

CHRISTIAN COLLEGE, CHENGANNUR

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**DETAILS OF EQUIPMENTS TO BE PURCHASED WITH
UGC XII PLAN GENERAL DEVELOPMENT FUNDS**

Sl. No	Name of the Item	Specifications
DEPARTMENT OF ENGLISH		
1	Visualizer	Megapixel CMOS, optical and digital zoom, optimum shooting area of 11.7" x 8.5", Accepts SD Card and USB Thumb drives for image/video storage, 2 VGA inputs plus 1 each VGA and DVI outputs with bypass function (computer switching), Composite output, Mic input, Audio output (video playback mode)
2	Lecterns	Material-Rubwood '48 inch x 24 inch with provision for mic and light fitting.
3	DVD player	220 V, 12 W, 5.1 Channel, Memory Play back, MP3, VCD, DivX compatible
4	Tablet Computer	1.2 GHz QUAD CORE Processor, 1 GB DDR3 RAM, 8 GB Built-in Storage, SIM slot, 7 inch Capacitive touch screen
5	Laser Printer	A4, Letter, B5 (ISO/JIS), A5, B6 (ISO), A6, Executive, Legal, Folio Printing Maximum Vertical Resolution (dpi) 600 dpi Maximum Horizontal Resolution (dpi) 2400 dpi
DEPARTMENT OF ECONOMICS		
6	Interactive Projector	EPSON Short throw Business Projector 42Li
7	Microphone with mike stand	Ahuja ASM -780 XLR
8	Cordless Mike	Ahuja
9	Amplifier	Ahuja SSA-160 DP
10	Mixer	Studio Master WL MIC BR-28
11	Lap to Amplifier	10 metres
12	Speaker	Ahuja SMX-902 T/ or equivalent
DEPARTMENT OF HISTORY		
13	Digital Multifunction Colour Printer	Image Class MF4890dw with Wi Fi
14	Digital Camera	Sony NEX 5TL
DEPARTMENT OF MATHEMATICS		
15	Computer	Intel Processor Quote separately for Dual core and Quad core, Intel compatible mother board, 2GB RAM, 500GB Hard Disk, DVD RW, Logitech Key Board and optical scroll mouse, Cabinet, 14" LED Monitor and UPS.
DEPARTMENT OF PHYSICS		
16	CRO- 0-20MHz	with BNC cables, component tester/without component tester
17	Function generator (1 Mhz)	sine, square and triangular waveforms, 5V Peak to peak, LCD display.
18	Travelling microscope	Motion in two directions and with motion in three directions
19	Hollow prism (small size)	
20	Diffraction grating	With 15000 lines per inch.
21	Battery Eliminator	(0-10 V, 1 Amps) (0-10 V, 2 Amps)
22	Potentiometer	10m long with wooden board.
23	Daniel cell electronic	

24	Milli ammeter	(0- 250 mA)
25	Ammeter	0-5 A , 0-2A
26	Voltmeter	(0- 5 V), (0- 2 V)
27	Leclanche cell	
28	Digital stopwatch	With 0.01s accuracy
29	Galvanometer	-20 to +20 divisions
30	Multimeter precision	with two decimal accuracy

DEPARTMENT OF CHEMISTRY

31	Abbe Refractometer	Cyber AB Abbe refractometer with refractive index range 1.3 - 1.7., Accuracy 0.0002, temp. range 0 – 70 °C
32	pH meter	Systronics Model 335 pH range 0 to 14.00, Repeatability ± 0.01 pH ± 1 digit for pH Resolution 0.01 pH, 1 mV in mV mode, Standardization range ± 1 pH Temperature compensation 0 to 100°C, Display: 3 1/2 – digit red LCD seven segment with automatic polarity and decimal point. Polarization current : 10 uA Accessories Combined electrode Stand and clamp
33	Conductivity meter	Digital conductivity and TDS meter systronics mk-509 Frequency, 1 KHz, Selectable Ranges (for TDS): 0 – 20ppm, 200ppm, 2ppt & 200 ppt, Selectable Ranges (for Conductivity): 0 – 20 micro / Mhos, 200, Measuring Accuracy : $\pm 1\%$ of F.S in all range ± 1 count, Indication : 3.5 digit LED, Decimal : Automatic selection, Conductivity cell: Approx. 1.0 Cell Constant, Standard Accessories: Conductivity cell, Stand, Rod, Clamp
34	Potentiometer	Digital potentiometer Systronics Model 318 Resolution: 1 mV, Control-set Zero Range: 0 to 1500 mV input Stirrer speed: 0 to full speed, Polarization current : 10 uA for metal to metal electrode, Polarity: automatic, Magnetic stirrer: In-built with variable control Display : LED Power 230 V AC $\pm 10\%$, 50 Hz Accessories: Combined Pt& Ref Electrode or Pt& Ref Electrode, Electrode stand & Clamp, Stirrer pedal
35	Flame Photometer	Systronics Micro Controller based Flame Photometer, Model 128 LCD readout with Sodium & Potassium Filters and compressor, Full Scale Sensitivity Na 2 pp, K 1 ppm, Minimum detective limit . Na 0.2 ppm, K 0.1ppm, Filters 10 nm typical : Na and K Reproducibility : low con : $\pm 1\%$ F.S., High Conc : $\pm 2\%$ F.S, Air Compressor : with Built in air regulator and air filter to deliver stable and moisture / oil free air supply, Fuel Gas LPG, Power Supply : 230 V AC $\pm 10\%$, 50 Hz, Calcium Filter, Lithium Filter
36	Heating mantle	1000 ml KEMI / Rotek The Heating Mantle are rolled and anchored securely in glass sleeving reinforced and insulated by glass wool to work on 220 / 230 V AC Temperature is controlled by Energy Regulator [Temperature range 100 C approx.]
37	Electric Bunsen	Electric Bunsen burner KEMI Make Electrically operated, S.S. housing, ceramic crucible for rapid heating insulated high quality ceramic wool. Maximum Temp. up to 6000C. Operated at 220 V, 50 MHz, (without energy regulator)
38	Burette stand	22 x 15cm
39	Burette clamp	Plastic / Fisher type
40	Asbestos Framed wire gauze	Size , 6" x 6", asbestos centred
41	Thermometer	Ordinary (up to 300 °C) & Sensitive (110 to 1/10 °C)
42	Condenser Clamps	Condenser clamp small type
43	Kipps Apparatus	1 Litre capacity, Borosil
44	Spatula	Stainless Steel, 15 cm (6")
45	Mortar and Pestle	Inner diameter 125 and 150 mm

