



# Industry Qualification Structure for Fire, Emergency & Security Systems

## ECS CARDS

In association with



## Contents:

|                                                                             |        |
|-----------------------------------------------------------------------------|--------|
| <b>1. Objectives</b>                                                        | Page 3 |
| <b>2. ECS Card</b>                                                          | Page 3 |
| <b>3. Industry recognised assessment for Systems Operatives</b>             | Page 3 |
| <b>4. Industry Qualification Structure for ECS Cards</b>                    | Page 4 |
| <b>5. Fire &amp; Security Proposed Occupational Qualification Structure</b> | Page 5 |
| <b>6. FESS Experienced Worker Assessment &amp; Learner Journey</b>          | Page 6 |
| <b>7. ECS FESS Assessment Guide</b>                                         | Page 7 |
| <b>8. Criteria for Assessments</b>                                          | Page 8 |

## 1. Objectives

Following the launch of the Fire, Emergency and Security Systems (FESS) Trailblazer and setting the standard at Level 3 for new entrants to the industry, an Occupational Qualification Structure leading to ECS card recognition has been agreed and will be introduced from 1 July 2020.

This has been developed by an industry working group formed of trade associations and employer representatives, and the proposals were subject to wider industry consultation. The new structure aligns with the future of the Fire, Emergency and Security Systems sector and also addresses the fragmented skills within our current workforce.

With this, it was necessary to find a way to recognise people within our current workforce to ensure unnecessary barriers were not put in place, stifling their ability to do their jobs.

Whilst the benchmark for new entrants into industry is set at Level 3, the working group identified a need to create a route which can compensate for differences in training, experience or qualifications for those already in the industry, thus recognising a minimum standard for those who install and maintain fire, emergency and security systems.

## 2. ECS Card

The Electrotechnical Certification Scheme (ECS) is a partner of the Construction Skills Certification Scheme (CSCS), instantly recognisable within the electrotechnical industry to allow card holders to demonstrate their credentials to others; from employers and clients to business contacts and colleagues.

A key strength of ECS and its partnership with CSCS is enabling operatives with the appropriate card to access work on construction sites across the UK. The relationship also ensures that the various constituencies served by ECS can influence and stay aligned with broader strategic developments, such as the Construction Leadership Council (CLC) requirements for a fully-qualified workforce.

## 3. Industry recognised assessment for Systems Operatives

To recognise existing workers within the sector, an industry recognised assessment is to be introduced for a defined period of time. The industry recognised assessment is a 30 question multiple choice test with questions randomly chosen from a bank of questions.

Candidates will select one of four pathways: Fire; Security; Fire & Security; Fire & Emergency Lighting. They will have 30 minutes to complete the test which is a 'closed book' assessment. The tests have a pass mark of 80% (24/30 questions answered correctly). Candidates will also need to pass the ECS HSE test before applying for their ECS card.

The multiple choice tests have been developed by independent assessment experts with technical question input from industry, to ensure the assessment meets any ECS / external requirements around validity and robustness.

