

Mechatronics Lab Equipments Specifications

S. No.	Item Name	Item Description/Specification	Quantity
1	Function Generator	1 Channel, Frequency Range 0.3Hz to 3MHz, Digital Frequency, LCD Readout for frequency & mode, Waveforms: Sine, Square, Triangle, DC	2
2	Arbitrary Function Generator	2 Channel, DDS technology, up to 25 MHz frequency output, 125MS/s sample rate, and 1μHz frequency resolution, Vertical Resolution: 14 bits, and 8K arb waveform length, 4" high resolution (480 x 320 pixels) LCD Display	2
3	Function Generator with Power Supply	1 Channel with 3 DC output (2 x 15 V/1 A, 5 V/1 A DC Power supply), Frequency Range 0.3Hz to 3MHz, 15 MHz Frequency Counter, Waveforms: Sine, Square, Triangle, DC	2
4	Oscilloscope 2 Channel 50 MHz	2 Channel DSO, Signal Bandwidth: 50 MHz, Real time sampling: Max 500 MSa/s, Equivalent sampling rate: Max 50 GSa/s	2
5	Oscilloscope 4 Channel 100 MHz	4 Channel DSO, Signal Bandwidth: 100 MHz, Sampling rate: 1 GSa/s (Single Channel), 500 MSa/s (Two Channels), 250 MSa/s (Four Channels)	1
6	DC Power Supply 3 Channel 30 V, 2 A	3 Channel 30 V/ 2 A, 0 - ±15 V/ 1 A Tracking, 5 V/ 5 A	2
7	DC Power Supply 1 Channel 32 V, 10 A	1 Channel DC 0-32 V, 0 - 10 A	2
8	DC Power Supply 3 Channel 32 V, 3 A	3 Channel 32V 3A	1
9	FDM 3D printer -Print Size (L x W x H) (mm): 450 x 450 x 470	FDM 3D printer (Print Size (L x W x H) (mm): 450 x 450 x 470; Printing Speed (mm/s):120; Input Voltage (V): 100-120VAC, 200-240VAC, 50/60Hz; Power Rating (W):800; Screen Type 4.3-inch color touchscreen; Mainboard: Integrated 32-bit silent mainboard; File Formats: AMF, OBJ, STL; Nozzle Temperature (°C): $\leq 300^{\circ}\text{C}$)	1
10	FDM 3D printer -Print Size (L x W x H) (mm): 220 x 220 x 240mm; Printing Speed (mm/s):500	FDM 3D printer (Build Volume (mm): 220 x 220 x 240mm; Printing Speed (mm/s):500; Input Voltage (V): 100-120VAC, 200-240VAC, 50/60Hz; Power Rating (W):350; Filament Diameter (mm):1.75; Extruder Type: Upgraded "Sprite" direct drive extrusion; Heat bed Temperature (°C) =$\leq 100^{\circ}\text{C}$; Nozzle Diameter (mm): 0.4; Printing Accuracy: ±0.1mm; Layer Height: 0.1-0.35mm; Nozzle Temperature (°C): $\leq 300^{\circ}\text{C}$; Screen Type: 4.3" color touchscreen; Filament Compatibility: ABS, ASA, PETG, PLA, TPU(95A);	1
11	DLP 3D Printer with Washing and Curing Station (Print Size (L x W x H) (mm): 133 x 75 x 150)	DLP 3D Printer with Washing and Curing Station (Print Size (L x W x H) (mm): 133 x 75 x 150; Printing Speed: 30-70 mm/h; Technology: TI (Texas Instruments) DLP technology; Power Requirements: 100-240V 50/60Hz 12V1.5A 18W; Screen Type 3.5 Inch Touch Screen; Layer Thickness: 0.01-0.2mm; Slicing Software: Voxel dance Tango, ChituBox; Z Axis Accuracy: 0.00125mm; XY Resolution: 0.05mm (2560*1440); Build Size (mm): 132.8 x 74.7 x 150; Light Source: TI (Texas Instruments) DLP Projector; Connectivity: USB)	1
12	Vacuum Cleaning Robot Without Auto Cleaning	Without Auto Cleaning Battery Life: 300 Minutes; Control Method App, Remote, Voice; Controller Type Remote Control, App Control, Voice Control; Compatible Devices Smartphones, Amazon Echo, Tablets, Google Home; Battery Type Lithium Ion; Filter Type: HEPA; Surface Recommendation: Hard Floor, Wood, Carpet, Tiles, Marble Concrete	1

13	Vacuum Cleaning Robot With Auto Cleaning	With Auto Cleaning	Dimension (HxDxW) cm: 34.5 x 34.5 x 9.6 cm; Suction of Motor: 5000 Pascal **; Run Time: up to 5 Hrs.*; Full Charge Time: ~5-6 hours: Dust Capacity: 330 ml; Water Tank Capacity: 300 ml; Noise Level: <75 dB; Wi-Fi Compatibility: 2.4 GHz	1
14	QDD- Quasi Direct Drive Actuators (XTerra Robotics)	Peak Torque - 11.96 Nm, Weight - 550g, Outer Diameter - 77 mm, Width - 50mm		5
