Corrigendum-IV

Important: The corrigendum is to be read, duly signed and submitted along with the original RFP document published on (https://enivida.odisha.gov.in/.

RFP Enquire No: OCAC-SEGP-INFRA-0025-2023/25071

RFP for Selection of System Integrator (SI) for Procurement, Supply, Installation and Implementation of Robotic Labs.

Last Date and Time for Submission of Bid document: 13/09/2025 by 03:00 PM

Sl. No.	RFP Clause No	Page No	Original Clause	Revised Clause/Clarification
1	RFP Fact Sheet, Section-4.5.4 & RFP Clause No-4.6.3 (Venue & Deadline for Submission of Proposals)	7 & 15	Bid submission deadline is 3.00 PM in 4.5.4 & 2.00 PM in 4.6.3.	The proposal must have submitted on or before **13/09/2025 by 3:00 PM**, through electronic mode only (https://enivida.odisha.gov.in/).
2	RFP Fact Sheet, Section-7 & RFP Clause No-7,Scope of work	25 & 26	Overall operation and management of the entire project for a period of 5 years including THREE (03)Year Warranty Support Period & Two (02) Years Comprehensive Annual Maintenance Support Period (CAMS).	The project duration is FIVE years, covering Hardware, Software & Manpower Costs for 807 Robotic Labs. **Note: -** Bidders are required to quote the cost of Consumables for 807 Robotic Labs for one year only. • Evaluation of bids will be based on the price quoted for Robotic LABs CAPEX items, five (5) years of Manpower Cost and one (1) year of Consumable Cost. • The Purchase Order (PO) for Support and Manpower deployment for 4th and 5th years will be issued separately, subject to the System Integrator's performance and approval of OSEPA. • For subsequent years, Purchase Orders (POs) for consumables shall be issued by the respective schools using the format designed by OSEPA. The referral cost for these consumables will be based on the rates discovered through this tender.

3	RFP Clause No- 7.6, Onsite Support	28 & 29	Apart from the 404 trainers deployed by the Bidder, OCAC will engage 807 apprentice trainer (1 No: Diploma/Degree in IT/Computer Science/Electronics etc.) in each Robotics Lab. The apprentice trainer will assist students during robotics classes by imparting knowledge, skills and best practices.	The bidder need to Deploy Eight Hundred Seven (807) Nos of Trainers for each school who will be responsible for providing day to day training for any kind of academic/technical support.
4	RFP Clause No- 7.6, Onsite Support, Minimum Manpower Requirement	29	Trainer (404 Nos) Any Graduate with minimum 1 to 2 years of experience as trainer in IT or academic institution having good communication.	Trainer (807 Nos): - Diploma/ITI or Higher with any stream.
5	RFP Clause No-7.11, under note, bullet point no-3	43	Sample of one Robotics kit related to one LAB as mentioned in BOQ of the RFP, needs to be submitted by the bidder to OCAC within 3 days of submission of the bid	The bidder must submit the sample Robotics Kit to OCAC within 7 days of receiving intimation from OCAC prior to the technical presentation.
6	RFP Clause No- 7.11, Minimum Technical Specifications and BOQ	35	**Interactive Intelligent Robot: -** • WMR • Deep Learning • AI Models • Emotional intelligence • Touch screen • Wide angle HD Camera • Hi-tech Sensors • Distance and edges sensor • Voice recognition • Intent response model • Tele presence • Face Recognition • Battery • Charger	**Interactive Intelligent Robot: -** • WMR (Wheel Mobile Robot) • Processor Quad-core or Higher with Android base OS/Raspberry PI • Deep Learning • AI Models • Emotional intelligence • Embedded Touch screen • Wide angle HD Camera • Hi-tech Sensors • Distance and edges sensor • Voice recognition • Intent response model • Tele presence • Battery • Face Recognition • Charger

7	RFP Clause No- 7.11, Minimum Technical Specifications and BOQ	41	**Prototyping Tools Per Lab Component (3D Printer): -** • Display Screen Size 4.3 Inch or Better • Nozzle Diameter: Multiple nozzle options • 3D Printer for Educational Prototyping • Built volume 220*220*220 • Touch Screen, Auto levelling, Core XY Structure • Power Supply: AC 100-120/200-240V, 50/60Hz,350W • Platform Temperature: 100°C • Integrated Printing Management • Extruder vibration suppression algorithm • All metal frame covered in acrylics on the sides • Max travel speed: 600mm/s • Connectivity: Wi-Fi, Ethernet, USB	**Prototyping Tools Per Lab Component (3D Printer): -** • Display Screen Size 4.3 Inch or Better • Nozzle Diameter: Multiple nozzle options • 3D Printer for Educational Prototyping • Built volume 220*220*220 or Better • Touch Screen, Auto levelling, Core XY Structure • Power Supply: AC 100-120/200-240V, 50/60Hz,350W • Platform Temperature: 100°C - 300°C • Integrated Printing Management • Dual Gear Direct Extruder • All metal / Aluminium frame • Travel speed: 500-600mm/s • Connectivity: Wi-Fi/Ethernet/USB
8	RFP Clause No- 5.1 Prequalification Criteria, Turnover	18	The average annual turnover of the Bidder (or lead bidder in case of consortium) should have minimum INR 200 Crores, out of which INR 100 Crores from IT/ITES and Education Service during the last 3 financial years ending with 2023-24 (i.e. 2021-22, 2022- 23, 2023-2024 or 2024-25). Documents to be Submitted -Audited balance sheet, P&L Statement and CA Certificate-Provisional/Audited balance sheet for FY. 2024-25 with CA Certificate will be also considered.	The average annual turnover of the Bidder (or lead bidder in case of consortium) should have minimum INR 180 Crores, out of which INR 100 Crores from IT/ITES and Education Service during the last 3 financial years ending with 2023-24 (i.e. 2021-22, 2022-23, 2023-2024) OR (2022-23, 2023-2024, 2024-25), Documents to be Submitted - Audited balance sheet, P&L Statement and CA Certificate ***Note: Submission of EMD & PBG will be the responsibility of the Prime Bidder only.***