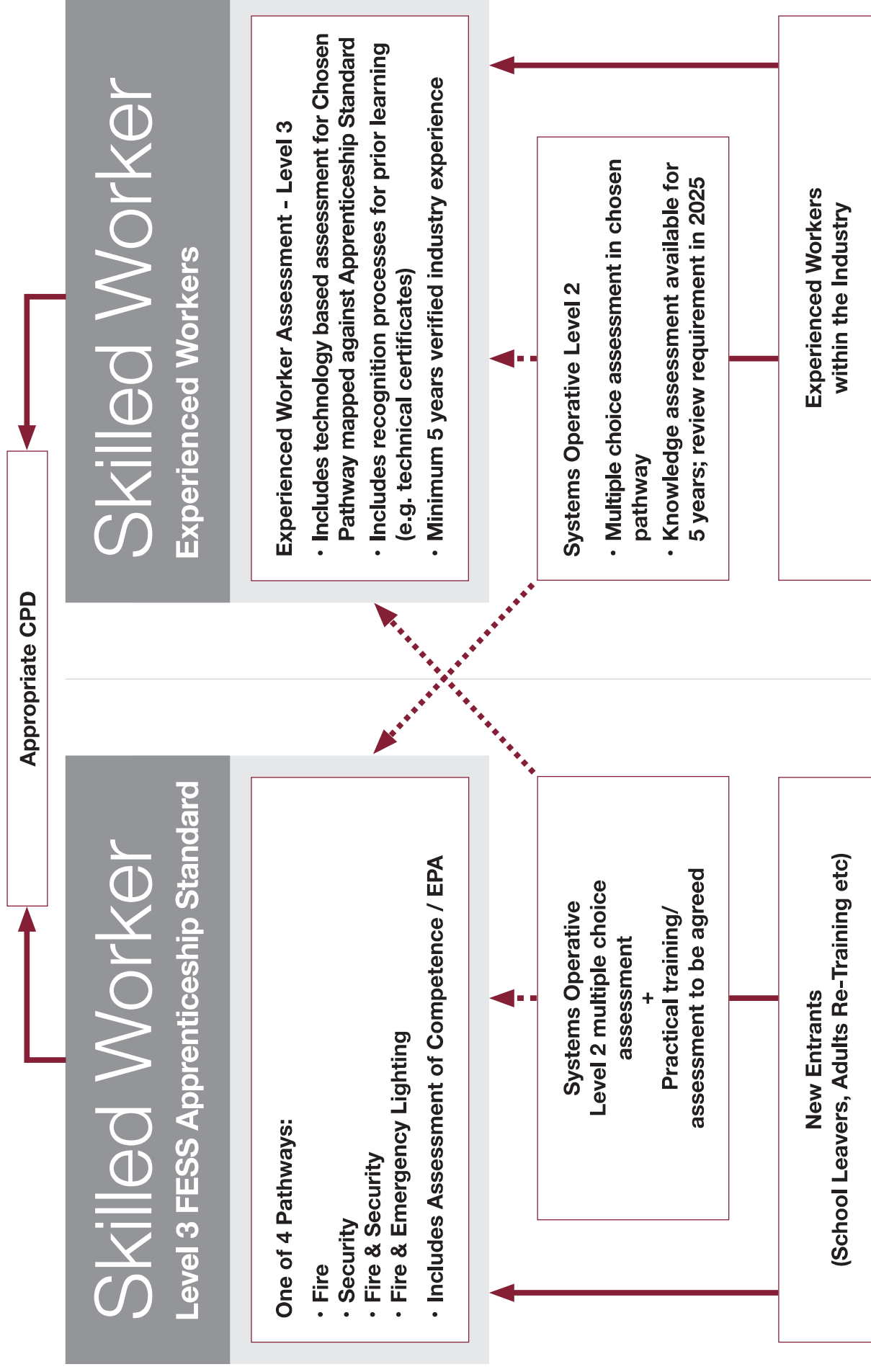
Revision guides have been developed for each pathway, with details of the areas being assessed and sample questions. Candidates are strongly encouraged to read these carefully before booking their assessment.

