

# HIGHER NITEC IN ROBOTICS & SMART SYSTEMS

## Electives (Course Specific)

### Hydraulics

On completion of the elective, students should be able to install hydraulic systems in industrial automation.

### Single Board Micro-controller Applications

On completion of the elective, students should be able to write structured programs to interface with peripheral devices and solve simple problems using single board micro-controller.

## Electives (Inter-disciplinary)

### Internet and Network Security

On completion of the module, students should be able to identify network and internet security risks and to advise users on countermeasures or preventive actions. They should also be able to participate in a Security Life Cycle project discussion.

### Essentials of Cyber Defence

On completion of the module, students should be able to carry out a comprehensive security assessment of a typical SME IT environment, testing for OS vulnerabilities, weaknesses in network & web services. Students will learn the Computer Misuse & Cybersecurity Act (2013) Chapter 50A, how to prepare for a penetration test, reconnaissance & enumeration, and vulnerability assessment. Students will also be taught the necessary countermeasures to mitigate risks of exploitation.

## Electives (Joint ITE-Industry)

### Robot Palletizing Operations and Programming

On completion of the module, students should be able to operate the palletizing robot system, including editing and modifying programs for different palletizing operations.