9	RFP Clause No- 5.1 Prequalification Criteria, 4 (A),Technical Capability - I	19	The Bidder or its consortium member must have successfully undertaken at least the following numbers of similar assignments of value specified herein: - One project of similar assignments in system integration, not less than the amount ₹50,00,00,000/- (Fifty Crores Only) OR Two projects of similar nature in system integration) not less than the amount ₹40,00,00,000/- (Forty Crores Only) OR Three projects of similar nature in system integration, not less than the amount ₹30,00,00,000/- (Thirty Crores Only) “Similar Nature” is defined as experience in Implementing STEM LAB/Robotics LABs/ Atal Tinkering LABs/ /ICT LABs/PAL LAB/ SMART Class, which includes Hardware, Application Software and other Education Services, in Government/Semi Government/PSU Schools/Colleges/Universities/Institutes in the last five years, as on date of bid submission. Purchase Order (PO) should be in the name of bidder or its consortium member only. All the components pertaining to STEM LABs/Robotics LABs/Atal Tinkering LABs/ICT LABs/PAL LABs/Smart Class should be clearly included in the PO".	The Bidder or its consortium member must have successfully undertaken at least the following numbers of similar assignments of value specified herein: - One project of similar assignments in system integration, not less than the amount ₹50,00,00,000/- (Fifty Crores Only) OR Two projects of similar nature in system integration) not less than the amount ₹40,00,00,000/- (Forty Crores Only) OR Three projects of similar nature in system integration, not less than the amount ₹30,00,00,000/- (Thirty Crores Only) “Similar Nature” is defined as experience in Implementing STEM LAB/Robotics LABs /ATL/ ICT LABs/Science LAB/SMART Class, which includes Hardware, Educational Application Software and other Education Services, in Government/Semi Government/PSU Schools/ Colleges/Universities/Institutes in the last five years, as on date of bid submission. Purchase Order (PO) should be in the name of bidder or its consortium member only. All the components pertaining to STEM LABs/Robotics LABs/ATL/ICT LAB/Science LAB/Smart Class should be clearly included in the PO".

10	The RFP Clause No-5.2, Evaluation & Tabulation of Technical Score, Point No-1	21	Bidder/Consortium member should have related annual average annual turnover of minimum ₹200 Crores during last three Financial Years i.e., FY 2021 22, 2022-23, 2023-24. > ₹200 Cr to <= ₹250 Cr = 05 Marks > ₹250 Cr to <= ₹350 Cr = 08 Marks > ₹350 Cr Above = 10 Marks	Bidder/Consortium member should have related annual average annual turnover of minimum ₹200 Crores during last three Financial Years i.e., FY 2021 22, 2022-23, 2023-24. > ₹180 Cr to <= ₹230 Cr = 05 Marks > ₹230 Cr to <= ₹280 Cr = 08 Marks > ₹280 Cr Above = 10 Marks
11	The RFP Clause No-5.2, Evaluation & Tabulation of Technical Score, Point No-2	21	Bidder/Consortium Member having average Net Worth for last 3 financial years as on 31st March 2024: - >= 50 Cr. but < 70 Cr: 5 Marks >= 70 Cr. but < 100 Cr.: 7 Marks >= 100 Cr.: 10 Marks	Bidder/Consortium Member having average Net Worth for last 3 financial years as on 31st March 2024: >= 30 Cr. but < 50 Cr = 2.5 Marks >= 50 Cr. but < 75 Cr = 5 Marks >= 75 Cr. but < 100 Cr = 7.5 Marks >= 100 Cr = 10 Marks
12	The RFP Clause No-5.2, Evaluation & Tabulation of Technical Score, Point No-5	22	Bidder/Consortium member should have experience in teacher's training/deployment minimum 1000 teachers under ICT/Smart classroom project at Government or Semi–Govt./PSU Schools/Colleges/Universities/ Institutes in last five years • 1000 to 2000 – 5 marks • 2001 to 4000 – 10 marks • More than 4000 – 15 marks	Bidder/Consortium member should have experience in teacher's training/deployment minimum 1000 teachers under STEM LABs/Robotics LABs/ ICT LABs/Science LABs/Smart Class project at Government or Semi–Govt./PSU Schools/Colleges/Universities/ Institutes in last five years. • 1000 to 2000 – 5 marks • 2001 to 4000 – 10 marks • More than 4000 – 15 marks
13	The RFP Clause No-5.2, Evaluation & Tabulation of Technical Score, Point No-6	22	The bidder/Consortium member/its OEM should have supplied minimum 500 Robotic Kits in Govt. / Govt. aided/ PSU Schools/Colleges/Institutes in India in last five years, as on date of bid submission. • 500 – 750 kits - 3 Marks • 750 - 1000 kits - 5 Marks • More than 1000 kits - 10 Marks	The bidder/Consortium member/its OEM should have supplied minimum 500 Robotic Kits/Science Exhibits, in Govt. / Govt.- aided/ PSU Schools/Colleges/Institutes in India in last five years, as on date of bid submission. • 500 – 750 kits - 3 Marks • 750 - 1000 kits - 5 Marks • More than 1000 kits - 10 Marks
14	RFP Clause No- 7.3, Insurance	27	The Robotic Lab is to be fully insured against any loss or damage caused to it including theft, burglary, fire or any physical damage during transit period.	Clarification: The bidder has limited insurance liability for transit period.

