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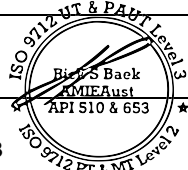

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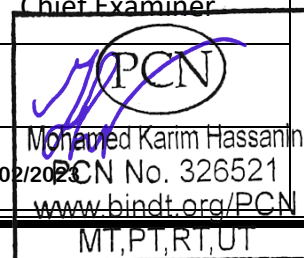
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# AFRICAN CERTIFICATION FOR NON-DESTRUCTIVE EXAMINATION PERSONNEL- ACNEP

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Prepared By		Reviewed By		Authorized by	
Name	Samir Saad	Name	Rick Sander Baek	Name	Mohamed Karim
Job Title	Technical Expert	Job Title	Level 3 inspector	Job Title	Chief Examiner
Signature		Signature		Signature	
Date	08/02/2023	Date	10/02/2023	Date	15/02/2023





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**Monitor Modifications**

<b>No.</b>	<b>Date</b>	<b>Main modifications</b>	<b>Page number</b>
1	8/02/2023	Edit scheme first name from APEX-FI to AFRICA	1
2	8/02/2023	Update references standards version	8
3	8/02/2023	Add V.T training hours & required experience	35
4	08/02/2023	Add equivalent certificate for examiner qualification	8



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## **1. Introduction**

- 1.1.** The ACNEP scheme for examination and certification of non-destructive testing personnel is the scheme dedicated mainly for certifying of NDT-personnel in the Middle East and Africa with validity to certify NDT personnel in any country in the world. It provides a uniform level of qualifications of the personnel, which is internationally recognized.
- 1.2.** This document has been prepared according to the requirements of ISO 9712:2021.
- 1.3.** All the basic provisions of ISO/IEC17024 have been adhered precisely during the establishment of this document.

## **2. Scope**

- 2.1.** This document describes the company's system for the qualification and certification of personnel who perform industrial non-destructive testing.
- 2.2.** This document provides specific details of the certification available at each level in the various NDT methods and industry sectors.
- 2.3.** The ACNEP Scheme establishes two main scopes:
  - The general scope, which is specified in **Table (1)** in **annex (1)**.
  - The limited scope, which is specified in **Table (2)** in **annex (1)**.



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### 3. Terms and Definitions

<b>3.1. Basic Examination</b>	Written examination, at Level 3, which demonstrates the candidate's knowledge of the materials science and process technology and types of discontinuities, the specific qualification and certification system, and the basic principles of NDT methods as required for Level 2
<b>3.2. Candidate</b>	Individual seeking qualification and certification who gains experience under the supervision of personnel having a qualification acceptable to the certification body
<b>3.3. Certificate</b>	Document issued by the certification body under specified provisions, indicating that the named person has demonstrated the competence(s) defined on the certificate
<b>3.4. Certification</b>	Procedure used by the certification body to confirm that the qualification requirements for a method, level and sector have been fulfilled, leading to the issuing of a certificate
<b>3.5. Certification Body</b>	Body that administers procedures for certification according to specified requirements. Note (1): the requirements are specified in document EN ISO 9712 Note (2): Apex-fi is the certification body for ACNEP certificate
<b>3.6. Employer</b>	Organization for which the candidate works on a regular basis. <b>NOTE:</b> an employer can also be a candidate at the same time.
<b>3.7. Examination Center</b>	Centre approved by the certification body where qualification examinations are carried out.
<b>3.8. Examiner</b>	Person certified to Level 3 in the method and product or industrial sector for which he is authorized by the certification body to conduct, supervise and grade the qualification examination
<b>3.9. General Examination</b>	Written examination, at Level 1 or Level 2, concerned with the principles of an NDT method
<b>3.10. Industrial Experience</b>	Experience, acceptable to the certification body, gained under qualified supervision, in the application of the NDT method in the sector concerned, needed to acquire the skill and knowledge to fulfil the provisions of qualification
<b>3.11. Invigilator</b>	Person authorized by the certification body to supervise examinations
<b>3.12. Job-specific training</b>	training, provided by the employer (or his agent) to the certificate holder in those aspects of non-destructive Testing specific to the employer's products, NDT equipment, NDT procedures, and applicable codes, standards, specifications and procedures, leading to the award of operating authorizations