#### 4. Industry Qualification Structure for ECS Cards

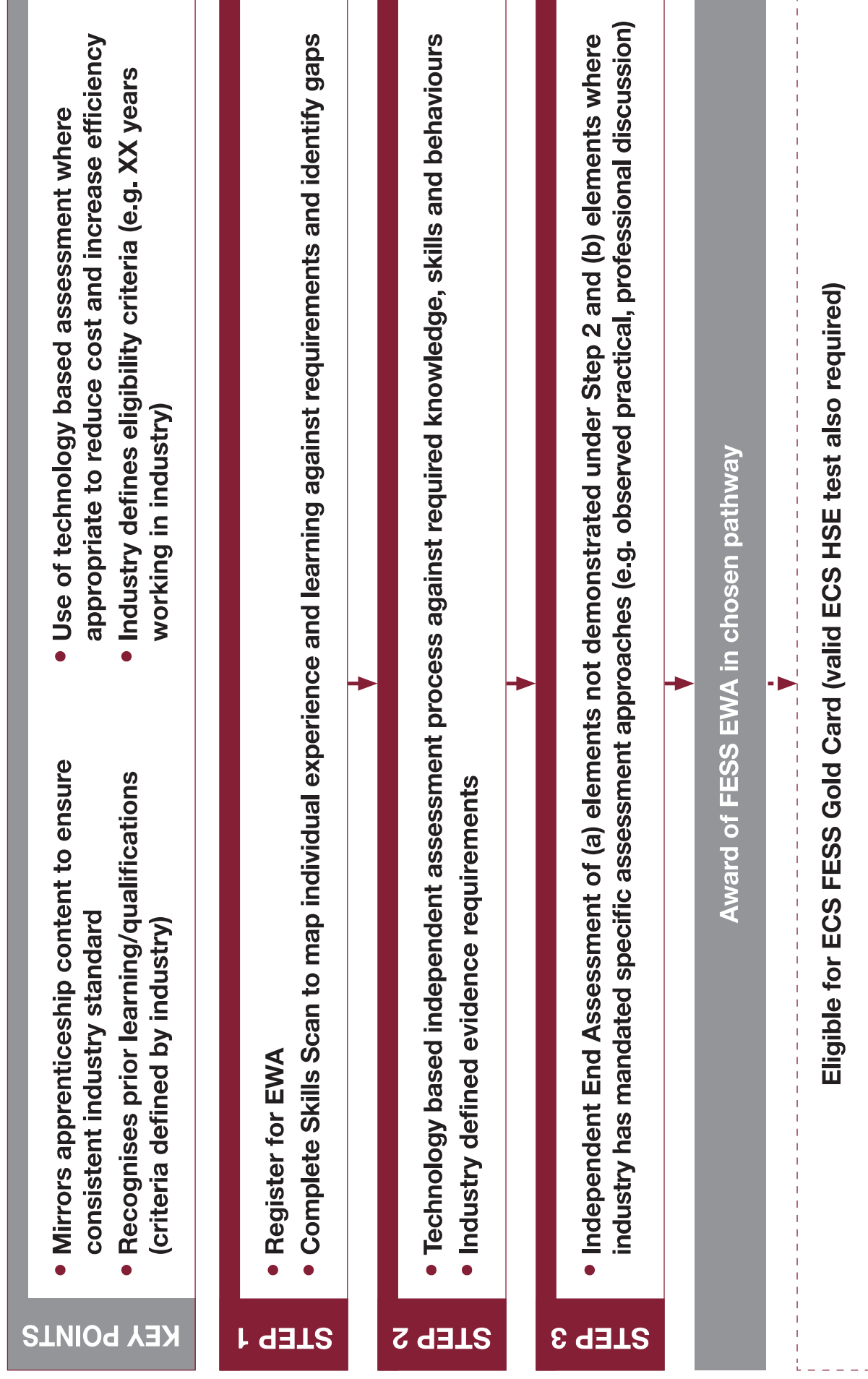
The table below reflects the proposals agreed by BSIA, FESS Employer Group, FIA, FSA, SSAIB and SELECT on 21 April 2020. The proposed criteria and card structure apply to all pathways (Fire; Security; Fire & Security; Fire and Emergency Systems).

| JOB ROLE                                      | ASSESSMENT/QUALIFICATION                                                                                                                                                                                                         | INDUSTRY COMMENT                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Labourer/Ancillary Operative (Level 1)</b> | Standard Level 1 qualification to achieve an ECS Labourer card                                                                                                                                                                   | <i>No change; confirm original proposition</i>                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Trainee</b>                                | Evidence of being on a formal training programme - plus up to date Health & Safety recognised qualification (could be ECS HSE test)                                                                                              | <i>Card will be available for 2 years and is non renewable</i>                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Apprentice</b>                             | Evidence of being on a formal industry apprenticeship (eg FESS Standard; Modern Apprenticeship in Electronic Fire and Security Systems SVQF6) - plus up to date Health & Safety recognised qualification (could be ECS HSE test) | <i>No change; confirm original proposition</i>                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Systems Operative (Level 2 standard)</b>   | Industry recognised multiple choice assessment for a chosen pathway (at level 2 standard) + ECS H&S Test                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Systems Technician (Level 3)</b>           | Successfully complete the FESS Apprenticeship Standard or Modern Apprenticeship in Electronic Fire and Security Systems SVQF6 + ECS H&S Test OR Complete FESS Experienced Worker Assessment                                      | <i>EWA will mirror content of apprenticeship to ensure a consistent industry standard. Recognition of Prior Learning (RPL) will be used to recognise approved qualifications and experience; technology enabled assessment will be used where appropriate to reduce cost. An industry group will determine the criteria for accepting appropriate existing industry qualifications as RPL credits against the EWA criteria.</i> |
| <b>Technical Manager (Level 4)</b>            | FESS Technician Occupation Card + Meet the requirements of the ECS Managers Card                                                                                                                                                 | <i>No change; confirm original proposition</i>                                                                                                                                                                                                                                                                                                                                                                                  |