15	RFP Clause No- 7.11, Minimum Technical Specifications and BOQ	35	**Humanoid Robot: -** • Wheeled Mobile Robot WMR • Minimum 5 Ft Height • High torque motors • Industry-grade wheels • Mild steel fixed hand • Mild steel Body • Powder coated with white and blue color • Wireless Controlled • Fixed Head • 12 Facial Expressions • On/Off Switch • 10000 mAh Lion Battery • Robot Lipo Battery Charger	**Humanoid Robot: -** • Wheeled Mobile Robot WMR with Stable wheels • Minimum 5 Ft Height • Differential Drive mechanism with 2 motorized wheel • Mild Steel/ Carbon Fiber fixed hand • Mild Steel Body • Thickness of body material ≥ 1.2mm • Powder coated with color • Wireless control, Controller Atmega 328P for OCU (Operator Control Unit) with on-board battery. • Control Unit for robot: Atmega 328P • Fixed Head with display type -LED matrix, Controller Atmega 328P • on/Off Switch • 10000 mAh Lion Battery • Robot Lipo Battery Charger • The fixed robot head should enable to program/code following 12 facial expressions (Happy Face, Wide face, Neutral Face, Confused Face, Angry Look, Right Look, Eye Blink, left look, Up Look, Sad Face, Down Look, Shocked Face) • The robot should follow differential driving mechanism and perform stable and smooth actions as follows (move forward, move backward, left turn, right turn, stop)
16	RFP Clause No-7.11, Minimum Technical Specifications and BOQ	35	**Robotics Arm: -** • 5 DOF Robot Arm • 4+ Gripper • Maximum Reach from Base 310 mm • Maximum Payload 90 Grams • CNC cut PVC alloy Body • USB 18 Servo Controller • 5 Servo Motor • Control Software	**Robotics Arm: -** • 5 DOF Robot Arm 2+ Gripper • Maximum Reach from Base 310 mm • Maximum Payload 90 Grams • CNC cut PVC alloy Body /Laser cut Mild Steel Body • Robotics Arm Controller: Atmega 328p controller • Servo Controller: Any servo controller for ≥ 5 servo motors • Servo Motor: Torque ≥ 12 kg-cm), voltage (5V/6V), Digital Type, All Metal gears • Servo Motor-Control Software

17	RFP Clause No-7.11, Minimum Technical Specifications and BOQ	35 & 36	**Hexapod Robot: -** • 6 Legged • 18 DOF, Each leg 3 DOF Joint • 18 Servo motor • Stretchable Leg length • Servo Controller • Metal Body • Lipo Battery • Intelligent balance charger • On/Off Switch • Battery voltage monitor	**Hexapod Robot: -** • 6 Legged • 18 DOF, Each leg 3 DOF Joint • 18 Servo motor • Servo Motor: torque ≥ 12 kg-cm), voltage (5V/6V), Digital, All Metal gear • Stretchable leg length ≥ 20 CM • Body minimum Dimension 17X15 Cm • Metal Body: Mild Steel/Aluminum or Better • Lipo Battery: Voltage 7.4-12 Volt, ≥ 6000 MAh • Servo Controller for ≥ 18 Servo Motors • On/Off Switch • Battery voltage monitor: Volt meter 3 digit seven segment display mounted in the body • Wireless control with on board Bluetooth • The robot should follow a legged locomotion and achieve Walk Forward/Backward/Turn left/Turn right/Stop.
18	RFP Clause No-7.11, Minimum Technical Specifications and BOQ	36	**B: - Robotics Do It Yourself (DIY) Kits: Component details: -** The Robotics DIY (Do it Yourself) Kit should be programmable & should AI-compatible educational robotics kit to offer the opportunity to explore and innovate in the field of robotics, and its integration with cloud through the Internet of Things. The kit should be compatible with open source Mobile App Controlled (Android & IOS). The Kit should have microcontroller programming boards having Architecture to have server-client communication add On sensors for input of the system, on/off Switch, on-board 12volt, 5-volt and Ground supply, functional components can be connected via connectors LCD 16*2 display on board. All the sensors	**Robotics Do It Yourself (DIY) Kits Component Details: -** The Robotics DIY (Do it Yourself) Kit should be programmable & should AI compatible educational robotics kit to offer the opportunity to explore and innovate in the field of robotics, and its integration with cloud through the Internet of Things. The kit should be compatible with open source Mobile App Controlled (Android & IOS). The Kit should have ESP8266 microcontroller programming boards having Architecture to have server-client communication, Wi-Fi add On sensors for input of the system through Connectors like FRC/JST, F/F Pin, USB Socket, Connectors, on/off Switch, on-board 12volt, 5-volt and Ground supply, functional components can be connected via connectors LCD 16*2 display on board. All the sensors required to cover the curriculum should be part of this KIT.