15	Cobot C1, Robot Arm (xTerra Robotics)	Specifications: Weight (kg) 2.2 kg, Payload (kg) ~0.4, Actuated DoF 4, Adaptive Gripper, Onboard computer RPi 4B, 8GB RAM, Middleware ROS, QDD A2 Actuator with max output torque 12 Nm		1
16	Hexapod Robot Kit with NVIDIA Jetson Nano and supports Robot Operating System (ROS)	Hexapod robot powered by NVIDIA Jetson Nano and supports Robot Operating System (ROS), Equipped with Lidar & Supports SLAM Mapping Navigation, 3D Depth Camera & Depth Image Processing, 6CH Far-field Microphone Array; 35KG high-torque smart bus servo; Battery 11.1V 3500mAh 5C Lipo battery; Continuous working life: 60min; Communication: USB/ WiFi / Ethernet; Programming language: Python/ C/ C++/ JavaScript; Storage: 32GB TF card; Servo: HX-35H intelligent serial bus servo		1
17	NVIDIA Jetson Orin Nano Developer Kit 8GB	Jetson Orin Nano Developer Kit	8GB	1
18	NVIDIA Jetson Nano Developer Kit-B01 4GB	Jetson Nano Developer Kit-B01	4GB	2
19	Raspberry Pi 4 Model B Starter Kit 8GB	Raspberry Pi 4 Model B Starter Kit	8GB	4
20	Raspberry Pi 5 Model 8GB	Raspberry Pi 5 Model	8GB	4
21	Raspberry Pi Pico	Raspberry Pi Pico	NA	10
22	Object Tracking Camera Pixy 2.1 Smart Vision Sensor	Pixy 2.1 Smart Vision Sensor (Processor: NXP LPC4330, 204 MHz, dual core; Image sensor: Aptina MT9M114, 1296x976 resolution with integrated image flow processor; Lens field-of-view: 80 degrees horizontal, 40 degrees vertical; Power consumption: 140 mA; Power input: USB input (5V) or unregulated input (6V to 10V); RAM: 264K bytes; Flash: 2M bytes		2
23	Teensy 4.1 with Pins	Teensy 4.1 Development Board Version 4.1, With Ethernet Chip, With Pins Soldered		5
24	ESP32 (38 Pin) with WiFi and Bluetooth	ESP32 (38 Pin) WiFi + Bluetooth NodeMCU-32		10
25	Arduino Uno R3	Uno R3		20
26	Arduino UNO R4	UNO R4 (Arduino UNO R4 WiFi ABX00087; Onboard 12x8 LED Matrix; 48 MHz Arm Cortex-M4 microprocessor with a floating-point unit (FPU) 5 V operating voltage Real-time Clock (RTC) Memory Protection Unit (MPU) Digital-to-analog Converter (DAC))		5
27	Arduino Nano A000005	Arduino Nano A000005		5
28	Arduino Mega 2560	Arduino Mega 2560 ATmega2560 MCU Rev3 A000067		3
29	Web Camera	Logitech C270 HD Webcam		5
30	RGBD Camera	Depth camera (product size 89.8*19.0*25.0; Power dissipation < 2; Joggle: Type C USB 2.0; Operating distance: 0.2~4 (within 2m); Working temperature: -10~50; Storage temperature: -30~80; Working humidity: 0~90; Power supply mode: USB; Vbus: 4.75~5.25; Plane accuracy: <2@1m; Resolution/frame rate: 640x480@20fps (Max); Fov: 73.8x58.8x86.4 (H*V*D); transfer image format: RAW16		1
31	Depth Camera with IMU	Intel RealSense Depth Camera D435i with IMU (FOV Horizontal: 91.2; Maximum Range: 10m+; FOV Diagonal 100.6; FOV Vertical: 65.5; Minimum Depth Distance [mm] 200; Baseline [mm]: 50; Shutter Type: Global Shutter; Vertical		

		Resolution: 800; Horizontal Resolution (TVL): 1280; Interface: USB 3.0; Max. RGB Resolution: 1920 x 1080; RGB Sensor: Yes; Max. Depth Resolution: 1280 x 720; Depth Technology: Active IR Stereo; Length(mm): 95; Width(mm): 25; Height (mm): 25; Shipping Weight: 0.1 kg	1	
32	Lidar Depth Camera with Ideal Range: 7 cm to 50 cm	Intel RealSense L515 Lidar Depth Camera	1	
33	LIDAR with Angular Range: 0 ~ 360°	Distance Range (Radius): 0.15m to 6m, white objects (Diameter Range – 12m); Angular Range: 0 ~ 360°; Distance Resolution: < 0.5mm; Angular Resolution: <= 1 ° Sample Duration: 0.5 ms; Sample Frequency: >=8000 Hz Scan Rate: 1 ~ 10Hz, Typical 5.5Hz	5	
34	Servo Motor with Torque 9.4 kg-cm	Operating voltage:4.8 V - 7.2 V, Running Current:500 mA – 900 mA (6V), Operating Angle:180-degree, Direction: CCW, Operating speed:0.17 s/60° (4.8 V), 0.14 s/60° (6 V), Weight:55 g, Dimension:40.7 x 19.7 x 42.9 mm	20	