## 5. Fire & Security Proposed Occupational Qualification Structure



## 6. FESS Experienced Worker Assessment & Learner Journey



## 7. ECS FESS Assessment Guide

The Fire, Emergency and Security Systems (FESS) industry has identified four occupations for a FESS Systems Operative in Fire Systems, Fire and Security Systems, Security Systems and Fire and Emergency Systems.

To apply for an ECS card as a FESS Systems Operative the applicant must hold a valid ECS Health, Safety and Environmental (HS&E) assessment plus the pathway specific FESS assessment for the ECS occupation that is being applied for. The ECS HS&E assessment must be booked and taken separately from the FESS assessment (although the two separate assessments may be taken consecutively at the same venue). For full details of FESS ECS card requirements please see [www.ecscard.org.uk/fess](http://www.ecscard.org.uk/fess)

**There are four multiple-choice assessments available:**

- Fire
- Fire and Emergency Lighting
- Security
- Security and Fire

*The delegate MUST sit the correct multiple-choice assessment that corresponds to the ECS card occupation that they are applying for. (Note: If applicants require ECS card recognition in multiple pathways, they can sit additional tests. Emergency Lighting is not currently available as a stand-alone assessment. Operatives requiring this will need to take the combined Fire & Emergency Lighting assessment, along with the Security assessment if additional accreditation is required.*

### Assessment Availability

The FESS assessments are available from the JIB, ECA (through Certsure), Unite the Union, JIB registered and preferred Training Providers. In addition, some employers may have the ability to provide the invigilated assessment to their directly employed staff.

### About the Assessment

Each assessment consists of 30 questions across a range of topics relevant to the chosen FESS occupation to be completed in 30 minutes. Each question will require the correct answer to be selected from a choice of four possible answers given. The pass mark is 24 (80%) correctly answered questions.

The pathways topics and the detailed assessment criteria are detailed below. A separate revision guide for each pathway is available on the ECS website for free download. The guides contain sample questions and candidates are strongly encouraged to study these before undertaking the assessment.

## 8. Criteria for Assessments

| ASSESSMENT AREA – LEVEL 2             | CRITERIA FOR ASSESSMENT - GENERAL                                      | NOTES / COMMENTS / OBSERVATIONS                                                                                                                              |
|---------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SAFETY CRITICAL - ALL PATHWAYS</b> |                                                                        |                                                                                                                                                              |
| <b>Electrical safety</b>              | Ability to identify and isolate the electrical circuit to be worked on | <i>Describe Safe Isolation procedures and the test equipment / proving unit used.<br/>Describe reinstatement process and handover to authorised persons.</i> |