46	Hand centrifuge	Operated by hand, table mounted with 4 buckets
47	Computer with printer	Intel i3 processor, 500 GB hard disk HDD, 4 GB RAM, 512 MB Cache, 18.5" LCD monitor, Logitech keyboard and mouse, Laser printer, Printer-Scanner-copier
48	Deep Freezer	Hard top, 200 litre capacity, single door
49	Refrigerator	Whirlpool 230 Ice magic Deluxe Direct Refrigerator
DEPARTMENT OF BOTANY		
50	Gel Electrophoresis (Horizontal)	Biotech Mini Model, 10cm × 7cm, 5cm × 7cm
51	Power pack for Electrophoresis	Automatic Cross over, Digital Display, timer control with overload / short circuit protection
52	Trans Illuminator	Biotech, College Model, 25cm × 13cm
53	Bacterial Incubator (Mettler type)	Dalal Model MCD 104 Research Quality Size 455 × 605 × 455, Stainless steel Grade 304 Chamber, Thermostatically Controlled
DEPARTMENT OF ZOOLOGY		
54	PCR Machine	Bio Rad icycler/ or equivalent
55	Flame photometer	Systronics Micro Controller based Flame Photometer, Model 128 LCD readout with Sodium & Potassium Filters and compressor, Full Scale Sensitivity Na 2 pp, K 1 ppm, Minimum detective limit. Na 0.2 ppm, K 0.1ppm, Filters 10 nm typical : Na and K Reproducibility : low con : +/- 1 % F.S., High Conc : +/- 2 % F.S, Air Compressor : with Built in air regulator and air filter to deliver stable and moisture / oil free air supply, Fuel Gas LPG, Power Supply : 230 V AC +/- 10 %, 50 Hz, Calcium Filter, Lithium Filter
56	Deep Freezer	-20°C Horizontal 160-200 litre capacity, single door
57	Digital pH Meter	Systronics Model 335 pH range 0 to 14.00, Repeatability ± 0.01 pH ± 1 digit for pH Resolution 0.01 pH, 1 mV in mV mode, Standardization range ± 1 pH Temperature compensation 0 to 100°C, Display: 3 1/2 – digit red LCD seven segment with automatic polarity and decimal point. Polarization current : 10 uA Accessories Combined electrode Stand and clamp
58	Haemometer	Superior, German make with accessories
59	Lovibond comparator	Comparator 2000+ (thermofischer)
60	Binocular Student Microscope	Olympus with antifungal lens, 40 X and 100X oil immersion objective
61	Digital salinity meter	Water proof, Range 0 – 10ppt, Accuracy 0.10 ppt.
62	Micropipettes	Variable Volume ; 10-100 and 100-1000 ul Microlitt/ Tarson
63	Student Microscopes	Olympus HSA
64	Blood pressure Apparatus	Desk Mercury Sphygmomanometer
65	Drier for Chromatography	Ordinary with hot/cold air blower with Low/High speed
66	Dissecting Microscopes	Olympus Zoom stereoscopic
67	Stethoscope	Ordinary
68	Human Skeleton Disarticulated	Fibre glass, washable and weather proof for demonstration of individual bones
COLLEGE LIBRARY		
69	CCTV and accessories	Camera Dome type and bullet type, 16 port DVR, 1 TB hard disk, 29" LED monitor and other accessories with wiring and installation charges
70	Digital Calculator	DS – 3TS Desk Top Type 47.8 (H) x 148 (W) x 194 (D) MM 14 Digits