



Directorate of Technical Education, Porvorim, Goa

Coding And Robotics Education in Schools (CARES) Scheme

Project Management Unit (PMU)



CARES Scheme is implemented by the Project Management Unit (PMU) under Directorate of Technical Education (DTE) to incorporate Computational and Design thinking abilities, as well as programming, into school-level teaching in the state of Goa, in order to prepare students for the needs of the digital world of the twenty-first century. PMU had supplied Single Board Computing (SBC) Devices and Wi-Fi Routers & Robotic Hardware Kits under CARES Scheme in all Government & Government-aided schools in the state of Goa from A.Y. 2022-23.



ICT Equipment Helpdesk portal provides comprehensive assistance towards maintenance of hardware and software of SBC Devices, supplied to all Government and Government aided schools under the CARES Scheme, to ensure smooth operation and effective utilization of technology.

Scan the QR code to visit the link

Help Desk Login:
<https://cares.goa.gov.in/helpdesk/>

Support Service Timings:

From Monday to Saturday from 9.00am to 5.00pm
Except for local Public Holiday and mutually agreed service down time.

Computer Lab - **Do's**

1. Please always keep the lab neat and clean.
2. The monitor, keyboard, mouse, SBC, router should always be cleaned with a dry cloth on daily basis to increase endurance and robust functioning from a trained staff.
3. Please keep the lab door(s) closed to keep it clean and avoid dust accumulation.
4. Maintain restricted and authorized entry to the lab.
5. Do a pest control once in a quarter (minimum).
6. Shut down computers when not in use.
7. Labs walls should be free from dampness and fungus.

Computer Lab - **Don'ts**

1. Do not open the system unit casing or monitor casing as it would be breach of Warranty.
2. Do not insert metal objects such as clips, pins and needles into the computer casings.
3. Do not insert USB/storage devices or install any third-party application/plugin on SBC devices without authorization.
4. Do not bring eatables or drinks, as they may attract pests, causing potential damage to equipment and cause warranty breach.
5. Do not step on electrical wires or any other computer cables nor touch any power sockets as it may cause electrical shock.
6. Do not touch, connect or disconnect any plug or cable; nor remove/modify the physical placement of the systems without necessary permissions.
7. Do not turn off your computer directly from the power socket.
8. Do not use the SBC devices and provided facilities (i.e. Internet, Software, Printer, etc.) for personal use.
9. Do not use water or wet cloth /non-approved liquids to clean SBC, Peripherals, etc.
10. Do not place heavy objects or apply too much pressure on SBC device/ Router/Keyboard/Mouse, etc; nor scratch the monitor; nor write or mark on the system provided.
11. Do not bend the mic of the headphones as this can damage the mic.

Note: Breach of Warranty

The warranty is termed as 3 (Three) Years limited warranty from the date of Supply. The WARRANTY DOES NOT COVER DAMAGE to the hardware and its components, or its failure caused by products or components not supplied by vendor, which includes accident, misuse, abuse, neglect, mishandling, misapplication, alteration, modification, faulty installation, setup adjustments, improper antenna, interfering Signal, maladjustment of user controls, improper operation, power line surge, improper voltage supply, lightning damage, damage due to insects/rats/mice or human, smoke or chemical vapour contamination, air conditioning, humidity control or other environmental conditions, etc. The breach of warranty also includes failure to maintain the product as outlined in the applicable Operating Instructions; service by anyone other than an authorized repair facility; damage that is attributable to acts of violence, war, acts of God or force measure and consumable parts.

Note: The classroom activities, how-to-use guides, educational content, instruction manuals, curriculum, and teacher/guardian/parent training will be provided by the CARES PMU Unit of DTE, Goa (it will not be provided by the vendor/manufacturer). The Assembly manual of the Chassis, Smart House /Dustbin, Box/Ball Holder and Robotic Arm is provided in the Kit.

