS 650VA	1
229.	Radio Receiver	01
230.	Radio Receiver Transistor Design	01
231.	Servo Line Voltage Regulator 10 KVA Aplab	01
232.	UJT Saw Tooth Generator Model (B04R)	2
233.	Characteristics of SCR AC Amplication (M-B105)	2
234.	Load Cell Trainer Modules	1
235.	Temprature Measurement Training Modules	1
236.	Display Measurement L.V.D.T. Training	1
237.	Pressure Measurement Training Modules	1
238.	Stain Measurement Training Modules	1
239.	Digital Inducter Alpha neengic led display	1
240.	L.C.R. Qmeter	1
241.	TMS 320 (25 Based DSP Stater Kit)	4
242.	Software Simulator S.No. 11394	1
243.	Software Compiler C-50	1
244.	Software Fiber Design Package S. No. 11393	1
245.	TMS 320 C50 based DSP Trainer Kits Model Micro 50CB	4
246.	Internal Modem Card	1
247.	Addem Card VDSP Based Model DSP-813	1
248.	Spectrum Analyzer H.M. 5014-2	1
249.	Digital Filter Design Software	1
250.	Bloom with DSP study tutor	1
251.	D.S.K for TM320 C671	4
252.	Photo Dip Cooling Machine	1
253.	U.V Exposure Unit Single	1
254.	Frequency Micro Volt Meter	01
255.	Dish Antenna with wire and receiver	01
256.	ET Thyset (1m o/p of U.J.T)	01
257.	Amplitude Modulator and Demodulator ETB-96	04
258.	Frequency Modulator and Demodulator	07
259.	Pulse Position modulator and demodulator	03
260.	Pulse Amplitude Modulator and Demodulator	04
261.	Phase Shift Keyed (PSK)	02
262.	Frequency Shift Keyed (FSK)	02
263.	Delta Modulation and Demodulation	02
264.	Balanced Double Side Modulator and Demodulator	02
265.	Time Division Multiplexing	02
266.	Black and White TV 20" Dynamic Demonstration	01
267.	Digital to Timer Counter Card	02
268.	Stepper Motor Controller Card	01
269.	Stepper Motor Driver Card	03
270.	Stepper Motor 6Kg/Km Model SM-03	02
271.	Air conditioner 1.5 ton	02
272.	BPL Vacuum cleaner	01
273.	Automatic Transformer	04
274.	Computer System Wipro Deskjet P-4	01
275.	Pentium III Computer System	1
276.	Computer System	01

277.	Computer System Busybee 2000	01
278.	Pentium	01
279.	HCL Pentium 3	01
280.	Wipro Computer System Celeron 400Mhz.	06
281.	Celeron Computer System 700 Mhz. (HCL)	16
282.	Computer System Pentium 31 Mhz. (HCL)	01
283.	Computer System P-4(HCL)	10
284.	Computer Core 2 duo	12
285.	Computer i3 (HCL)	02
286.	Computer P (IV)	01
287.	Power Sensor	01
288.	20 GHZ Power Meter	01
289.	Digital to Timer Counter Card	01
290.	Stepper Motor Controller Card	01
291.	Stepper Motor Driver Card	03
292.	Advance Micro Lab Hil Model 2963	01
293.	Microprocessor Trainer Kit	05
294.	Microprocessor Kit VMC 8506 with Power Supplies	10
295.	Microprocessor Kit VMC Z80 with Power Supplies	05
296.	Microprocessor Kit VMC 8603-8086	05
297.	Microprocessor Kit VMC 8603-8086	05
298.	EPROM Eraser	01
299.	Vinitics Micro Development System Micro Lab III	01
300.	8097 Based Microcontroller Trainer Kit	02
301.	Verification of Laws & Network Kit ETB-64	03
302.	Electronic Training Board on passive filters	03
303.	PC-XT	5
304.	OASYS 386(25 MHz)	1
305.	SERVER: ZENITH ISA(Pentium 166 MHz)	1
306.	ZENITH ISA (Pentium 100 MHz with CD ROM) (Upgraded with HCL Celeron 950)	1
307.	PC: ZENITH ISA (Pentium 100 MHz) (Upgraded with HCL Celeron 950)	2
308.	CELERON 950, M/s. HCL Infosystems, Amritsar (Three Zenith Computers were Upgraded)	1
309.	TERMINAL (VT-220)	10
310.	INTEL PENTIUM 300 MHZ, (M/s. HCL Infotech, Noida) 300 MM, 64 MB SD RAM, 1.44 FDD, 32X CD-ROM, 104 Keys Keyboard, 15" Colored Monitor, Windows 98 with License and Manual	1
311.	INTEL PENTIUM 233 MHZ, (M/s. HCL Infotech, Noida) 300 MM, 32 MB SD RAM, 14" SVGA Colored Monitor, 2.1 GB Ultra DMst HDD, 104 Keys Keyboard, Windows 98 with License and Manual	8
312.	TVSE MSP 45 Printers	2
313.	MSP 55 Printers	1
314.	WIPRO LQ 1050+DMP	1
315.	DOT Matrix Printer(132 Col)	1
316.	WIPRO LQ 1050+	1
317.	HP DESKJET 690C	1
318.	LASER Printer (HP 6L)	1
319.	8 Ports Serial Card	2
320.	Multi-Tech Modem 19200 BPS with S/w.	1
321.	GIST CARD	1
322.	16 Ports Hub	1
323.	20 GB HDD (Fitted in HCL Computer)	2

