

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
FACULTY OF SCIENCE & HUMANITIES
DEPARTMENT OF COMPUTER APPLICATIONS
(BCA & BCA GEN AI)

CODEWAVE '26

CAMPUS - CODE - LEAGUE
NATIONAL LEVEL HACKATHON

PROBLEM STATEMENT FOR HARDWARE DOMAIN

H1 - Develop a smart classroom entry monitoring system that counts people entering and exiting using proximity sensors and maintains live occupancy count. The system should support alert generation when occupancy exceeds a defined threshold and provide a manual override option.

H2 - Build a compact fire safety system that detects flame presence and monitors environmental conditions such as temperature and humidity. The system should classify risk levels, trigger alerts, and send warning notifications through Wi-Fi for early response

H3 - Create a low-cost early warning system to detect rising water levels in drains, canals, or storage pits. The system should monitor water level changes, identify threshold crossings, and provide local as well as remote alerts for timely action.

H4 - Build a smart ventilation prototype that monitors temperature and humidity to control a servo-operated window flap automatically. The system should also detect water/rain conditions and prevent the window from opening when wet conditions are present.

H5 - Develop a safety monitoring system for restricted zones such as labs or equipment rooms. The system should detect entry/proximity, identify tampering attempts using touch sensing, and trigger staged alerts based on the severity of the event.