



**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/2023-24/01/27060

Date- 31/01/2025

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 2 GB or above	Minimum 2 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

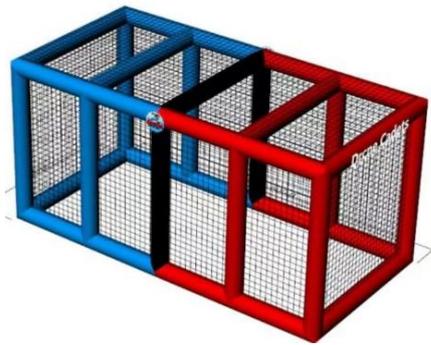
Note:- These specifications are minimum suggestive. Agencies may also submit tender for higher end product.

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

INFLATABLE SOCCER DRONE ARENA

Product Image	
Material	PVC & gridding cloth, Netting
Product size (l*b*h)	(20-25)*(15-20)*(15-20) ft
Color	Blue and Red

DRONE FLYING LOOP KIT

Item	Specification
Landing Pad	Diameter 80 cm
Big Circular Ring 1	Inner Diameter: 90 cm Height from ground: 90 cm Adjustable Height
Big Circular Ring 2	Inner Diameter: 150 cm Height from ground: 150 cm Adjustable Height
Small Circular Ring	Inner Diameter: 40 cm Height from ground: 80 cm Adjustable Height
Tunnel	Length: 100 cm Diameter: 60 cm Height of central axis from ground: 60 cm
Shaft	A vertical tube Diameter: 60cm Length: 100cm Height of the shaft bottom from the ground: 60cm

Flag	A Fixed pole and a Flag Height: 2m
Arch	A semicircle Diameter: 100cm
Stacked Loops	The two circular rings Rings Diameter: 60cm Height of the ring centers from the ground: 70cm (top ring) 1.55cm (bottom ring)

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.
9. Earnest Money Deposit of Rs. 60,000 (Rupees Sixty Thousand only) should be submitted along with the tender in the form of Demand Draft or Pay Order drawn on in the name of Uttarakhand State Council for Science and Technology (UCOST), Dehradun from any Nationalized Bank. In case of non-compliance of any of the conditions of the tender after opening of tender, the Earnest Money Deposit deposited by the tenderer will be forfeited.
10. Self-attested copy of GST registration certificate issued to the tenderer should be sent along with the tender. If the tenderer is exempted from GST registration, then self-attested copy of supporting document (certificate of exemption) should be attached with the tender. Failure to do so will result in rejection of the tender.
11. The bidder shall be an Authorized Service Provider of the OEM, who must have successfully executed at least 2 (two) similar orders in India during last 5(five) years prior to the date of opening of the bid. The bidder should furnish copies of detailed orders and also performance certificates from the customers, which should indicate the dates of award of the work and also indicate that the work is executed to the satisfaction of the customer.

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 Drones	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

**PROFORMA FOR ISSUING “UNDERTAKING BY ORIGINAL EQUIPMENT
MANUFACTURER”**

(To be submitted in OEM’s Letter head.)

Dated:

To

Uttarakhand State Council for Science & Technology,

Vigyan Dham, Jhajra,

Dehradun-248015

Dear Sir,

We, _____

Hereby state that the Equipment offered vide this tender by our authorized agent

M/s. _____

and to be supplied if found suitable and selected, it shall be our original equipment and it is to be deemed as if the Supply has been made by us directly. Accordingly, we stand by all technical specifications. We also undertake to directly make good of any shortcomings either in product quality and/or in service which my/ our authorized agent may fail to fulfil as a part of his/their obligations under the Terms & Conditions of tender.

Thanking you,

Yours faithfully,

(Authorized Signatory with Seal)