35	Servo Motor with Torque Rating (kg-cm): 1.2 to 1.6	Micro Servo Motor : Rotation (Degree):180; Torque Rating (kg-cm): 1.2 to 1.6; Operating Voltage (VDC) : 3.0 ~ 7.2; Operating Speed @4.8V: 0.10sec/60°; Stall Torque @ 4.8V (Kg-Cm): 1.2; Stall Torque @6.6V (Kg-Cm): 1.6; Operating Temperature (°C): -30 to 60;Gear Type: Glass Fiber; Servo Plug Type: JR; Cable Length (cm): 25; Length (mm): 22.8; Width (mm): 12.6; Height (mm): 34.5; Weight (g): 9;	18	
36	Servo Motor with Torque Rating (kg-cm): 10.2	Operating Voltage (VDC): 4.8 to 6; No load Speed (RPM): 0.16 sec/60°@6V, 0.18sec/60°@4.8V; Stall Torque (kg-cm): 10.2; Operating Temperature (°C): -15°C~70°C; Dead Band Width (uS): 5; Gear Material: Metal; Rotation (Degree): 180; Cable Length (cm): 30; Command Signal: PWM; Connector: JR; Length (mm): 41; Width (mm): 20; Height (mm): 38; Weight (g): 56	10	
37	Servo Motor with Torque Rating (kg-cm): 20	7.4V 20kg.cm 180° Copper Metal Gear Digital Servo Motor	4	
38	Servo Motor with Torque Rating (kg-cm): 35	35KG Metal Gear Digital Servo With servo arm Default 180 degrees	4	
39	Servo Motor with Torque Rating (kg-cm): 40	40KG Digital Servo Large Torque Motor Metal Gear 25T Arm Default 180 degrees.	4	
40	Servo Motor with Torque Rating (kg-cm): 21	270 Degree High Torque Digital Steering Gear with Long and Short U4 Metal Parts Torque:21KG	4	
41	Direct Drive Servo Motor with Rated torque: 0.96Nm	Rated voltage: 18V DC (5S LiPo); Rated torque: 0.96Nm; Rated speed: 115 rpm; Number of pole pairs: 10; Operating temperature: -20~45°C; Noise level: ≤50dB; Mechanical time constant: 30ms	4	
42	Direct Drive Servo Motor Driver Board	Controller: ESP32; Power Port: XT60, DC5525; Power Supply: DDSM115: 12-24V DC, DDSM210: 9~28V DC Communication Mode: Type-C × 2, UART; Wireless Configuration: 2.4G WiFi; Mounting Hole Diameter (mm): 3; Mounting Hole Spacing: 58×49 mm; PCB Size (L x W) mm; 85×57	2	
43	Servo Motor Driver 16-Channel 12-bit	16-Channel 12-bit PWM/Servo Driver I2C interface PCA9685	20	
44	Servo Motor Driver 32Ch Servo Motor Controller Board	32Ch Servo Motor Controller Board; Rated Voltage: 4.2-7.2V; CPU: 32 Bits; Baud rate (USB): 115200; Baud rate (Bluetooth, UART): 9600; Storage Flash capacity 16M; Mode to choose; 4 types; controlling servo number: 32 channels; Max action groups: 256 groups; Communication: UART	2	
45	NEMA 17 Stepper Motor with Torque Rating (kg-cm): 5.6	NEMA 17	42 Stepper Motor 23mm with 800mm Motor Cable	6
46	NEMA 17 Stepper Motor with Torque Rating (kg-cm): 2.5		2.5 Kg-cm Bipolar Stepper Motor 10mm shaft	6
47	NEMA 17 Stepper Motor with Torque Rating (kg-cm): 4.2		4.2 kg-cm Stepper Motor -D Type Shaft	10

48	NEMA 17 Stepper Motor with Torque Rating (kg-cm): 4.8		4.8 kg-cm Stepper Motor with Detachable Cable – D-Type Shaft	6
49	NEMA 17 Stepper Motor with Torque Rating (kg-cm): 5.8		5.8kg-cm Stepper Motor-Round Type Shaft	6
50	NEMA 17 Stepper Motor with Torque Rating (kg-cm): 6.5		6.5kg-cm Stepper Motor-D Type Shaft	6
51	NEMA 17 Stepper Motor with Torque Rating (kg-cm): 7.2		7.2kg-cm Stepper Motor-Round Type Shaft	8
52	NEMA 23 Stepper Motor with Torque Rating (kg-cm): 7.2	NEMA 23	7.2 kg-cm Stepper Motor – Round Type Shaft	6
53	NEMA 23 Stepper Motor with Torque Rating (kg-cm): 18.9		18.9 kg-cm Hybrid Stepper Motor – D-Type Shaft	3
54	NEMA 23 Stepper Motor with Torque Rating (kg-cm): 30.61		30.61 kg-cm Hybrid Bipolar Stepper Motor – D-Type Shaft	3
55	NEMA17 Planetary Geared Stepper Motor with Torque Rating (kg-cm): 60	NEMA17	Step Angle: 1.8 Degree; Configuration: 4-wire stepper motor Holding Torque: 58kgcm; Rated Voltage: 2.8VDC; Rated Current: 1.68Amps; Moment permissible Torque: 60Kg.cm; Rated Speed: 15RPM; Noise: <45 DB; Backlash: <15 Arcmin; Motor length without Shaft: 84mm; Gear box length(L): 30mm; Shaft Length: 20mm Shaft Dia: 8mm; Back shaft Length: 12mm; Back shaft Dia: 5mm D-cut Length: 15mm; Gear Ratio: 1: 19; Efficiency: 0.71%; Weight: 564 grams	3