List of Items/materials for dispose-off through e-waste management (Session 2020-21)

Sr. No.	Item Name/Description	No. of Items
1.	Refrigerator 165 Ltr Voltas complete with voltage stabilizer and chownki	1
2.	Room Temperature Controller Digital	1
3.	UPS 500 VA	1
4.	Electrophorator System Model ECM 630 with computer System Busybee, Printer HP 3325 inkjet and UPS 600 KVA	1
5.	UPS 500 VA DATEX Acquir	1
6.	Electro Eluter model 422 biorad	1
7.	UPS 650 VA Elnova	1
8.	UPS 1KVA Online	1
9.	UPS 3 KVA	1
10.	Copier machine prodigy technology 118-2 ND	1
11.	Refrigerator (Kelvinator)310 Ltr. Capacity	1
12.	Refrigerator 310 Ltr KELVINATOR	1
13.	Laptop (Toshiba)	01
14.	Digital Power supply for vertical Dual Mini Gel System	01
15.	H.P. Scanner G3010	01
16.	Printers	03
17.	Computer HCL	01
18.	CPU	01
19.	Computers	16
20.	Computer CPU	3
21.	Computer Printer	1
22.	Computer Set	2
23.	Computer Monitor	3
24.	Home Exide Batteries With Trolley	2
25.	Home UPS 1500VA Sukam	1
26.	Printer HP Laser	2
27.	Uninterrupted Power Supply Without Batteries	1
28.	UPS	4
29.	UPS 1000KVA	1
30.	UPS16KVA	1
31.	Electronic Type Writer	1
32.	V.C.R. Onida	1
33.	Automated Photostat Machine	1
34.	Photostat Machine	1
35.	2 KVA Servo Voltage Stabilizer HCL Mark	1
36.	2 KVA Servo Voltage Stabilizer	1
37.	Colour T.V. Photo Vision	1
38.	Colour T.V. Photo Vision Sony	1
39.	Colour T.V. Photo Vision Sony	1
40.	Photophone Overhead Projector M.K. III E	1
41.	Photophone Overhead Projector M.K. III E	1
42.	Refrigerator	1
43.	Speaker (Computer)	1
44.	DVD Player	1
45.	Air Conditioner (Window)	1
46.	Air Conditioner (Window)	1
47.	Air Conditioner (Window)	1
48.	Air Conditioner (Window)	1
49.	Mouse	1
50.	Hard Disk Drive	1
51.	UPS	1
52.	C.V.T. (500 VA)	1
53.	Multimedia Projectors L.C.D. DLP Projector Enfocus	1
54.	Deskjet Printer	1
55.	USB- Mouse (Laptop)	1
56.	Air Conditioner (Windows)	1
57.	Hard Disk Drive	1
58.	Fax	1
59.	Fax	1