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<b>3.13. Main-method Examination</b>	Written examination, at Level 3, which demonstrates the candidate's general and specific knowledge, and the ability to write NDT procedures for the NDT method as applied in the industrial or product sector(s)
<b>3.14. multiple choice examination question</b>	Wording of a question gives rise to four potential replies, only one of which is correct, the remaining three being incorrect or incomplete
<b>3.15. NDT Instruction</b>	Written description of the precise steps to be followed in testing to an established standard, code, and specification or NDT procedure
<b>3.16. NDT Method</b>	Discipline applying a physical principle in non-destructive testing example: Ultrasonic testing
<b>3.17. NDT Procedure</b>	Written description of all essential parameters and precautions to be applied when non-destructively testing products in accordance with standard(s), code(s) or specification(s)
<b>3.18. NDT Technique</b>	Specific way of utilizing an NDT method, example: Immersion ultrasonic testing
<b>3.19. NDT Training</b>	Process of instruction in theory and practice in the NDT method in which certification is sought, which takes the form of training courses to a syllabus approved by the certification body
<b>3.20. On Job Training</b>	Process of extensive practical training and case studies to shorten the required pre-requisite experience required for the certification
<b>3.21. Practical Examination</b>	Assessment of practical skills, in which the candidate demonstrates familiarity with, and the ability to perform the test
<b>3.22. Qualification</b>	Demonstration of physical attributes, knowledge, skill, training and expertise required to perform NDT tasks properly.
<b>3.23. Qualification Examination</b>	examination, administered by the certification body or the authorized qualification body, which assesses the general, specific and practical knowledge and the skill of the candidate
<b>3.24. Qualified supervision</b>	supervision of candidates gaining experience by NDT personnel certified in the same method under supervision or by non-certified personnel who, in the opinion of the certification body, possess the knowledge, skill, training, and experience required to properly perform such supervision.
<b>3.25. Sector</b>	particular section of industry or technology where specialized NDT practices are used. requiring specific product-related knowledge, skill, equipment or training



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3.26. Significant Interruption	absence or change of activity which prevents the certified individual from practicing in the duties corresponding to the level 1n the method and the sector(s) within the certified scope, for either a continuous period in excess of one year or two or more periods for a total time exceeding two years. <b>NOTE:</b> legal holidays or sick leaves less than 30 day are considered as interruption.
3.27. Specific examination	written examination, at Level 1 or Level 2, concerned with testing techniques applied in a particular sector(s), including knowledge of the product(s) tested and of codes, standards, specifications, procedures and acceptance criteria
3.28. Specification	A set of documented requirements to be satisfied by a material, design, product, or service.
3.29. Specimen	Sample used in practical examinations, possibly including radiographs and data sets, which is representative of products typically tested in the applicable sector , specimen can include more than volume.
3.30. Specimen Master Report	Model answer, indicating the optimum result for a practical examination given a defined set of conditions. (Equipment type, settings, technique, specimen, etc.) Against which the candidate's test report is graded.
3.31. Supervision	Act of directing the application of NDT performed by other NDT personnel, which includes the control of actions involved in the preparation of the test, performance of the test and reporting of the results.
3.32. Validation	Act of demonstrating that a verified procedure works in practice and fulfils its intended function, normally achieved by actual witnessing, demonstration, field or laboratory tests or selected trials.
3.33. Renewal	Procedure for revalidation of a certificate without examination at any time -up to five years- after success in an initial, supplementary or recertification examination.
3.34. Recertification	Procedure for revalidation of a certificate by examination or by otherwise satisfying the certification body that the published criteria for recertification are satisfied
3.35. Re-sit Examination	Further Trail of the examination after failure in the former exam



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#### 4. References

- 4.1. ISO/IEC17024 General requirements for bodies operating certification systems of persons.
- 4.2. CEN/TS 15053: Non-destructive testing – Recommendations for discontinuities-types in test specimens for examination.
- 4.3. CEN ISO/TR 25107: Non-destructive testing – Guidelines for NDT training syllabuses (ISO/TR 25107:2019).
- 4.4. CEN ISO/TR 25108: Non-destructive testing – Guidelines for NDT personnel training organizations (ISO/TR 25108: 2018).
- 4.5. CEN/TR 15589: Non-destructive testing – Code of practice for the approval of NDT personnel by recognized third party organizations under the provisions of the Pressure Equipment Directive.
- 4.6. ISO 9712: 2021 Non-destructive testing - Qualification and certification of personnel.