			required to cover the curriculum should be part of this KIT. This kit should include a minimum 2-level durable plastic platform Minimum Shell Size 28*23*11 CM(L*W*H), white colour Body with Expandable Structure mechanism with minimum 8 nos of M3/M4 cylindrical Mounting fit with brash insert, 4 in front and 4 in back for add-on structure building allowing students to enhance their robotics projects. Equipped with two metal geared DC motors (60/100 RPM), 3/4-wheel configuration, should allow students to construct the projects of the class 10th robotics curriculum. The robot development board must be a single Board mounted on the robot body with 4no of brash insert Mounting fit, safe for the learners and all the components on board should connect through F/F jumper wire to design projects, 12-volt rechargeable 41 pack with BMS, DC Power Jack (Female Socket) mounted in the body for external power input, Voltage Level Indicator. Add On Single Peripheral Board with components (DC Socket, capacitor's, 5 volts 12-volt Voltage regulators, resistor's, IC's, LED's, Transistor's, MIC, Buzzer, Push buttons, Diode's, Variable resistor's, LCD Display, motor driver), on-board 20 lines of each 12volt, 5-volt and Ground supply. The development board should have reverse voltage protection for the safety. The kit should have manual/Charts for step by-step building instructions accompanied by a detailed video curriculum in Odia Language for interactive learning, Robot coding software with Open source / perpetual licence.	This kit should include a minimum 2-level durable Metal/Plastic platform, Minimum Shell Size 28*23*11 CM(L*W*H), Body with Expandable Structure mechanism with minimum 8 no's of M3/M4 cylindrical Mounting fit with brash insert, 4 in front and 4 in back for add-on structure building allowing students to enhance their robotics projects. The Chassis should have 4 no of cylindrical mount with brash insert to attach the Peripheral Board. Equipped with two geared DC motors (60/100 RPM) Metal Geared Centre shaft, Shaft diameter 0.6 mm, 3/4-wheel configuration, should allow students to construct the projects of the class 10th robotics curriculum, safe for the learners and all the components on board should connect through F/F jumper wire to design projects, 12-volt rechargeable battery pack with BMS, Battery Capacity ≥3000mAh, DC Power Jack (Female Socket) mounted in the body for external power input, Voltage Level Indicator: volt meter 3 digit seven segment display. Add on Single Peripheral Board with components (DC Socket, capacitor's, 5 volts, 12-volt Voltage regulators, resistor's, IC's, LED's, Transistor's, MIC, Buzzer, Push buttons, L293d IC base, Diode's, OLED Display interface, 3 servo motor interface, Relay interface, DIP Switch, Variable resistor's, LCD Display, motor driver), on-board of 12volt, 5-volt and Ground supply. The development board should have reverse voltage protection for the safety. The kit should have manual/Charts for step by-step building instructions accompanied by a detailed video curriculum in Odia and English Language for interactive learning, Robot coding software with Open source / perpetual license. Sensors: Soil moisture Sensor, raindrop sensor, Vibration Sensor module, Gas Sensor Module, Ultrasonic Sensor. For Class 10 Robotics Curriculum: 1. Wi-Fi Controlled robot, 2.Soil moisture monitoring

			Sensors: Soil moisture Sensor, raindrop sensor, Vibration Sensor module, Gas Sensor Module, Ultrasonic Sensor For Class 10 Robotics Curriculum: 1.Wi-Fi Controlled robot, 2.Soil moisture monitoring robot, 3.Advanced rain-sensing robot and cloud monitoring, 4. Autonomous Pick and Place robot, 5.Smart Remote location environment monitoring robot, 6.Factory Gas Leakage Alert Robot, 7. Earthquake detection & alarm robot, 8. Human Detection & avoidance Robot, 9.mart environment monitoring robot, 10.Automated guided robot.	robot, 3. Advanced rain-sensing robot and cloud monitoring, 4.Autonomous Pick and Place robot, 5.Smart Remote location environment monitoring robot, 6.Factory Gas Leakage Alert Robot, 7.Earthquake detection & alarm robot, 8.Human Detection & avoidance Robot, 9.mart environment monitoring robot, 10.Automated guided robot
19	RFP Clause No- 7.11, Minimum Technical Specifications and BOQ	37	**Robotics KIT for Class 9: -** The Robotics Kit Should be Programmable and powered by on board power supply. This Do-It-Yourself (DIY) kit should enable students to build, program, and experiment with robotics concepts using microcontrollers, sensors, and electronic components. The kit should foster hands-on learning, encourage problem-solving, and prepare students for advanced robotics and automation. Chassis & Structure: Wheeled Mobile Robot 2-level platform for stability and modularity, PP Plastic Body ensuring durability and light weight design, white colour Body with Expandable Structure mechanism with minimum 8 nos of M3/M4 cylindrical Mounting fit 4 in front and 4 in back for add-on structure building allowing students to enhance their robotics projects. Minimum Body Shell Size: 28 × 23 × 11 cm (L × W × H), Body Color: White, Motors &	**Robotics KIT for Class 9: -** The Robotics Kit Should be Programmable and powered by on board power supply. This Do-It-Yourself (DIY) kit should enable students to build, program, and experiment with robotics concepts using microcontrollers, sensors, and electronic Components. Chassis & Structure: Wheeled Mobile Robot 2-level platform for stability and modularity Plastic Body ensuring durability and light weight design, white color Body with Expandable Structure mechanism with minimum 8 no's of M3/M4 Cylindrical Mounting fit 4 in front and 4 in back for add-on structure building allowing students to enhance their robotics projects. Minimum Body Shell Size: 28 × 23 × 11 cm (L × W × H), The Chassis should have 4 no of cylindrical mount with brash insert to attach the Peripheral Board. Body Color: White, Motors & Mobility: 2 Geared DC Motor 60-100 RPM, 3/4-Wheel Model with 2 Centre Shaft Metal geared motorized wheels, Wheel Dimension 7x2 cm. Power & Charging System: 12V DC Rechargeable Battery pack, Battery Management System (BMS), Battery capacity ≥