| ASSESSMENT AREA – LEVEL 2         | CRITERIA FOR ASSESSMENT - GENERAL                                                                                                                                           | NOTES / COMMENTS / OBSERVATIONS                                                                                                                                                                                                                                         |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CORE SKILLS - ALL PATHWAYS</b> |                                                                                                                                                                             |                                                                                                                                                                                                                                                                         |
| <b>Working safely</b>             | <ul style="list-style-type: none"> <li>Understanding and application of H&amp;S legislation</li> <li>ECS card obtained?</li> </ul>                                          | <i>Check understanding, awareness and application of legislation / Codes of Practice's and safe working practices<br/>Describe risk assessments responsibilities and reporting procedures.<br/>Give examples of safety procedures when working at heights.</i>          |
| <b>Communication</b>              | Communicate in a clear, articulate and appropriate manner – oral, written etc.                                                                                              | <i>Communicate with clients, other trades, own personnel etc.<br/>Using oral, electronic, written medium.<br/>Give an example of who you have communicated an important issues to clients other trades and colleagues</i>                                               |
| <b>Customer service</b>           | <ul style="list-style-type: none"> <li>Understand the principles of good customer service</li> <li>Building relationships</li> <li>Managing conflict and dispute</li> </ul> | <i>Articulate an understanding of good practise and give examples of acceptable behaviours when dealing with clients.<br/>Give Examples of relationship building with client and trades.<br/>Explain complaints procedures and the escalation process and policies.</i> |
| <b>Commercial awareness</b>       | <ul style="list-style-type: none"> <li>Managing time of self (and others if relevant)</li> <li>Demonstrate job planning considering the needs of others</li> </ul>          | <i>Explain consequences of missing completion and handover target.<br/>Describe escalation process for anticipated delays.</i>                                                                                                                                          |
| <b>Environmental awareness</b>    | <ul style="list-style-type: none"> <li>Understand and apply environmental legislation</li> <li>Understand the impact on the environment</li> </ul>                          | <i>Legislation such as WEEE, Asbestos, Company processes for recycling of electrical components / recycling of goods.<br/>Hazardous material controls and storage.</i>                                                                                                  |

| ASSESSMENT AREA – LEVEL 2                                                                | CRITERIA FOR ASSESSMENT - GENERAL                                                                                                                                                                                                                                                                                                                                                                                                                                                        | NOTES / COMMENTS / OBSERVATIONS                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SECURITY PATHWAY</b><br><i>Note: Applicable to I&amp;HAS, VSS or Access Control</i>   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                      |
| <b>Planning &amp; design</b>                                                             | <ul style="list-style-type: none"> <li>Understand risk assessment and method statements for the installation</li> <li>Ability to select (and locate) the correct components for the application</li> </ul>                                                                                                                                                                                                                                                                               | <i>Demonstrate awareness and adherence to TS 50131-7 &amp; PD 6662 for Intruder &amp; HAS<br/> BS EN 62676-4 for Video Surveillance Systems<br/> BS EN 60839-11-1 for Access Control</i>                                                                             |
| <b>Installation</b>                                                                      | <ul style="list-style-type: none"> <li>Ability to install to the agreed design proposal (specification)</li> <li>Is the system installed to relevant industry standards, codes of practice and legislation?</li> <li>Ability to electrically test cables and interconnections</li> <li>Correct programming of the security system to meet the design proposal?</li> <li>Ability to demonstrate handover of non-complex security systems to the client or their representative</li> </ul> | <i>Consider the correct cable containment is used.<br/> Consider the correct type and use of cable.<br/> Are the right components used / locations correct?<br/> Are any changes to the design needed; if so, how is this communicated to company and/or client?</i> |
| <b>Maintenance</b><br><i>Note: Applicable to preventative and corrective maintenance</i> | <ul style="list-style-type: none"> <li>Ability to carry out preventative maintenance to the systems in accordance with industry standards and codes of practice</li> <li>Ability to identify &amp; repair faults on security system</li> <li>Correct completion of company maintenance documentation</li> </ul>                                                                                                                                                                          | <i>Faults on a system may include one or more of the following: components, interconnections, power, environmental, network or notification faults and operator error.</i>                                                                                           |