56	NEMA17 Planetary Geared Stepper Motor with Torque Rating (kg-cm): 45	NEMA17	PLANETARY GEARED STEPPER MOTOR 45KGCM	2
57	Stepper Motor Driver TB6600	TB6600 Stepper Motor Driver Controller 4A 9~42V TTL 16 Micro-Step CNC 1 Axis		10
58	Stepper Motor Driver DM556	DM556 Digital Stepper Motor Driver for CNC Drivers Controller 3D Printer		5
59	DC Geared Motors 100 RPM	DC Motor – 100RPM – 12Volts		10
60	DC Geared Motors 150 RPM	DC Motor – 150RPM – 12Volts		10
61	DC Geared Motors 200 RPM	DC Motor – 200RPM – 12Volts		10
62	DC Geared Motors 10 RPM	DC Motor – 10RPM – 12Volts		10
63	DC Geared Motors 60 RPM	DC Motor – 60RPM – 12Volts		10
64	DC Geared Motors 300RPM Long Axis	12V 300 Long Axis DC Geared Motor		10
65	Mirco 300 Series Gear Motor DC3V-9V	Mirco 300 Series Gear Motor DC3V-9V Small Speed Reducer 3.5-10. SRPM No-load current: 40MA/speed: 7RPM		10
66	PWM DC Motor Speed Controller	PWM DC Motor Speed Controller 1.8V 3V 5V 6V 12V 2A Speed Control Module 1803BW		5
67	DC Geared Motors 200RPM/MIN Reduction Motor	DC12V 200RPM/MIN Reduction Motor		4
68	High Torque DC Motor 12V 300RPM 42.6N-cm Encoder Compatible	High Torque DC Motor 12V 300RPM 42.6N-cm Encoder Compatible		4
69	High Torque DC Motor 12V 100RPM 173.6N-cm Encoder Compatible	High Torque DC Motor 12V 100RPM 173.6N-cm Encoder Compatible		4
70	High Torque DC Motor 12V 50RPM 346.8N-cm Encoder Compatible	High Torque DC Motor 12V 50RPM 346.8N-cm Encoder Compatible		4

71	High Torque DC Motor 12V 10RPM 680N-cm Encoder Compatible	High Torque DC Motor 12V 10RPM 680N-cm Encoder Compatible	4
72	Johnson Motor High Torque DC Geared 12V 600rpm - Grade A	Johnson Motor High Torque DC Geared 12V 600rpm - Grade A	10
73	GB37 12V 1000 RPM 0.7 Kg Cm DC Geared Motor	GB37 12V 1000 RPM 0.7 Kg Cm DC Geared Motor	10
74	GB37 12V 1000RPM 0.7Kgcm DC Geared Motor with Back Shaft	GB37 12V 1000RPM 0.7Kgcm DC Geared Motor with Back Shaft	10
75	DC Planetary Gear Motors with Encoder Servo Motor 50W 100RPM 12V 30KGCM	Industrial Grade IG45 Planetary DC Geared Encoder Servo Motor 50W 100RPM 12V 30KGCM	2
76	DC Planetary Gear Motors with Encoder Servo Motor 50W 50RPM 12V 53KGCM	Industrial Grade IG45 Planetary DC Geared Encoder Servo Motor 50W 50RPM 12V 53KGCM	2
77	L298N 2A Based Motor Driver Module	L298N 2A Based Motor Driver Module	50
78	L293D Motor Driver Module	L293D Motor Driver Module	50
79	15S DC Motor Driver 15A	15S DC Motor Driver 15A (Supply Voltage: 6.8-30 VDC; Continuous Current: 15 Amp; PWM Frequency: 20 KHz; Max Peak current: 30 Amp (For 10 Seconds); Dimensions (LxWxH) : 67 x 43 x 15 mm; Weight (g): 24	10
80	L298N Motor Driver with Onboard Arduino Uno	L298N Motor Driver with Onboard Arduino Uno. (Recommended Input Voltage : 12V; Mounting Hole Dimensions: 3mm; Length (mm): 93; Width (mm): 75 Height (mm): 21; Weight (g): 50	5
81	2 Channels DC Motor Driver 20Amp 6V-30V	Cytron 20Amp 6V-30V DC Motor Driver (2 Channels) MDD20A	3
82	Dual DC Motor Driver 7V-35V 30Amp	Cytron Smart Drive Dual DC Motor Driver 7V-35V 30Amp -MDDS30	1
83	Smart Motor Driver with Current Rating (A): 30 to 85	Current Rating (A): 30 to 85; Voltage Rating (V): 7 to 28; Driver Model: SmartElex 30D; Operating Voltage (VDC): 7 to 28; Peak Current (A): 85; Continuous Current (A): 30; Frequency (Hz): 490; No. of Channels: 2; Operating Mode: 1. Radio Control (RC), 2. Microcontroller PWM., 3. Analog, 4. Serial Packetized; Overcurrent Protect. (Y/N): Yes; Thermal Protection (Y/N): Yes; LED Indicator (Y/N): Yes; Cooling Fan (Y/N): Yes; Polarity Protection (Y/N): NO; Dimensions (L x W x H) mm: 115 x 76 x 52; Weight (g): 186	2