#### 5. Functions and Responsibilities

Apex-fi Company developed its structure in a manner to safeguard impartiality by separating between the training program structure and the certification program structure, and documented the duties, responsibilities, required skills and authorities of the management, personnel and supporting panels.

##### 5.1. Examination panel

Consists of the following members:

- Chief examiner who is certified ISO 9712 level 3 in the certification method,
- Additional examiner(s) who are ISO 9712 Level 3 in each method Level 3 **or equivalent of CSWIP certificates according to requirements**, additional member maybe consulted at the discretion of the panel.
- Invigilator (s) authorized to administer and supervise the examination, but does not evaluate the competency of the candidate.





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- The panel ensures that:

1. The creation and classification of the questions to be generated and stored in the database of the written exam.
2. The creation of the practical exam criteria and grading the practical exams.

#### **5.2. Certification Panel**

Consists of the following members

- Chief certifier
- One certification Administration officer (certifier) or more.
- Impartiality officer

The panel applies the impartiality measures during the examination activities and making decisions on certification awarding, withdrawing, rewarding process.

#### **5.3. Impartiality and conformity assessment panel**

Consists of the following members

- at least (3) technical experts which are known for integrity and impartiality to join the panel
- Apex-Fi 's top management representative.

The panel assesses the activities of the certification process and ensures the impartiality and objectivity of the process and complaints and appeals handling.



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## **6. Responsibilities of NDT Levels**

### **6.1. Responsibilities of Level 1:**

A Person certified to ACNEP Level 1 shall demonstrate the competency to carry out NDT according to written instructions and under the supervision of Level 2 or Level 3 personnel. Within the scope of the competence defined on the ACNEP certificate, Level 1 personnel may be authorized by the employer to perform the following in accordance with NDT instructions:

- a) Set up NDT equipment.
- b) Perform the tests.
- c) Record and classify the results of the tests according to written criteria.
- d) Report the results. NDTSS certified Level 1 technicians shall neither be responsible for the choice of test method or technique to be used, nor for the interpretation of test results.

### **6.2. Responsibilities of Level 2:**

A Person certified to ACNEP Level 2 shall demonstrate the competency to perform NDT according to NDT procedures. Within the scope of the competency defined in the ACNEP certificate, Level 2 personnel may be authorized by the employer to perform the following:

- a) Select the NDT technique for the testing method to be used;
- b) Define the limitations of application of the testing method;
- c) Translate NDT codes, standards, specifications, and procedures into NDT instructions; adapted to the actual working conditions
- d) Set up and verify equipment settings;
- e) Perform and supervise tests;
- f) Interpret and evaluate results according to applicable standards, codes, specifications or procedures;
- g) Carry out and supervise all tasks at or below Level 2;
- h) Provide guidance for personnel at or below Level 2;
- i) Report the results of NDT



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### **6.3. Responsibilities of Level 3**

A Person certified to ACNEP Level 3 shall demonstrate competency to perform and direct NDT operations for which he/she is certified.

#### **6.3.1. ACNEP certified Level 3 personnel competency**

- a) The professional evaluation and interpretation of results in terms of existing standards, codes, and specifications.
- b) Sufficient practical knowledge of applicable materials, fabrication, process, and product technology to select NDT methods,
- c) The competency to establish NDT techniques, and assist in establishing acceptance criteria where none is otherwise available.
- d) A general familiarity with other NDT methods. Within the scope of the competence defined on the ACNEP certificate.

#### **6.3.2. ACNEP certified Level 3 personnel authorities**

- a) Assume full responsibility for a test facility or examination center and staff.
- b) Establish, review for editorial and technical correctness, and validate NDT instructions and procedures.
- c) Interpret standards, codes, specifications, and procedures.
- d) Designate the particular test methods, procedures, and NDT instructions to be used.
- e) Carry out and supervise all tasks at all levels.
- f) Provide guidance for NDT personnel at all levels.