			Mobility: 2 DC Motors (60/100 RPM), 3/4-Wheel Model with 2 motorized wheels. Power & Charging System:12V DC rechargeable Battery pack, Battery Management System (BMS), DC Power Jack (Female Socket) mounted in the body for external power input, Voltage Level Indicator. Electronics & Control System: ATMEGA 328P for advanced control and programmability. The Peripheral Board should have multiple components for achieving all class 9 curriculum projects having connectors for sensors, 16/2 LCD Display, on-board 12-volt, 5-volt and Ground supply, Motor Driver-F jumper wires, HC05 Bluetooth module sensors for the Class 9 curriculum should be part of this Robot KIT, on-board 20 lines of each 12volt, 5-volt and Ground supply. The development board should have reverse voltage protection for the safety. The kit should have manual/Charts for step by-step building instructions accompanied by a detailed video curriculum in Odia Language for interactive learning, Robot coding software with Open source / perpetual license. Sensors: Temperature Sensing Module, Vibration Sensor Module, Ultrasonic Sensor Module, Gas Sensor Module, Bluetooth module, For Class 9 Robotics Curriculum**:** 1.Temperature Monitoring Robot, 2.Automatic Floor Cleaning Robot, 3.Shock Detector Robot, 4.Anti-theft smart robot with alarm, 5. Gas leakage detector robot with alarm, 6.Bluetooth controlled robot with Movement Monitor, 7.Human detection robot, 8. Soccer Robot, 9.Pit	3000 mAh, Battery Voltage Level Indicator: Volt meter 3 digit seven segment display, DC Power Jack (Female Socket) mounted in the body for external power input. Electronics & Control System: ATMEGA 328P for advanced control and programmability. The Peripheral Board should have multiple components like connectors, input/output interface, Active/passive components like Capacitors, Registers, LED, L293d IC base, MIC, On/Off Switch, Buzzer, BC547, BC557, Relay, Diodes, Variable registers, 16/2 LCD Display, Motor Driver, F jumper wires, HC05 Bluetooth module sensors, FRC/JST, F/F PIN/USB Socket, on-board 12volt, 5-volt and Ground supply. All the components on board should connect through F/F jumper wire to design projects. The development board should have reverse voltage protection for the safety. The kit should have manual/ Charts for step by-step building instructions accompanied by a detailed Video curriculum in Odia and English Language for interactive learning, Open source Robot coding software. Sensors: Temperature Sensing Module, Vibration Sensor Module, Ultrasonic Sensor Module, Gas Sensor Module, Bluetooth module For Class 9 Robotics Curriculum: 1. Temperature Monitoring Robot, 2. Automatic Floor Cleaning Robot, 3. Shock Detector Robot, 4. Anti-theft smart robot with alarm, 5. Gas leakage detector robot with alarm, 6. Bluetooth controlled robot with Movement Monitor, 7. Human detection robot, 8. Soccer Robot, 9. Pit detection & avoidance robot, 10. Advanced obstacle avoidance robot.

			detection & avoidance robot, 10.Advanced obstacle avoidance robot.	
20	RFP Clause No- 7.11, Minimum Technical Specifications and BOQ	38	**Robotics KIT for Class 8: -** The Robotics Kit Should be Programmable to develop all the curriculum projects of class 8th The kit should have designed to be expandable, allowing integration with additional modules and sensors for advanced applications. Chassis & Structure: Minimum two level Robot platform, metal/plastic Body for durability, Minimum Body Shell Size: 28 × 23 × 11 cm (L × W × H), Body Color: White, 2 Geared DC Motors (60/100 RPM) , 3/4-Wheel Model, 12V DC Battery Pack fixed inside, Battery Management System (BMS) with DC Power Jack (Female Socket) mounted on the body for external power input, Voltage Level Indicator for real-time battery status monitoring, Microcontroller: ATMEGA 328P ,DC Socket, Capacitors, Voltage Regulators, Resistors, Integrated Circuits (ICs), LEDs, Transistors, DPDT Relay, Microphone (MIC), On/Off Switch ,Buzzer, Push Buttons, Diodes, Variable Resistors, Voltage Display, F-F jumper wires, LED Dot Matrix for graphical output and message display, Sensors as per the curriculum requirement of class 8th.The kit should have a manual/Charts for step by-step building instructions accompanied by a detailed video curriculum in English & Odia with Language 3D model of each component's for interactive learning, Robot simulation software with perpetual licence. Sensors: Joystick Module, PIR Module, Flame Sensor Module, Buzzer module,	**Robotics KIT for Class 8: -** The Robotics Kit Should be Programmable to develop all the curriculum projects of class 8th The kit should have designed to be expandable with minimum 8 nos of M3/M4 cylindrical Mounting fit 4 in front and 4 in back for add-on structure building, allowing integration with additional modules and sensors for advanced applications. Chassis & Structure: Minimum two level Robot platform, metal/plastic Body for durability, Minimum Body Shell Size: 28 × 23 × 11 cm (L × W × H), The Chassis should have 4 no of cylindrical mount with brash insert to attach the Peripheral Board. Body Colour: White, 2 metal Geared Centre shaft DC Motor 60-100 RPM , Wheel Dimension 7/2 cm, 3/4-Wheel Model, 12V DC Battery Pack ≥ 3000 mAh fixed inside, Battery Management System (BMS) with DC Power Jack (Female Socket) mounted on the body for external power input, Voltage Level Indicator for real-time battery status monitoring - Volt meter 3 digit seven segment display, The robot development board should have Microcontroller: ATMEGA 328P ,DC Socket, Capacitors, Voltage Regulators, Resistors, Integrated Circuits (ICs), L293D, LEDs, Transistors BC547, DPDT Relay, Microphone (MIC), On/Off Switch ,Buzzer, Push Buttons, Diodes, Variable Resistors, L293d IC base, F-F jumper wires, Connectors , FRC/JST,F/F PIN/USB Socket, LED Dot Matrix for graphical output and message display, on-board 20 lines of 12 volt, 5-volt and Ground supply. Sensors as per the curriculum requirement of class 8th, All the components on board should connect through F/F jumper wire to design projects. Reverse voltage protection for the safety. The kit should have a manual/Charts for step by-step building instructions accompanied by a detailed video curriculum in English & Odia with Language for interactive learning, Open Source Robot software.