60.	1. Photophone Over Head Projector	1
	2. Photophone Over Head Projector	1
61.	UPS	1
62.	UPS	1
63.	Multimedia Screen No- RO-207-01	2
64.	Portable Overhead Projectors No- R-O-200-06	2
65.	Multimedia Projectors Model NEC/VT/590	2
66.	Ice Flaking Machine	1
67.	Refrigerator Whirlpool With Plastic Stand	1
68.	Smart Spec Spectrophotometer with Accessories	1
69.	Electrophoresis Power Supply	1
70.	pH meter	1
71.	pH meter	1
72.	SQ GEN GT/P 3000 Sequencer	1
73.	CANON BJC 2100 Inkjet Printer	1
74.	Sony Thermal Printer Model HP895 MD	1
75.	UPS 600 VA	3
76.	Computer	1
77.	Gel Documentation System Ultra Imager	1
78.	Zenith P4 With Canon Printer	1
79.	HCL Pentium IV Computer With Printer	1
80.	My cyclor Personal Thermal Cyclor with accessories	1
81.	Air Conditioners 1.5 Ton	3
82.	pH meter with electrode	1
83.	UPS 5KVA	1
84.	pH meter	1
85.	UPS 2 KVA	1
86.	Solid State Voltage Stabilizer	1
87.	Transformer 2KVA	1
88.	Dry Bath with Standard Heating Block	1
89.	Heater double Rod	1
90.	Glucometer	2
91.	Electrophoresis	1
92.	Sterilizer Pressure Cooker NSW 229	1
93.	Sterilizer Pressure Cooker NSW 229	1
94.	Vacuum Pump	1
95.	Vacuum Pump	1
96.	Centrifuge REMI 4C with angle head R43, R41	1
97.	Centrifuge REMI 4C with angle head R43, R41	1
98.	Single Pan Analytical Balance	1
99.	Single Pan Analytical Balance	1
100.	Finnipipette (40-200ul)	1
101.	Finnipipette (5-40ul)	1
102.	Vertical Slab Gel Electrophoresis 0503	1
103.	Horizontal Electrophoresis	1
104.	Micro centrifuge Spinwin	1
105.	Anthropometric Rod	1
106.	Air Conditioner	03
107.	Computer Monitor	01
108.	Arc Info	1
109.	Arc View	1
110.	Auto Level	1
111.	AutoCAD	1
112.	Camera Agfa	1
113.	Camera Agfa	1
114.	Camera Agfa	1
115.	Camera Agfa with leather case	1
116.	Camera Agfa with leather case	1
117.	Camera Agfa with leather case	1
118.	Camera Agfa with leather case	1
119.	Camera Agfa with leather case	1
120.	Camera Digital	1
121.	Camera Digital	1