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## **7. Eligibility to certification**

### **7.1. Vision Acuity**

Near vision acuity testing, colour vision and/or grey scale perception verification(s) shall be administered by a licensed physician, nurse, ophthalmologist or optometrist; or by another trained professional who is approved and documented by Level 3 personnel acting on behalf of the employer, in accordance with the following requirements:

- a) Prior to certification, and annually thereafter, near vision acuity shall be verified to be in accordance with the requirements of ISO 18490 or shall permit reading a minimum of Jaeger number 1 or Times Roman N4.5 or equivalent letters at not less than 30 cm with one or both eyes, either corrected or uncorrected.
- b) Prior to certification, recertification or renewal, the candidate/certificate holder shall demonstrate that a colour vision test has been administered within the previous 5 calendar years.
- c) It is required that colour vision and/or grey scale perception be sufficient for the individual to be able to distinguish and differentiate between the colours or shades of grey used in the NDT methods/ techniques concerned as specified by the employer.
- d) The colour vision test shall either confirm that the individual has acceptable colour vision without restriction or shall state any limitation(s) on colour perception. Where any limitation in colour perception exists, the employer shall confirm whether or not this condition results in any limitation(s) to method or application specific techniques.

### **7.2. NDT Training**

- 7.2.1. process of instruction in theory and practice in the NDT method in which certification is sought, which takes the form of training courses to a syllabus approved by the APEX-FI certification Panel, The training courses should follow the guidelines of CEN/ISO/TR 25107 and CEN/ISO/TR 25108.
- 7.2.2. Theory part of training can be conducted remotely through approved online platform or in classroom and the syllabus of training shall meet TR25107.
- 7.2.3. Practice part of training shall be conducted in classroom using training flawed specimens, calibration blocks and stuffiest number of equipment that shall meet the guidelines of CEN/ISO/TR25108.



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### 7.3. Industrial Experience

- 7.3.1. Experience, acceptable to the certification body, gained under qualified supervision, in the application of the NDT method in the sector concerned, needed to acquire the skill and knowledge to fulfil the provisions of qualification.
- 7.3.2. On Job Training can considered training. However, it shall not exceed 50% from the required training experience.
- 7.3.3. Credit for work experience may be gained simultaneously in two or more of the NDT methods covered by this International Standard, with the reduction of total required experience as follows:
- a) Two testing methods: reduction of total required time by 25 %;
  - b) Three testing methods: reduction of total required time by 33 %;
  - c) Four or more testing methods: reduction of total required time by 50 %.
  - d) In all cases, the candidate shall be required to show that for each of the testing methods for which he seeks certification, he has a minimum of 50% of the time required in table (3) annex (1).

### 7.4. Minimum Training, Experience and prerequisites of General Sector Certification

The requirements and prerequisites of the general sector training are classified in Table (3), Annex No. (1) As follows:

- a) For a direct access to Level 2, it requires the total hours shown in Table (3) for Levels (1) and (2).
- b) For a direct access to Level 3, it requires the total hours shown in Table 3 annex No. (1) for Levels (1) and (2). When considering the responsibilities of a certified Level 3 (refer to clause 7.3) and the content of Part C of the basic examination for Level 3 (refer to Table 6 annex No. (1), additional training about the other NDT methods may be necessary.



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### 7.5. Reduction of training hours

- 7.5.1. The possible reductions in training duration are as described hereafter, provided that, when several reductions are applicable, the total reduction does not exceed 50 % of the training duration. Any reduction requires acceptance by the Apex-Fi certification panel.
- 7.5.2. for candidates seeking certification in PAUT or TOFD level 2 directly without having ISO 9712 level 2 certification in UT, the training duration can be reduced to 80 hours, provided that two below conditions are met:
1. They have engineering graduated in a relevant subject from technical college or university, or have completed at least two years of relevant engineering or science study at college or university.
  2. They have level 2 certification in Ultrasonic testing in the scope sought.
  3. They meet the required experience hours in both Ultrasonic and PAUT.
  4. They shall have UT level 2 exam as per examination requirement and in case of failure to achieve the passing requirement in UT and achieving passing requirement in PAUT or TOFD their certification will be suspended until achieving they pass in UT level 2 exam or for those already certified and seeking certification in another method, when the training syllabus concerned duplicates certain aspects (e.g. product technology), the total number of training hours for these methods (e.g. PT, MT, VT) may be reduced in line with the training syllabus;

- 7.6. For candidates seeking certification in AUT (PAUT /TOFD) interpretation level 2 directly without having ISO 9712 level 2 certification in UT, they shall undergo additional 20 hours training provided that:

- 1- they have engineering graduated in a relevant subject from technical college or university or have completed at least two years of relevant engineering or science study at college or university they have level 2 certification in Ultrasonic testing.
- 2- They meet the required experience hours of (AUT (PA and TOFD) interpretation.
- 3- They shall have pass UT theory (40 questions) and UT specific (30 questions).