			Mic Module, IR trans receiver Module 3no's For Class 8 Robotics Curriculum: 1.Robot Controlled with Joystick, 2.Motion following robot, 3. Smart fire-fighting robot, 4.Advanced wall follower robot, 5.Maze solving robot, 6.Magnet detector robot with alarm, 7.Advance Soil Moisture Detection System, 8.Clap triggered Robot, 9.Path planning Robot, 10.Dual-color line follower robot.	Sensors: Joystick Module -1 No, PIR Module -1 No, Flame Sensor Module -1 No, Buzzer module-1No, Mic Module 1 No, IR trans receiver Module 3no's. For Class 8 Robotics Curriculum: 1. Robot Controlled with Joystick, 2. Motion following robot, 3. Smart fire-fighting robot, 4. Advanced wall follower robot, 5. Maze solving robot, 6. Magnet detector robot with alarm, 7. Advance Soil Moisture Detection System, 8. Clap triggered Robot, 9. Path planning Robot, 10. Dual-color line follower robot.
21	RFP Clause No- 7.11, Minimum Technical Specifications and BOQ	38 & 39	**Robotics KIT for Class 7: -** The Robotics Kit Should Be Programmable to develop all the curriculum projects of class 7th. The kit should have the capability to expand the structure, allowing integration with additional modules and sensors for advanced applications should be provided in modular form on printed circuit board with moulded mounting base. Chassis & Structure: Minimum two level Robot platform, metal/plastic Body for durability, Minimum Body Shell Size: 28 × 23 × 11 cm (L × W × H), Body Color: White, 2 Geared DC Motors (60/100 RPM) , 3/4-Wheel Model, 12V DC Battery Pack fixed inside, Battery Management System (BMS) with DC Power Jack (Female Socket) mounted on the body for external power input, Voltage Level Indicator for real-time battery status monitoring, Microcontroller: ATMEGA 328P ,DC Socket, Capacitors, Voltage Regulators, Resistors, Integrated Circuits (ICs), LEDs, Transistors, DPDT Relay, Microphone (MIC), On/Off Switch ,Buzzer, Push Buttons, Diodes, Variable Resistors, Voltage Display, F-F jumper wires, 4 digit 7 segment for numeric output and message display,	**Robotics KIT for Class 7: -** The Robotics Kit Should be Programmable to develop all the curriculum projects of class 7th. Chassis & Structure: Minimum two level Robot platform, metal/plastic Body for durability, Minimum Body Shell Size: 28 × 23 × 11 cm (L × W × H), expandable structure with minimum 8 no's of M3/M4 cylindrical Mounting fit 4 in front and 4 in back of the chassis for add-on structure building, allowing integration with additional modules and sensors, The Chassis should have 4 no of cylindrical mount with brash insert to attach the Peripheral Board. Body Colour: White, 2 Geared DC Metal geared centre shaft Motor 60-100 RPM ,3/4-Wheel Model, 12V DC Battery Pack fixed inside, Battery capacity ≥ 3000mAh, Battery Management System (BMS) with DC Power Jack (Female Socket) mounted on the body for external power input, Voltage Level Indicator for real-time battery status monitoring, Volt meter 3 digit seven segment display. The development board should have Microcontroller: ATMEGA 328P, DC Socket, Capacitors, Voltage, Regulators, Resistors, Integrated Circuits (ICs), LEDs, Transistors, DPDT Relay, Microphone (MIC), On/Off Switch, Buzzer, Push Buttons, Diodes, Variable Resistors, Reverse voltage protection for the safety, F-F jumper wires, Potentiometer, Relay, FRC/JST, F/F PIN/USB Socket, 7 segments for numeric output and message display, Sensors