84	DC Geared Motors with Encoder with Rated Torque (kg-cm):14	Rated Speed (RPM): 16; Rated Torque (kg-cm):14; Shaft Type: D Type; Rated Voltage (V): 12; No-Load Current (mA): 70; Rated Current (A): 0.41; Output Power (W): 1.1; Stall Torque (kg-cm): 45.7; Shaft Diameter (mm): 6; Shaft Length (mm): 15.5; Gear Ratio: 11.25069444; Gearbox Diameter (mm): 37; Gearbox Length (mm): 27; Motor diameter (mm) :32; Weight (g): 180	4
85	DC Geared Motors with Encoder with Rated Torque (kg-cm): 7	Rated Speed (RPM): 22.5; Rated Torque (kg-cm):7; Shaft Type: D Type; Rated Voltage (V): 12; No-Load Current (mA): 70; Rated Current (A): 0.41; Output Power (W): 1.1; No Load Speed: 22.5 ± 2.2 RPM; Rated Load Speed: 17 ± 1.7 RPM; Stall Torque (kg-cm):30.7; Shaft Diameter (mm): 6; Shaft Length (mm): 15.5; Gear Ratio: 200: 1; Gearbox Diameter (mm): 36; Gearbox Length (mm): 27; Motor diameter (mm) :32; Weight (g): 180	4
86	DC Geared Motors with Encoder with Rated Torque (kg-cm): 1.8	Rated Speed (RPM): 150; Rated Torque (kg-cm):1.8; Shaft Type: D Type; Rated Voltage (V): 12; No-Load Current (mA): 70; Rated Current (A): 0.41; Output Power (W): 1.1; Stall Torque (kg-cm):5.2; Shaft Diameter (mm): 6; Shaft Length (mm): 15.5; Gear Ratio: 1.25069444; Gearbox Diameter (mm): 37; Gearbox Length (mm): 27; Motor diameter (mm):32; Weight (g): 170	4
87	DC Geared Encoder Servo	GB37 12V 1600RPM 0.4Kgcm DC Geared Encoder Servo Motor	8

	Motor 1600RPM and Torque 0.4Kgcm			
88	DC Geared Encoder Servo Motor 1000RPM and Torque 0.7 Kgcm	GB37 12V 1000RPM 0.7Kgcm DC Geared Encoder Servo Motor		8
89	DC Geared Encoder Servo Motor 530RPM and Torque 1.2Kgcm	GB37 12V 530RPM 1.2Kgcm DC Geared Encoder Servo Motor		4
90	DC BO Motor	21 RPM BO Motor Single Side – Straight Type		20
91	BO Motor 50 RPM Straight Type Dual Side	50 RPM Straight Type Dual Side 3V BO Motor		20
92	BO Motor 95 RPM Straight Type Dual Side	95 RPM Straight Type Dual Side 6V BO Motor		20
93	BO Motor 230 RPM Single Side -Straight Type	230 RPM BO Motor Single Side -Straight Type		20
94	BO Motor 230 RPM L Type Single Side 6V	230 RPM L Type Single Side 6V BO Motor		12
95	BO Motor 230 RPM Dual Side -L Shape	230 RPM BO Motor Dual Side -L Shape		12
96	Micro Metal Geared Motors N25 1330 RPM with Encoder D Type Shaft	N25 6V 1330 RPM Metal Gear Motor with Encoder D Type Shaft		8
97	Micro Metal Geared Motors N25 550 RPM with Encoder D Type Shaft	N25 6V 550 RPM Metal Gear Motor with Encoder D Type Shaft		8
98	Micro Metal Geared Motors N20 200 RPM with Encoder D Type Shaft	N20 6V 200 RPM Micro Metal Gearmotor with Encoder		4
99	Piezoelectric Sensor	27 MM Piezo Ceramic Elements Sounder Sensor Trigger Drum Disc (Pack of 20)		4
100	Piezoelectric Actuator with Driver	Rectangular plate (76.2mm*25.4mm*0.5mm), High Voltage - Isolated Module DC-DC Converter 1 Output 500V 3mA 0.7V - 12V Input		1
101	2S Drone Battery 7.4V 4200mAh 2S1P 40A/50A Discharge Li-ion	2S Drone Battery	7.4V 4200mAh 2S1P 40A/50A Discharge Li-ion	10
102	3S Drone Battery 11.1V 4200mAh 3S1P 40A/50A Discharge Li-ion	3S Drone Battery	11.1V 4200mAh 3S1P 40A/50A Discharge Li-ion	5
103	3S Drone Battery 11.1V 8400mAh 3S2P 80A/100A Discharge Li-ion		11.1V 8400mAh 3S2P 80A/100A Discharge Li-ion	2
104	3S Drone Battery 11.1V 5600mAh 3S2P 60A/70A Discharge		11.1V 5600mAh 3S2P 60A/70A Discharge	4
105	6WD Shock-Absorbing Chassis Mobile Robot Kit	<u>6WD Shock-Absorbing Chassis</u> Operating Voltage: 12V; Maximum Load: 6KG; Rated Current: 350mA*6; Motor Original Speed: 17000RPM Output Shaft Speed: 500RPM; Nominal Torque: 5KG/CM		3
106	Rocker Bogie Mechanism Metal 6 Wheel Drive Chassis ROVER 6WD BO60 V2 KIT	Rocker Bogie Mechanism Metal 6 Wheel Drive Chassis ROVER 6WD BO60 V2 KIT		3
107	4WD Four Wheel Drive Kit	4WD Four Wheel Drive Kit (Acrylic Black Chassis -2 No.; Coded Disk 4 No; Acrylic Fasteners 8 No; M3 Copper Stand-Off (Male-Female) 6 No; M3 Cross-Head Bolt (Length: 8 mm) 6 No; M3 Cross-Head Bolt (Length: 30 mm) 8 No; M3 Nut 16 No; Wheels 4: BO Motors 4)		10