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### **7.7. Minimum Training and Experience of Limited Certification**

The requirements and prerequisites of the limited certification are classified in Table (4), Annex No. (1)  
As follows:

- a) Candidate who seek RTFI limited certification shall submit evidence of 1000 radiographs review prior the training.
- b) Candidate who fail to submit evidence of 1000 radiographs review shall undergo a 250 films review in the training approved facility or through online training portal.



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## **8. Examination Grading**

### **8.1. Level (1) and (2) examination Grading.**

#### **8.1.1. General examination grading for Level (1) and (2)**

- a) The general examination shall include only questions selected in an unpredictable way from ACNEP examination panel's collection of general examination questions valid at the date of examination.
- b) For The validity of ACNEP Radiographic certification in Egypt, candidate shall receive radiation safety certification from Egyptian nuclear agency.
- c) ACNEP radiography certification is considered by **APEX-FI** to be valid in any country outside of Egypt where the certificate holder has passed an examination on local radiation safety regulations and provides to APEXFI evidence of valid radiation safety certification issued by a recognized independent authority in this country.
- d) The candidate who fails to provide evidence meet clauses (a) or (b) shall receive additional minimum 20 hours on Basic Safety Radiation training and shall pass 40 MCQ exam on Radiation safety training by Radiation safety advisor. In this case the issuing of the certificate does not authorize the certificate holder to operate Gamma/X-Ray radiation, this authority can only be given by local regulation in the country in which the certificate holder operates Gamma/X-Ray radiation this condition shall be clearly mentioned in the issued certificate.
- e) Radiographic test method may include either X-, gamma-radiation or both depending upon the procedure of the ACNEP.
- f) During the General examination, the candidate shall be required to give answers to at least 40 multiple-choice questions, including questions involving Fundamental, theory, application, and safety procedure.





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### **8.1.2. Specific examination grading for Level (1) and (2)**

- a) The specific examination shall include only questions selected from ACNEP examination panel's current collection of specific questions related to the sector(s) concerned.
- b) During the specific examination, the candidate shall be required to give answers to at least 20 multiple-choice questions, including questions involving calculations, NDT procedures and questions on codes, standards and specifications.
- c) If the specific examination covers two or more sectors, the minimum number of questions shall be at least 30, evenly spread between the industrial or product sectors concerned.

### **8.1.3. Practical examination grading for Level (1) & (2)**

#### **a) Practical Examination Level (1)**

The candidate is required to perform a test upon specified test specimens and determine his competency in the following areas:

- Knowledge of methodology;
- Knowledge of the application;
- Detection of The flaws.

#### **b) Practical Examination level (2)**

The candidate is required to perform a test upon specified flawed specimens and determine his competency in the following areas:

- Knowledge of methodology;
- Knowledge of the application;
- Detection of The flaws;
- Evaluation of the flaw;
- Reporting of the flaw;
- Drafting a written instruction to a level (1).



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### **c) Exam parts of Level 2 practical examination**

The parts of practical examination includes the following:

- Test specimen Report;
- Drafting written Instruction to level 1.

### **d) For both levels (1) & (2), test specimen exam the time is 2 hours per volume (12 RS/DF is considered as one volume in terms of interpretation exams).**

### **e) The maximum time allowed for drafting written instruction for level 1 is 2 hr.**

### **f) Grading Criteria for level 1 & 2 practical examination**

- The grading weight of practical examination shall be in accordance with table 5 annex No. (1), 70 % in each part of the examination (general, specific, and practical). In addition, for the practical examination, a minimum grade of 70 % shall be obtained for each specimen tested, and for the NDT instruction.
- For the Level 2 candidates, the specimen for which the instruction is produced shall be graded with an overall grade of 100 in accordance with table 5 annex No. (1). The other specimens (without instruction) shall be graded with an overall grade of 85 in accordance with table 5 annex No. (1), and the final grade shall be calculated by multiplying by 100/85. The instruction shall be graded with an overall grade of 15 in accordance with Table 5 annex No. (1) , and, for comparing with the 70 % required , this value shall be multiplied by 100/15.

## **8.2. Level 3 Examination**

### **8.2.1. Basic Exam**

- a) Basic exam is a 4-hour exam, consists of three main parts (A, B, C) as per Table 6 annex No (1).
- b) It is recommended that the basic examination be passed first and remain valid, provided that the first main method examination is passed within five years after passing the basic examination.