Robotics Hardware Kit - **Do's**

1. Always use the Robotics Hardware Kit (and its parts) under the supervision of the teacher/guardian/parent.
2. It is good practice for students to ground themselves before handling the electronic components.
3. All parts/peripherals (for example Battery, USB cable, battery holder, sensors) of the Robotics Hardware Kit items should be used only with the supplied compatible Robotic Hardware Kit items. Strictly avoid using off-the-shelf components sourced from any third-party vendor or custom build.
4. Please discard used batteries responsibly, in line with environmental regulations. Prepare them for recycling; do NOT throw them in the dustbin directly.
5. Turn off the Power Switch and Battery Switch on the Power Module before connecting with the Expansion Board/input components/output components/ battery/ connectors/ Jumper connectors/ DC Power Adapter or any component.
6. Always match the power terminals' polarity when connecting the Power Module to the Battery or any other Robotics Hardware Kit component.
7. Always ensure proper wiring before using the jumper connectors or interconnecting cable/module or single strand wire with any Robotics Hardware Kit component.
8. Please only use 3V-6V to power the DC Fan Motor and only use the Fan Module with the Driver. Do NOT connect it directly to the DC motor ports on the Expansion Board. Strictly prohibit connecting 9V to it.
9. The tools provided: nuts, bolts, a wire cutter, and a screwdriver are sharp objects and must be handled with care and in the supervision of the teacher/guardian/parent.



Kindly comply to protect the guidelines mentioned in this Safety Guide. Any mechanical breakdown apart from component de-solder of any item from the Robotics Hardware Kit is NOT covered by the warranty and the vendor/manufacturer will NOT be responsible for the same.

Scan the QR code to visit the link

Support Link and QR code:
<https://cares.goa.gov.in/robotics-hardware-kit/>

Robotics Hardware Kit - **Don'ts**

1. Do NOT store or use or operate the electronic components in extremely hot, cold or wet environments.
2. Do NOT use any components or Wooden (MDF) parts in water or with wet hands. None of the components of the Robotics Hardware kit (except the probe of soil moisture/water level sensors) should be exposed to water otherwise; it can lead to rusting/ corrosion/ malfunction. The Wooden (MDF) construction parts (like the Chassis, Smart House and Dustbin, Box/ Ball Holder, and robotic arm) (laminated or non-laminated) provided with the kit are fragile and must be handled with utmost care. Ensure that 3/4-wheeled robots made using any wooden (MDF) parts are placed on the ground floor during the activity.
3. Do NOT place any metal objects on the printed circuit boards on the sensors/modules/microcontroller board/connector/etc. as this can cause a short circuit. This may cause damage or burn or can catch a fire.
4. Do NOT leave any electronic component plugged into a computer, adapter, or any device unsupervised.
5. Do NOT carry out unauthorized changes, repairs, or technical modifications to any of the components of the kit.
6. Do NOT put/ swallow the nuts and bolts or any other part provided with the kit in your mouth.
7. Do NOT short-circuit the battery supply terminals, by placing a metal object across the terminals, etc. Do NOT puncture or tamper with the battery/battery holder.
8. In case of any leakage/heating/swelling/malfunction of the battery or any Robotics Hardware Kit component, immediately disconnect it from any electronic component, do NOT use it, and immediately report it to the teacher/guardian/parent or contact the support center.
9. Do NOT connect both adaptors (9V1A and 5V500mA-2A) simultaneously in the Power Module.
10. Do NOT short-circuit any of the power rails (Ground, 3V3, 5V, or 9V) or input/output signal or GPIO pins, as this could damage the modules or microcontroller board.
11. Do not short-circuit the output pins of the AND, OR and NOT modules.
12. The output pins of the power supply or any module should not be shorted with the output pins of the Expansion Board or any module.
13. Do NOT operate any high-current drawing components like DC Motors or Servo Motors or Stepper Motors without powering the Microcontroller Expansion Board via the Power Supply. A power supply must be used in case of high-current drawing items. Strictly prohibit using a Micro USB Cable with the Microcontroller Board to power any type of motor or high-current drawing components.