108	Quadcopter Drone Combo with APM 2.8 Kit	Quadcopter Drone Combo with APM 2.8 Kit for beginner (Motor + ESC + Propeller + Flight Controller + Frame + TX-RX Flysky FSi6+ Power module + Belt)		2
109	Quadcopter Drone Combo	Quadcopter Drone Combo with NAZA M V2 Kit (Motor + ESC +		1

	with NAZA M V2 Kit	Propeller + Flight Controller + Frame + TX-RX + Power module + Belt)	
110	Hexacopter Drone Combo with Pixhawk Kit	Hexacopter Drone Combo with Pixhawk Kit for beginner (Motor + ESC + Propeller + Flight Controller + Frame + TX-RX Flysky FSi6+ Power module + Belt)	1
111	Flight Controller	Pixhawk 2.4.8 Basic Flight Controller kit with GPS Module Combo Kit	1
112	Drone Transmitter and Receiver	Flysky FS-i6 2.4G 6CH PPM RC Transmitter With FS-iA6B Receiver (Bandwidth (KHz): 500; RF Range (GHz): 2.40 ~ 2.48; No. of channels: 6; Remote controller weight (gm): 400; Power: 6V (1.5V AA*4); Antenna Length: 26mm * 2 (dual antenna); Transmitting Power: ≤ 20dBm; RF Receiver Sensitivity: -105dbm.)	2
113	ESC Drone Speed Controller 30A	30A BLDC ESC Electronic Speed Controller with Connectors	30
114	ESC Drone Speed Controller 320A	7.2V-16V 320A High Voltage ESC Brushed Speed Controller	4
115	ESC Drone Speed Controller 70A Waterproof ISDT	ISDT Esc70 Wp 1080 70A Waterproof Esc 2-3S 5V-7.5V	2
116	Laser Cutting Machine	Power Rating 150 W, Non-Metal such as: Acrylic, soft wood, cardboard, mdf	1
117	Electric Jigsaw	BOSCH Professional Gst 680	2
118	Angle Grinder	BOSCH GWS 800 Professional Angle Grinder (100 mm Wheel Diameter)	1
119	Metal Cutter	BOSCH GDC 140 GDC 140 Metal Cutter	1
120	Power & Hand Tool Kit (100 Tools)	BOSCH GSB 500 RE Power & Hand Tool Kit (100 Tools)	2
121	Manual Hand Drill Machine		1
122	Cordless Drill	Bosch GSR 120-LI Cordless Drill Driver 1500 RPM (Chuck Size: 0.8-10 mm)	1
123	VICE CLAMP	Climax TABLE BABY VICE CLAMP TYPE 2" INCH [50 MM] Multi Vise Tool	2
124	Steel Frame Hacksaw	Stanley 450 mm	2
125	Metal Cutter	TAPARIA TCS-10 TAPARIA TIN CUTTER TCS Metal Cutter	5
126	Combination Spanner Set Double-Sided Combination Wrench (Pack of 12)	TAPARIA CSS12 Combination Spanner Set Double-Sided Combination Wrench (Pack of 12)	5
127	Screw Driver Set with Neon Bulb	TAPARIA TP-840 Screw Driver Set with Neon Bulb (Silver and Green) & 1621-8 Combination Plier Combo Lineman Plier (Length: 16 inch)	5
128	Heat Resistant 932°F Silicone Soldering Mat	Heat Resistant 932°F Silicone Soldering Mat, Large Anti-Static Magnetic Electronic Repair Work Mat for BGA and Gun Soldering Iron, Workbench, Cell Phone Laptop Repair, 17.7" *11.8 "	5
129	Soldering iron, Desoldering rework station, and Hot air soldering station	Power consumption: 720 W Hot air gun temperature range: 100°C-480°C Hot air gun heater material Ferro-alloys Hot air gun heater resistance: 74 Ω Hot air gun type turbine (with a brushless fan inside the hot air gun) Airflow: 120 l/min	2
130	Adjustable Soldering Iron Station 60 Watt		8
131	Digital Multimeter	Voltage: DC: 1000 volts (± 0.8% + 4); AC: 750 volts(± 1.5% + 4); Current: DC: 10 A(± 1.5% + 4); AC: 10 A(± 2% + 4) Resistance, Capacitance, Duty Cycle (%) & Frequency measurement, Diode Test, Continuity test with buzzer & Data Hold, REL Measurement	4
132	Digital LCR Meter	Counts: 2000; Sampling Rate: 3 times per second; Inductance Range: 200μH - 20H; Inductance Accuracy: ±(2.0% + 5); Resistance Range (Ohm) : 20Ω - 20 MΩ; Dimension: 185x93x35 mm; Capacitance Range: 200pF - 2000 Mf; Resistance Accuracy: ±(0.8% + 2); Display: 3½ Digit Display Capacitance Accuracy: ±(2.5% + 5); Power: 9V (6F22) Battery	3
133	Hand Magnifier Soldering Stand with 2 LED lights for PCB Soldering Work	PCB Soldering Work (35X / 12X 65mm / 17mm Lens, Dual-Mode)	5