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- c) The candidate shall achieve minimum 70% in each part to pass the Basic exam.
- d) A candidate holding a valid Level 3 certificate is exempt from the need to retake the basic examination.

#### **8.2.2. Method Exam**

- a) The Exam consists of three parts (D, E, F) as per Table 7 annex No. (1).
- b) The candidate shall achieve minimum 70% in each part to be eligible for the certification.
- c) Part (F) Grading criteria specified in Table 8 annex No.(1)

#### **8.2.3. Level 3 examination Rules.**

- a) Parts (A, B, C) for general and Part D, E for methods shall be MCQ exam which subjected to clause 9.2.5. of this scheme.
- b) Part (F) may be either written in word file -on PC available in the examination facility- or as paper based. In all cases examiner shall be responsible for the grading of the examinations by comparing the answers given by the candidate against answer keys approved by the certification body.



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## **9. General Rules for training and examination**

### **9.1. Conduct of Training**

- a) The candidate shall receive training under authorized training organization by ISO 9712 certification body and meets the requirements of ACNEP scheme.
- b) Apex-Fi offers training service through its training panel. Apex-Fi Company developed its structure in a manner to safeguard impartiality by separating between the training program structure and the certification program structure.
- c) Candidates are free to adopt any external training they seek and the completion of Apex-Fi training will not provide any advantage over completion of any other training program that meets clause (a).
- d) Video, audio recording shall not be permitted in Training centers.
- e) Mobile phones are not allowed in all approved Training centers.
- f) Theoretical training can be performed as classroom training as well as web training courses.
- g) In case of web training, the system shall be established, approved, and monitored by Apex-Fi training division.
- h) Practical training shall be provided in an approved training center in which all equipment, flawed specimens are available, meeting the requirements of TR-25108



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### **9.2. Conduct of the exam**

- a) All examinations shall be conducted in the examination centers established directly by Apex-Fi or through ACNEP certification agents.
- b) All examination centers shall be approved by certification panel.
- c) Examinations may be conducted at remote locations either in the employer facility and shall be subjected to APEX-Fi restricted measures and meet with the following requirements:
  - Record the examination process if applicable
  - Notify the accreditation body prior to conduction of the exam
  - Transfer flawed specimens via sealed boxes that shall follow the work instruction of impartiality procedure.
- d) When e-assessment systems that select questions present the “written” examination to a candidate on a computer and grade the examinations, are used, the certification body shall validate and approve the e-assessment system.
- e) The only allowed way of MCQ Exams is through Third Party examination computerized portal.
- f) Practical Exams shall conducted directly by APEX-FI committee of examiners either at Apex-fi examination center of at approved certification agent.
- g) Exam shall be invigilated by an examiner or by one or more trained invigilators placed under an examiner’s responsibility.
- h) The invigilators shall check the identity of the examinee using his/her own national ID or passport and shall ensure that they match the examinee data.
- i) Examiner shall be a member of ACNEP examination panel or delegated by the panel.
- j) Under any circumstances the panel member shall not be permitted to examine any candidate:
  - Who he has trained for the examination for a period of two years from the date of the conclusion of the training activities;
  - Who is working (permanently or temporarily) in the same facility as the examiner.



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- k) With the approval of the certification body, a candidate for a practical examination may use his own equipment.
- l) All Examination centers shall meet the requirements ISO TR 25108.
- m) All Examination Centers shall monitored by CCV cameras has capability of both audio, video recording.
- n) The examination records shall be saved securely in **APEX-FI** premises for the period of one year.

### **9.3. Rules of handling Practical test specimens and interpretation subjects**

- a. The practical examination shall involve applying the test to prescribed specimens, recording (and, for Level 2 candidates, interpreting) the resulting information to the degree required, and reporting the results in the required format. Specimens used for training purposes shall not be used for examination.
- b. Each specimen shall be uniquely identified and have a master report which includes all of the equipment settings used to detect specified discontinuities contained within the specimen, which shall be uniquely identified by an appropriate permanent marking to ensure that it is completely traceable. Such marking shall not interfere with the practical testing or inspection of the specimen and shall, the practical examination Identification number shall be concealed from the while the specimen is being used for examination candidate as per Apex-Fi impartiality procedure.
- c. The master report shall be compiled based upon at least two independent tests, and shall be validated by a Level 3 certificate holder for use in grading examinations. The independent test reports from which the master report is compiled shall be retained as records.
- d. Specimens shall be sector specific, simulating field geometries and shall contain discontinuities representative of those likely to occur during manufacturing or in service. They may be natural, artificial or implanted. For Level 2 evaluation tasks, data sets or films can be used instead of real specimens.
- e. Specimens used for calibration or for measurement tasks (e.g. thickness measurement) do not need to contain discontinuities. For RT, the specimen need not contain discontinuities since these are exhibited in the radiographs for interpretation.



