



**REGIONAL SCIENCE CENTRE
UTTARAKHAND STATE COUNCIL FOR
SCIENCE AND TECHNOLOGY**

Department of Information and Science Technology (Govt. of Uttarakhand)
Jhajra, PO Jhajra, Dehradun, Uttarakhand-248015
Website: www.ucost.uk.gov.in

Tender No. UCS&T/RSC/AI Lab/2023-24/01/.....

Date- 16/11/2024

1 Supply, Installation, Commissioning and Training of Programmable Humanoid Robot (for demonstration purpose) (TABLE-A)-

SPECIFICATIONS	Robot Type-1 (Required Quantity 1 No)	Robot Type-2 (Required Quantity -3 No)
HEIGHT	100 cm-160 cm	30-60 cm
WEIGHT	6-15 Kg	4-10 Kg
MATERIALS	Aluminum Alloy, Pc+Abs Housing or equivalent	Aluminum Alloy, Pc+Abs Housing or equivalent
COLOR	White	White
DOF	25 Degrees of Freedom (Legs 5 X 2, Hands 3 X 2) Or above	25 Degrees of Freedom (Legs 5 X 2, Hands 3 X 2) Or above
SPEAKER	Dolby Atmos or comparable version	Dolby Atmos or comparable version
PROCESSOR	ATOM E3845; Clock speed 1.91 GHz or better	ATOM E3845; Clock speed 1.91 GHz or better
INTERNAL MEMORY	16-32 GB	8-16 GB
BATTERY	Lithium Ion 20V/2.5 Ah or better	Lithium Ion 20V/2.5 Ah or better
SYSTEM	Ios/Android/Pc based	Ios/Android/Pc based
COMPATIBILITY	3d Visualization-Based	3d Visualization-Based
PROGRAMMING	Choregraphed Software Suite Python	Choregraphed Software Suite Python
GYROMETER	Numbers: 1 Axis: 3 Angular Speed: 400 To 600°/S Precision: 5%	Numbers: 1 Axis: 3 Angular Speed: 400 To 600°/S Precision: 5%
ACCELEROMETER	Numbers: 1 Axis: 3 Acceleration: ~2g Approx.	Numbers: 1 Axis: 3 Acceleration: ~2g Approx.
RAM	RAM Minimum 6 GB DDR3 Or Above	RAM Minimum 6 GB DDR3 Or Above
FLASH MEMORY	Minimum 8 GB or above	Minimum 8 GB or above
MICROPHONE	Numbers: 4 or more Frequency range: 100Hz to 10KHz	Numbers: 4 or more Frequency range: 100Hz to 10KHz
CAMERA	Numbers: 2 or more Resolution: 4 to 8MP	Numbers: 2 or more Resolution: 4 to 8MP
LED	Interactive LED for Tactile Head, eyes, ears and foots	Interactive LED for Tactile Head, eyes, ears and foots
CONNECTIVITY	Should have connectivity to Ethernet, Wifi and Bluetooth	Should have connectivity to Ethernet, Wifi and Bluetooth
MOTOR SPECIFICATIONS		
TYPE 1 FOR LEG JOINTS	No Load Speed: 8000 to 10000 RPM Continuous torque: 10 to 20 mNm	No Load Speed: 8000 to 10000 RPM

		Continuous torque: 10 to 20 mNm
TYPE 2 FOR HAND AND WRIST	No Load Speed: 8000 to 10000 RPM Continuous torque: 4 to 10 mNm	No Load Speed: 8000 to 10000 RPM Continuous torque: 4 to 10 mNm
TYPE 3 FOR HEAD AND ARM JOINTS	No Load Speed: 9000 to 11000 RPM Continuous torque: 4 to 7 mNm	No Load Speed: 9000 to 11000 RPM Continuous torque: 4 to 7 mNm
SENSORS		

SONAR	Numbers: 2 or more Range: 0.2m to 0.8m Resolution: 1cm Sensitivity: -86dB Frequency:20 to 60KHz	Numbers: 2 or more Range: 0.2m to 0.8m Resolution: 1cm Sensitivity: -86dB Frequency:20 to 60KHz
FORCE SENSITIVE RESISTOR	Numbers: 4 in each foot or more Range: 0 to 110N Sensitivity: 40g approx.	Numbers: 4 in each foot or more Range: 0 to 110N Sensitivity: 40g approx.
POSITION SENSOR	Number: 36 or more Type: MRE (Magnetic Rotary Encoder) Precision: 12bits/0.1°	Number: 36 or more Type: MRE (Magnetic Rotary Encoder) Precision: 12bits/0.1°
AI APPLICATION	Supports visitor interaction using computer vision and natural language processing	AI supported
ACTIONS	Q/A,Greeting, Feedback, Story Telling, Move, Bend, Voice Actuated, Exercise, Play etc	Voice Actuated, Play Soccer, Walk, Bend, Greeting, Exercise, Dancing in sync on a randomly selected music etc

Note:- These specifications are minimum suggestive. Agencies may also submit tendert for higher end product.

2 Supply, Installation, Commissioning and Training of Programmable Drone Kit (for demonstration purpose)(**TABLE B**)-

DIMENSIONS:	16 cm X 16cm
WEIGHT:	60 gms - 80gms
RANGE:	70-100 m
FLIGHT TIME:	7+ min
MICROCONTROLLER:	STM32F303, 256 KB
CAMERA:	Photo, Video@720p, SD Card

MOTOR DRIVER:	4 MOSFET (unidirectional) & 4 H Bridge drives (Bidirectional)
PROPULSION:	Brushed coreless DC motors
BATTERY:	1S 3.7V 600mAh LiPo with inbuilt Charger
COMMUNICATION:	WiFi Interface through Smartphone App

General Conditions

1. Onsite comprehensive warranty and Guarantee for minimum one year must be provided by the vendor as applicable.
2. Commissioning and Installation of Robots and Drone Kit must be done by vendor at site. Charges payable, if any, must be mentioned clearly in the tender submitted.
3. Training of the staff and related personnel must be organized by the vendor at site with no additional cost.
4. Spare parts of the robots and drone kit will be provided by the vendor as required by the Regional Science Centre (UCOST) for an period of at least 2 years. Rates for spare-parts along with GST etc. payable there on must be rectified clearly in the offer.
5. Operating voltage should be standard voltage i.e. 230V AC+- 5% and operating frequency 50 Hz.
6. On expiry of Warranty/Guarantee period, An annual contract may be signed between vendor and Regional Science Center (UCOST) for the maintenance of robots and drone kits.
7. Agencies submitting bids shall submit product catalogue and all technical specifications for the item quoted for along with the bid.
8. Supply of all products must include accessories for operation.

Price Bid

Name of Work: Supply, Installation, Commissioning and Training of Programmable Humanoid Robot and Programmable Drone Kit at Regional Science Centre, UCOST

Tender No: _____ Dated: _____

Bidder Name:

Price Schedule

Sl No.	Items	Quantity (a)	Unit Cost (in Rs) (b)	Taxes (in Rs) (c)	Total Cost (in Rs) (d=b+c)	Total Amount (in Rs) (e=a*d)
1.	Humanoid Robot Type-1	1				
2.	Humanoid Robot Type-2	3				
3.	Programable Drone Kit	6				
4.	Inflatable Soccer Drone Arena	1				
5.	Drone Flying Loop Kit	1				
6.	Spare parts i) ii) iii) iv) v)					

Signature of Tenderer.....

Stamp