134	6 Flexible Arms Soldering Station with Swiveling Alligator Clip	6 Flexible Arms Soldering Station with Swiveling Alligator Clip	5

135	PLCs	12 points 24VDC digital input (2 points high-speed 100KHz, 4 points medium speed 20KHz, 6 points medium speed total 5KHz); 8 points relay or transistor output (2 points high-speed 100KHz, 6 points medium speed 20KHz); 1 RS232 or USB port (expandable up to 3)	5
136	Universal PLC Platform (FATEK) with HMI	7" Human Machine Interface (HMI); PLC CPU Type: FBs-20 MA; Digital Input: 12; Digital output: 8 Analog Input: 4; Analog Output: 2; Program size (Words): 4096 Sec. per instruction: 0.33 μ s/Sequential instruction in average; Interfacing: USB; External RS485 Communication with PLC and HMI	1
137	Linear Actuator	Electric Linear Actuator; Stroke Length (mm): 300; Operating Voltage: 12V DC; Self-Locking Force (N): 350	2
138	Linear Actuator with position sensor	Peak Power Point: 31N @ 7mm/s; Peak Efficiency Point: 17N @ 10mm/s; Max Speed (no load): 13mm/s Max Force (lifted): 42N; Back Drive Force (static): 22N; Repeatability (-I,-R,-P&LAC): \pm 0.2 mm; Max Side Load (extended): 40N; Closed Length (hole to hole): 82mm; Potentiometer (-I, -R, -P): 3k Ω \pm 50%; Input Voltage: 12V; Max Input Voltage: 13.5V; Stall Current: 246mA; Standby Current (-I/-R): 3.3mA; Operating Temperature: -10 C to +50 C; Potentiometer Linearity: Less than 2.00%; Max Duty Cycle: 20%; Audible Noise: 55dB @ 45cm; Ingress Protection: IP-54; Mechanical Backlash: 0.2mm; Maximum Static Force: 200N	2
139	Linear Actuator Control Board	Control input modes: Digital: USB, RC Servo, 1 kHz PWM Analog: 0–3.3 V, 4–20 mA Controller: 10-bit Dual Sample Rate Quasi PD Dimensions: 50 mm x 50 mm (excluding battery holder); Power: 6–24 VDC, 4 Amps peak current at 10% duty cycle (Note: Supply voltage must match actuator's rated voltage); Operating environment: -10 to +70°C at 10–80% relative humidity	2
140	Brushless DC motors 920KV	Motor KV (RPM/V):920, Motor Type: Brushless Motor, Maximum Thrust (gm):500, Shaft Diameter (mm):6, Rated Voltage (V):7 ~ 12, Required ESC (A):30, Length (mm):28, Width (mm):28, Height (mm):46, Weight (g):60	6
141	Brushless DC motors 935KV	Motor KV (RPM/V):935, Motor Type: Brushless Motor, Compatible LiPO Batteries:3S to 4S, Maximum Thrust (gm):840, Required ESC (A):18, Framework:12N14P, Compatible Prop (inch): 8 ~ 10, Length (mm):39.5, Width (mm):28 Weight (g):53	6
142	Brushless DC motors 1000 KV	Motor KV (RPM/V):1000, Motor Type: Brushless Motor, Shaft Diameter (mm):3.17, Current Capacity (A):12, No-Load Current (mA):500, Max. Efficiency Current (A):4 ~ 10, Maximum Efficiency:0.8, Length (mm):27.5 Weight (g):72	12
143	Brushless DC motors 1400KV	Motor KV (RPM/V):1400, Motor Type: Brushless Motor, Shaft Diameter (mm):3.17, Current Capacity (A):16, No-Load Current (mA):700, Max. Efficiency Current (A):6 ~ 12, Maximum Efficiency:0.8, Length (mm):27.5, Width (mm):27, Weight (g):72	12
144	Brushless DC motors 2300KV	2300KV Motor KV (RPM/V):2300, Motor Type: Brushless Motor, Maximum Thrust (gm):1024, Shaft Diameter (mm):5, Compatible Prop (inch):5, Length (mm):27.9, Width (mm):27.9, Height (mm):31.7 Weight (g):30	6
145	Solenoid valve switch	Pressure:0.2 - 10 Bar, Coil Voltage:12 V DC Pipe Diameter:1/2 Inch Current:500 mA, Weight (gm):100 Dimensions (mm) LxWxH:84 x 57mm (L x H)	5
146	Electric Bike Drive Kit	Power Rating (W):250, Rated Speed (RPM):3300, Operating Voltage (VDC):24	2
147	EBIKE Brush Motor	Operating Power (W):350, Rated Voltage (V):24, Rated Current (A):2.5, No load Speed (RPM):3300, Rated Speed (RPM):2750, Rated Torque (kg-cm):11.1, Stall Torque (kg-cm):55.11, Weight (kg):2.56,	8

		Efficiency \geq 78%.	