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- f. The minimum number of test specimens required for the exam per candidate shall be in accordance to table (9) and (10) in annex No. (1).
- g. Where the practical examination requires the testing of more than one specimen, the second or any subsequent specimens shall be different in character, e.g. in product form, material specification, shape, size, and discontinuity type, from those tested previously.
- h. Where, after the number of specimens required, product sectors are indicated by appropriate letters, this means that specimens from these sectors shall be included in the practical examination.
- i. For radiographic examination, Level 1 and Level 2 candidates shall radiograph at least two volumes — except for Level 2 candidates having passed a Level 1 qualification examination, where at least one volume is to be radiographed.
- j. Where a sector examination involves the testing of more than one product type, then the specimens tested shall be representative of all products or shall be selected at random by the examiner from the product range or materials which make up the sector.
- k. To avoid duplication of examination flawed specimen during the exam, minimum of five approved separate sets shall be available on the examination venue.

**Note:** Key: c ≡ casting; f ≡ forging; w ≡ weld; RS≡ Radiograph; DF≡ Data file.

### 9.4. Exam Attendance

- a. At the examination, the candidate shall have in his possession valid proof of identification and an official notification of the examination, which shall be shown to the examiner or invigilator upon demand.
- b. Any candidate who, during the course of the examination, does not abide by the examination rules fraudulent conduct shall be excluded from all further qualification examinations for a period of at least one year.
- c. The use of a pocket calculator is permissible in ACNEP examinations provided that it is of a type that does not permanently store programs, formulae or data relevant to NDT.

**Mobile telephones, audio, video or other recording devices are not permitted in any ACNEP examination area.**



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- d. Candidates shall not be permitted to bring into the examination area personal items, unless specifically authorized to do so by the examiner.

## **10.Examination Dismissing**

**10.1.** If a candidate is unable to attend the exam, they may request to cancel or reschedule their registration. For a full refund, the administration panel shall receive a written notice of cancellation 14 business days or more prior to the first day of the course. If written notice of cancellation or rescheduling is received five to thirteen business days prior to the first day of a course, a 50% refund will be issued. If a student cancels or reschedules a course four business days or fewer prior to the first day of the course, or if a student is a “no show”, payment will be forfeited and no refund will be given.

**10.2.** Candidate may reschedule their examination twice under the terms mentioned above within one year from initial application. The candidate seeks for the rescheduling of their examination after a year from their initial application shall submit new application.

## **11.Issuance of the Certification**

**11.1.** A candidate fulfilling all conditions shall be certified and evidence of this certification shall be made available by the certification body. This can be achieved by:

- a. The issuance of hard copy certificate(s) and wallet card
- b. Displaying the relevant information on the certification body’s website.

**11.2.** Information required on the certifications and wallet cards, Certificates and/or corresponding wallet cards shall include at least:

- a. Family name and forename of the certified individual;
- b. Date of issue of the certification;
- c. Date upon which certification expires;
- d. Reference to this International Standard (ISO 9712:2012);
- e. Level of certification;
- f. Name of the certification body;
- g. The NDT method(s);
- h. The applicable sector(s);





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- i. If applicable, the scope of limitations to the certifications and/or the special applications;
- j. A unique personal identification number;
- k. The signature of the certified individual;
- l. A photograph of the certified individual in the case of the wallet card;
- m. A device to prevent falsification of the wallet card, e.g. use of a cold seal, welding into plastic;
- n. The signature of a designated representative of the certification body.

## 12.Validation and Revalidation of certifications

### 12.1. Certification Validity

The maximum period of validity of the certificate is five years. The period of validity shall commence (date of issue of the certification) when all of the requirements for certification (training, experience, satisfactory vision test, success in examination) are fulfilled.

The revision no of the certification scheme shall be mentioned in the certificate of all certificate holders, and when change occurs to the scheme, the certificate holders according the former revision number shall comply with the additional requirements if needed.