| ASSESSMENT AREA – LEVEL 2                                                                | CRITERIA FOR ASSESSMENT - GENERAL                                                                                                                                                                                                                                                                                                                                                                                    | NOTES / COMMENTS / OBSERVATIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>FIRE PATHWAY</b><br><i>Note: Applicable to Analogue and addressable fire systems</i>  |                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Planning &amp; design</b>                                                             | <ul style="list-style-type: none"> <li>Understand risk assessment and method statements for the installation</li> <li>Ability to select (and locate) the correct components for the fire alarm system</li> </ul>                                                                                                                                                                                                     | <i>Demonstrate awareness and adherence to BS 5839.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Installation</b>                                                                      | <ul style="list-style-type: none"> <li>Ability to install to the agreed design proposal (specification)</li> <li>Is the system installed to relevant industry standards, codes of practice and legislation?</li> <li>Ability to electrically test cables and interconnections</li> <li>Correct programming of the fire alarm system to meet the design proposal?</li> </ul>                                          | <i>Consider the correct cable containment and fixing methods are used.<br/> Consider the correct type and use of cable.<br/> Are the right components used / locations correct?<br/> Are any changes to the design needed; if so, how is this communicated to company and/or client?</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Maintenance</b><br><i>Note: Applicable to preventative and corrective maintenance</i> | <ul style="list-style-type: none"> <li>Ability to carry out preventative maintenance to the system in accordance with industry standards and code of practice</li> <li>Ability to identify &amp; repair faults on a fire alarm system</li> <li>Correct completion of company maintenance documentation</li> <li>Ability to demonstrate the fire detection and alarm to the client or their representative</li> </ul> | <i>Faults on a system may include one or more of the following: components, interconnections, power, environmental, earth fault, load testing, and notification faults.<br/> Demonstrate the smoke simulation to trigger detectors<br/> Correct operation of auto detection, manual call points, door release units etc.<br/> Describe the types of compliance certificates there are and the common fields need to be filled.<br/> Describe the reason of a premises logbook and what is recorded.<br/> Describe the importance of good documentation to include detector selection, application, system configuration cause and effect.<br/> Describe the responsible obligations on daily weekly and annual test procedures.<br/> Describe how you instruct the responsible person on operating a system to fulfil their obligations.</i> |

| ASSESSMENT AREA – LEVEL 2                                                                                  | CRITERIA FOR ASSESSMENT - GENERAL                                                                                                                                                                                                                                                                                                                                                         | NOTES / COMMENTS / OBSERVATIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EMERGENCY LIGHTING PATHWAY</b><br><i>Note: Applicable to self-contained and central battery systems</i> |                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Planning &amp; design</b>                                                                               | <ul style="list-style-type: none"> <li>Understand and apply risk assessment to allow the planning of the installation</li> <li>Ability to select (and locate) the correct components for the system</li> </ul>                                                                                                                                                                            | <i>Demonstrate awareness and adherence to BS5266 and BS 7671.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Installation</b>                                                                                        | <ul style="list-style-type: none"> <li>Ability to install to the agreed design proposal (specification)</li> <li>Is the system installed to relevant industry standards, codes of practice and legislation?</li> <li>Ability to test the emergency lighting installation</li> <li>Ensure correct programming and operation of devices to meet the design proposal</li> </ul>              | <i>Consider the correct cable containment is used.</i><br><i>Consider the correct type and use of cable. Are the right components used and locations correct?</i><br><i>Location at points of emphasis and spacing. Disability glare.</i><br><i>Are any changes to the design needed; if so, how is this communicated to company and/or client?</i><br><i>Describe the correct positioning to achieve relevant Lux levels.</i>                                                                                                                                                                                                                                                                                                                                               |
| <b>Maintenance</b><br><i>Note: Applicable to preventative and corrective maintenance</i>                   | <ul style="list-style-type: none"> <li>Ability to carry out preventative maintenance to the system in accordance with industry standards and code of practice</li> <li>Ability to identify &amp; repair faults on the system</li> <li>Correct completion of company maintenance documentation</li> <li>Ability to demonstrate the system to the client or their representative</li> </ul> | <i>Faults on a system may include one or more of the following: components, interconnections, power / charge fail, environmental, earth fault, load fault, tube / lamp / LED failure.</i><br><i>Devices could include: self –contained NM, ME lights, Central battery systems, Test points, switches , appropriate diffusers and signage.</i><br><i>Carry out electrical tests such as earth fault loop impedance.</i><br><i>Describe the reason of a premises logbook and what is recorded.</i><br><i>Describe the importance of good documentation.</i><br><i>Describe the responsible obligations on daily, weekly, monthly and annual test procedures.</i><br><i>Describe how you instruct the responsible person in operating a system to fulfil their obligations.</i> |