148	Electric Cycle Drive Kit	Kit of: 24 v 250 w motor, 24 Volt DC Operation, Permanent Magnet DC Motor, Rated Load RPM: 400	2
149	Filter Regulator Combination with Lubricator (FRL Unit) with pressure gauge	Filter Regulator Combination with Lubricator (FRL Unit) with pressure gauge (Filtration – 40 microns, Flow: 12 liters/min, Connector for tube: 8 mm diameter.)	1
150	Junction Box	Junction Box with slide valve and self-sealing feature	1
151	Push Button Valve	Push Button Valve	1
152	Selector Valve	Selector Valve	1
153	3/2 NC Roller lever valve Reversing	3/2 NC Roller lever valve (Pneumatic limit switch – for Reversing)	2
154	3/2 NC Roller lever valve Forwarding	3/2 NC Roller lever valve (Pneumatic limit switch – for Forwarding)	2
155	5/2 Double external pilot-operated valve	5/2 Double external pilot-operated valve	2
156	5/2 External Pilot Operated Valve with spring return	5/2 External Pilot Operated Valve with spring return	4
157	5/2 Hand lever with spring return	5/2 Hand lever with spring return	1
158	5/2 Hand Lever Valve with detent	5/2 Hand Lever Valve with detent	1
159	One-way Flow control valve	One-way Flow control valve	2
160	Shuttle Valve (OR valve)	Shuttle Valve (OR valve)	2
161	Dual pressure valve (AND valve)	Dual pressure valve (AND valve)	1
162	Quick exhaust valve	Quick exhaust valve	1
163	Double Acting Cylinder	Double Acting Cylinder: Size 25mm bore dia, Stroke: 100mm with end cushioning with fittings for 4 mm pipe	2
164	Single acting cylinder	Single acting cylinder (SAC): Size 25mm bore dia, Stroke: 50mm with end cushioning with fittings for 4 mm pipe.	1
165	One touch fitting	One touch fitting (Union T fitting & Union Y fitting: – Each 4 nos, Size – Suitable for tubes with 4 dia Outer Diameter)	1
166	Blocking Plug,	Blocking Plug, Dia: 4mm	6
167	Pneumatic tube 8mm	Pneumatic tube: 8mm	5 mtrs
168	Pneumatic tube: 4mm	Pneumatic tube: 4mm	10 mtrs
169	Tube cutter with safety lock	Tube cutter with safety lock	1
170	5/3 Double external pilot-operated valve with spring-centered	5/3 Double external pilot-operated valve with spring-centered	1
171	Time Delay Valve	Time Delay Valve (Spring Return, Compatible connectors)	1
172	Pneumatic counter	Pneumatic counter (1000 counts or more)	1
173	Vertical Aluminum Profile	Plate Size (L x W x H) in cm: 100 x 64 x 68 Profile groove width: 8.3 mm	1
174	Silent Air Compressor	HP– 0.75 (0.54 Kw) Input Litre – 50-80 litres Output Litre – 37-45 litres/min Tank capacity – 30 litre or more Noise (dB) – 60 dB (maximum) Max. Pressure - 8 Bar / 120 PSI Power supply - 230V, 50Hz	1

		Power cord – 3 Pin, Standard Plug	
175	3/2 Single solenoid operated valve with spring Return	3/2 Single solenoid operated valve with spring Return	2
176	5/2 Single solenoid operated valve with spring Return	5/2 Single solenoid operated valve with spring Return	2
177	5/2 Double solenoid operated valve (With LED)	5/2 Double solenoid operated valve (With LED)	2
178	Magnetic sensor with clamp (Solid state, Output type: PNP)	Magnetic sensor with clamp (Solid state, Output type: PNP)	4
179	Electrical Input module (2 push buttons + 1 selector switch) (24V DC)	Electrical Input module (2 push buttons + 1 selector switch) (24V DC)	2
180	Electrical Connection set (Banana plug, Colored cables)	Electrical Connection set (Banana plug, Colored cables)	1
181	Relay Logic Unit – 3 Relays, 24VDC, 2NO/2NC type	Relay Logic Unit – 3 Relays, 24VDC, 2NO/2NC type	2
182	ON & OFF Delay timer module (On: 1 – 10s, Off: 0.5 – 10s, 24V)	ON & OFF Delay timer module (On: 1 – 10s, Off: 0.5 – 10s, 24V)	1
183	Electrical counter Module (24V, NO/NC, Minimum: 6 digits display)	Electrical counter Module (24V, NO/NC, Minimum: 6 digits display)	1
184	24 VDC SMPS with outlets compatible with banana connectors	24 VDC SMPS with outlets compatible with banana connectors	1
185	Switch Mode Power Supply	Input: 85-260 V AC Output: 24V DC, 4.5 A Output Indication: LED indicator Protection (Overload & Short circuit): Fuse glass type (Input 2A; Output 4A)	1