			Sensors as per the curriculum requirement of class 8th.The kit should have a manual/Charts for step-by-step building instructions accompanied by a detailed video curriculum in English & Odia Language with 3D model of each component's for interactive learning, Robot simulation software with perpetual licence. Sensors: Mic Module, Buzzer module, IR trans receiver Module 2no's, Flame Sensor Module, Vibration Sensor Module, Touch sensor Module, LDR Module, Raindrop Module For Class 7 Robotics Curriculum: 1.Sound Activated Robot, 2.Anti-Theft Smart Robot With Alarm, 3.Obstacle Avoidance Robot, 4.Advanced Fire Detecting And Alarming Robot, 5.Vibration Activated Robot, 6.Touch Activated Robot, 7.Light Following Robot, 8.Edge Avoidance Robot, 9.Rain Sensing And Activating Robot, 10.Line Follower Robot.	as per the curriculum. All the components on board should connect through F/F jumper wire to design projects. The kit should have manual/Charts for step-by-step building instructions accompanied by a detailed video curriculum in English & Odia. Language for interactive learning, open source Robot software. Sensors: Mic Module-1 No, Buzzer module -1 No, IR trans receiver Module -2no's, Flame Sensor Module -1 No, Vibration Sensor Module -1No, Touch sensor Module-1 No, LDR Module, Raindrop Module-1 No For Class 7 Robotics Curriculum: 1. Sound Activated Robot, 2. Anti-Theft Smart Robot with Alarm, 3. Obstacle Avoidance Robot, 4. Advanced Fire Detecting and Alarming Robot, 5. Vibration Activated Robot, 6. Touch Activated Robot, 7. Light Following Robot, 8. Edge Avoidance Robot, 9. Rain Sensing and Activating Robot, 10. Line Follower Robot

22	RFP Clause No- 7.11, Minimum Technical Specifications and BOQ	38	**Robotics KIT for Class 6:** - The Robot DIY Kit is an educational robotics kit designed to introduce 6th standard students to the fundamentals of robotics, electronics, and programming through hands-on learning. This kit includes a WMR 2-level platform with a durable metal/plastic body and an expandable structure for add-on modules, should be provided in modular form on printed circuit board with moulded mounting base, allowing students to enhance their robotics projects. Equipped with two geared DC motors (60/100 RPM), a 3/4-wheel configuration and multiple sensors as per the class 6 curriculum requirement. It should have an on-board control board with essential electronic components, AND/OR/NOT GATE, Combination Logic Control Unit, Resisters, F-F jumper wires, capacitors, Relay, transistors, led's, for achieving class 6th curriculum requirement.it should have a battery management system (BMS) for safe charging, and a 12V DC battery pack fixed inside. Additionally, should have voltage level indicator, power jack socket, and on/off switch are mounted on the body. The kit should have a manual/Charts for step-by-step building instructions accompanied by a detailed video curriculum in English & Odia Language with 3D model of each component for interactive learning, Robot simulation software with perpetual licence. Sensors: LDR Module, Thermistor Module, IR trans receiver Module 2no's, touch sensor Module, Mic Module	**Robotics KIT for Class 6 (Without Programming): -** The Robot DIY Kit is an educational robotics kit designed to introduce 6th standard students to the fundamentals of robotics, electronics, and robot development without programming through Mundane Task hands-on learning. This kit includes a WMR 2-level platform with a durable Plastic body Shell Size: 28 × 23 × 11 cm (L × W × H), Body Color: White and an Expandable Structure mechanism with minimum 8 no's of M3/M4 cylindrical Mounting fit 4 in front and 4 in back for add-on structure building, Equipped with two Geared DC Motor 60-100 RPM metal geared centre shaft, 3/4-wheel configuration, wheel dimension 7/2 CM, it should have a single development board. The Chassis should have 4 no of cylindrical mount with brash insert to attach the Peripheral Board. it should have a battery Management system (BMS) for safe charging, and a 12V DC battery pack fixed inside, Battery capacity ≥ 3000 mAh, Battery Voltage Level Indicator: Volt meter 3 digit seven segment display. On-Board 20 Lines of each 12 volt, 5 volt & Ground Supply. The robot development board should have essential electronic components, Reverse voltage protection for the safety. Students should learn AND/OR/ NOT GATE, Combination Logic Control Unit, Resisters, F-F jumper wires, capacitors, Relay, transistors, led's, mike, buzzer, power jack socket, FRC/JST, F/F PIN/USB Socket, and on/off switch are mounted on the body. All the components on board should connect through F/F jumper wire to design projects. The kit should have manual/Charts for step-by-step building instructions accompanied by a detailed video curriculum in English & Odia Language for interactive learning. Sensors: LDR Module -1 No, Thermistor Module -1 No, IR trans receiver Module -2no's, touch sensor Module-1 No, Mic Module -1 No