122.	Cooler	2
123.	Digital PH Meter 121-E	1
124.	E R Leather Case (for camera)	1
125.	E R Leather Case (for camera)	1
126.	E R Leather Case (for camera)	1
127.	E R Leather Case (for camera)	1
128.	E R Leather Case (for camera)	1
129.	Floppies Census Data	75
130.	Floppies Census Data	7
131.	Hard Disk External 500 GB	1
132.	LCD Projector	1
133.	LCD Projector (Epson)	1
134.	Plotter	1
135.	Printer	1
136.	Printer	1
137.	Printer	1
138.	Printer	1
139.	Software for Computer (GIS)	1 Pkt
140.	Switch/Hub	1
141.	Switch/Hub	1
142.	Switch/Hub	1
143.	Water Cooler	1
144.	Water Level Sensor	1
145.	Kodak Camera Kroma 35 mm with case	2
146.	Kodak Camera Kroma 35 mm with case	3
147.	Kodak Camera Kroma 35 mm with case	1
148.	Kodak Camera Kroma 35 mm with case	1
149.	Video Cassettes	3
150.	Video Cassettes	6
151.	Video Cassettes	5
152.	Contact Printer	1
153.	Heater 200w	1
154.	Exhaust Fan Crompton	1
155.	Typewriter	1
156.	Typewriter	1
157.	Typewriter	1
158.	Typewriter	1
159.	Bicycle 'Atlas' 24"	1
160.	Water Cooler (7 liters)	1
161.	Bluetooth	1
162.	Desktop Computer (Complete Set)	20
163.	Desktop Computer (Complete Set)	14
164.	Desktop Computer (Complete Set)	20
165.	External C.D. Writer	1
166.	Head Phone with Mike	1
167.	Pen Drive 1 GB	1
168.	Mouse	2
169.	Mouse	1
170.	Mouse	2
171.	Printer HP 1000 m	1
172.	Printer HP Color	1
173.	Printer HP 1160	4
174.	Printer HP TVS 9-PIN	1
175.	Scanner HP	1
176.	UPS 1 KVA	35
177.	UPS 650 VA	10
178.	UPS 600 VA	20
179.	UPS Batteries	31
180.	USB Extension Cable	2
181.	Web Cam	1
182.	Biomass Gassfire System	04
183.	Moss Baur Spectrophotometer	01
184.	NMR Spectrometer 60 MHz	01
185.	NMR Spectrometer 200 MHz	01
186.	X-Ray Diffraction	01
187.	Spectrophotometer	01
188.	ESR spectrometer	01
189.	Xeno tester	01
190.	HPLC Machine	01
191.	Thermostatic circulator	01
192.	Laser densitometer	01

193.	Telephone Set	04
194.	Manual weighing Balance	01
195.	Electronic typewriter	02
196.	Slide Projector	01
197.	Scanner	01
198.	Beta Scintillation Counter	01
199.	DNA electrophoresis Unit with power supply	01
200.	Sonicator	01
201.	CO2 incubator	02
202.	Centrifuge	04
203.	BP Monitor	01
204.	Turbojet engine model	01
205.	Diesel engine model 2 stroke	01
206.	Diesel engine model 4 stroke	01
207.	Multiplate clutch model	01
208.	Steam engine model	01
209.	Petrol engine model 4 stroke	01
210.	Double shoe break model	01
211.	Petrol engine model 2 stroke	01
212.	Wankel engine model	01
213.	Small turbine engine model	01
214.	Calculator	01
215.	Refrigerator Tutor	01
216.	Automatic coil winder	01
217.	Ultrasonic Unit	01
218.	Electronic Stethoscope	01
219.	Pulse Monitor	01
220.	Ultrasonic dopper dop	01
221.	Cardiac monitor	01
222.	Electromygraph system	01
223.	ECG machine	01
224.	TV kits with tuner knobs	04
225.	Electronic nerve stimulator	01
226.	NU2 Microscope	01
227.	DNA Thermal Cycler	01
228.	Dish Washer	01
229.	Shaking Water Bath	01
230.	Printer Canon 5200SPX	01
231.	OHP Projector	01
232.	Computer monitor with keyboard	01
233.	Clinical Autoclave	01
234.	Quartz double distillation	01
235.	Microfiltration system	01
236.	Micro pH system	01
237.	Microwave oven	01
238.	Air Purifier	01
239.	Water Bath	01
240.	UPS 10KVA	01
241.	Receptable for air purifier	01
242.	Portable data storage facility	01
243.	Mini Rotary Shaker	01
244.	Tappi T pipetting device	01
245.	BOD Incubator	02
246.	Super Micro computer	01
247.	Old Computers	06
248.	Typewriter	01
249.	Electrowave 400	01
250.	Gemsonic Ultrasound	01
251.	Glavotherm	01
252.	Ultrasound Therapy Unit	01
253.	Gestetner	02
254.	VCR	01
255.	TV SET	04
256.	Semi-Automatic Slide Projector	01
257.	Power Supplies	04
258.	UPS 600 VA	03
259.	UPS 3KVA	01
260.	Batteries 42 AH	06



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