			For Class 6 Robotics Curriculum: 1.Light Activated Robot, 2.Shadow Follower Robot, 3.Fire Activated Robot, 4.Obstacle Avoidance Robot, 5.Touch Activated Robot, 6.Edge Avoidance Robot, 7. Sound Activated Robot, 8. Black Line Follower Robot, 9.Hand Movement Following Robot, 10. Wall Following Robot.	For Class 6 Robotics Curriculum: 1. Light Activated Robot, 2. Shadow Follower Robot, 3. Fire Activated Robot, 4. Obstacle Avoidance Robot, 5. Touch Activated Robot, 6. Edge Avoidance Robot, 7. Sound Activated Robot, 8. Black Line Follower Robot, 9. Hand Movement Following Robot, 10. Wall Following Robot.
23	RFP Clause No- 7.11, Minimum Technical Specifications and BOQ	40	C: - Innovative Project Component Details. Serial No-18: Storage Rack/Self for Component box (size 30 X 20 X 25 CM) / 6/3 feet. **Quantity -2**	Storage Rack/Self for Component box (size 30 X 20 X 25 CM) / 6/3 feet, With 5 rows **Quantity -2**
24	RFP Clause No- 7.11, Minimum Technical Specifications and BOQ	41	E: - Prototyping Tools Per Lab Component Details. Serial No.-7, Soldering Iron **Quantity -10**	**Soldering Iron:** • 230V 25W Soldering Iron • Operating Voltage - 230 VAC • Power Rating - 25 • Bit Type - Chisel 25w rated or better • Max Temperature('C) - 380 • Dimensions - 11 * 9 * 5 cms • Weight - 150 grms **Quantity -10**
25	RFP Clause No- 7.11, Minimum Technical Specifications and BOQ	41	E: - Prototyping Tools Per Lab Component Details. Serial No.-12, Digital Multi meter **Quantity -10**	**Digital Multimeter:** • Display 3½ digit LCD (1999 max), with backlight • DC Voltage Measurement 200mV / 2V / 20V / 200V / 600V • AC Voltage Measurement 200V / 600V • DC Current Measurement 200µA / 2mA / 20mA / 200mA / 10A (fuse protected) • Resistance Measurement 200Ω to 20MΩ • Functions Continuity test (buzzer), diode test, hFE transistor test, data hold • Battery Type 9V Battery (6F22) • Accessories Included 1 pair of test probes • Body Material ABS with protective holster and back stand

				• Low battery indicator, overload protection **Quantity -10**
26	RFP Clause No- 7.11, Minimum Technical Specifications and BOQ	42	E: - Prototyping Tools Per Lab Component Details. Serial No.-14, Glue gun **Quantity -10**	**Glue Gun: -** • Power: 40W or Better • Trigger-freed mechanism controls glue flow. • Heats up quickly AND bonds within 60 Seconds **Quantity -10**
27	RFP Clause No- 7.11, Minimum Technical Specifications and BOQ	42	F: Specification of Laptop • Display: Minimum 14" FHD IPS display • Battery: 48 Whrs Long-life Battery or Higher • Certifications for the quoted Model: ROHS, EPEAT INDIA Windows, and Energy Star 8.0/BEE	F: Specification of Laptop • Display: Minimum 14" FHD/IPS/SVA Display • Battery: 41Whrs Long-life Battery or Higher • Certifications for the quoted Certifications for the quoted Model : ROHS, EPEAT INDIA and Energy Star 8.0/BEE
28	RFP Clause No- 7.11, Minimum Technical Specifications and BOQ	42	Table (MS frame 8/4 ft size with standard ht. top blue sun mica on 20 mm ply)	LAB Table (MS frame 8/4 ft size with standard height with 6 legs top blue sun mica on 20 mm ply), including electrical outlets.
29	RFP Clause No- 7.11, Minimum Technical Specifications and BOQ		E: - Prototyping Tools Per Lab Component Details. **New Addition**	The successful bidder shall supply the items including Plastic tray with approximate Dimension of 30X20X10 Cm or better. **Quantity -16**
30	RFP Clause No- 7.11, Minimum Technical Specifications and BOQ		E: - Prototyping Tools Per Lab Component Details. **New Addition**	Supply of 1 Kilowatt (kW) Inverter with a 180Ah (Ampere-hour) battery at each Robotic LAB. **Quantity -1**
31	RFP Clause No- 7, Scope of Work		**New Addition**	1. Supply of any other items (like screws, clamps, fasteners, ties, anchors, supports, grounding strips, wires, termination kits etc.) required for installation of all the required items for smooth implementation of Robotics LAB is under the scope of the bidder.

				2. Supply and installation of electrical components including Cables, MCB, Electrical Distribution Board, Electrical Switches, Sockets and Conduits etc. However, it is the duty of the successful bidder to install all the required electrical fitting to ensure proper power supply to all the equipment as per the lab setup. 3. Electrical Point: • 4 Plug Points (15 AMP & 5 AMP combo) for 4 Tables • 5 AMP Plug Points for 3D Printer and Normal Printer • Wiring till table • Tube light (LED) – 4 nos. • One DP MCB • Sub-meter for the LAB 4. The provision of painting (preferably in white) for each Robotics Lab will fall under the responsibility of the Department/OSEPA.
32	RFP Clause No - 7.20.1 Commercial Bid	56	• A: Robots-Component Details • B: Robotics Do It Yourself (DIY) Kits: Component Details • C: Innovative Project Component • D: Consumables Per Lab per Year Components Details • E: Prototyping Tools Per Lab Component Details • F: IT/ITES Laptop and Furniture for per Lab • One Time Delivery & Installation Cost at School	• A: Robots-Component Details • B: Robotics Do It Yourself (DIY) Kits: Component Details • C: Innovative Project Component • D: Prototyping Tools per Lab Component details) • E: IT/ITES Laptop • F: IT/ITES Furniture per LAB • G: One Time Delivery & Installation Cost/LAB • H: Consumable Items Cost/Robotics LAB (One year) Recurring • I: Manpower Cost for 807 Nos of Robotic LAB for Five Years ***Note: Please refer revised Financial Bid Format for submission of Financial bids.***

Note:

- **Bid document is to be submitted through ONLINE mode only. Physical Bid documents will not be accepted.**
- **All other terms and conditions of RFP remain unchanged.**

SD/-
GM (Admn.), OCAC