### 12.2. Certification reduction of scope, suspension, and Invalidation

- Apex-fi may declare a certificate is suspended when:
  - 1. Incompetency of the certificate holder in the course of inspection or audit or complain against him/her on the method (s) the certificate holder is certified.
  - 2. There was a significant interruption NDT activities on the method (s) the certificate holder is certified.
- In this case the CB shall make a decision on suspending the certificate of the relevant method (s) until the certificate holder receives the necessary training and examination, a decision on the revalidation, reduction of scope or invalidation of the certificate will be made according to the examination results



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- The CB has the right to withdraw the certificate in the relevant method (s) in case the certificate holder doesn't apply for the training and examination within 12 months of the suspension decision.
- Apex-fi may declare a certificate invalid and make a decision about its withdrawal when:
  - a. At the discretion of the certification body, e.g. after reviewing evidence of behavior incompatible with the certification procedures or failure to abide by a code of ethics;
  - b. If the individual becomes physically incapable of performing his duties based upon failure of the vision acuity examination taken annually under the responsibility of his employer;
  - c. If the individual fails recertification, until such time as the individual meets the requirements for recertification or initial certification.

### **12.3. Certification Revalidation for Level 1&2**

#### **12.3.1. Certification Revalidation by Renewal by paperwork**

Individuals whose certificates expire at the end of the five-year period from their former certificate may renew their certificates for a further five years if they are able to provide:

- a. Evidence of reasonably continuous work activity in the relevant method during the period of validity of the certificate.
- b. Documentary evidence of a satisfactory visual acuity examination taken within the preceding 12 months
- c. It is the responsibility of the certificate holder to initiate the procedure required for renewal. The renewal files shall be presented within six months before the date of expiration of the certification. As an exception, and based upon decision of the certification body, files presented within 12 months after the date of expiration may be considered. Over this period, no exception is admitted and the candidate shall be permitted to attempt a recertification examination



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### **12.3.2. Certification Revalidation by recertification exam**

- a. Individual who failed to provide evidence of reasonably continuous work activity in the relevant method during the period of validity shall pass a recertification examination. The certification is revalidated for a new period of validity of five years less a day from the date of the revalidation.
- b. If the individual failed in recertification exam their certificate shall be canceled, however the individual whose certificate has canceled due to failure in the recertification examination will be eligible for two trials re-sit examination within a year.
- c. Prior to the completion of each second period of validity (every 10 years), the certified individual may be recertified by the ACNEP for a new period of five years or less, provided the individual meets the criterion for renewal specified in 12.1 and by meeting the following:
  - Successful completion of a practical examination that demonstrates continued competence to carry out work within the scope defined on the certificate. This shall include testing specimens in Table 09 annex No. (1) appropriate to the scope of certification to be revalidated and in addition, for Level 2, the production of a written instruction suitable for the use of Level 1 personnel.
  - If the individual fails to achieve a grade of at least 70 % for each specimen tested (weighted according to the guidance in Table 5 annex No.(1) for level 1&2 practical exam), and, the same percentage in the instruction for level 2 practical exam, two retests of the whole recertification examination shall be allowed after at least 7 days and within six months of the first attempt at the recertification examination.



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### 12.4. Certification Revalidation of Level 3

12.4.1. Level 3 certificate holders seeking revalidation of their certification shall provide evidence of continued qualification confirmed by:

- a. Satisfying the Level 3 requirements of for a written examination;
- b. Meeting the requirements for a structured credit system, as given in
- c. *Table 11* annex No. (1)
- d. The individual may decide between the examination and credit system for recertification. If the credit system is chosen and requires submission of employer's documents or access to an employer's premises, the individual shall provide to the certification body a written statement of approval from the employer.

12.4.2. In this system, the Level 3 candidate gains credit for participation, during the five years prior to recertification, in the various NDT activities shown in Table 11 Limits are placed on the maximum number of points which can be gained in each year, and in any activity over the five years, to ensure an even spread of activities. To be eligible for recertification:

- a) A minimum of 70 points shall be accrued during the five-year validity of the certificate;
- b) A maximum of 25 points per year are accepted.

12.4.3. In addition to the recertification application, the candidate shall submit evidence of satisfying the criteria of table 11 annex No. (01) as follows:

- a) Agenda and list of attendees for the meetings under items 1 to 4;
- b) A brief description of research and development under item 5;
- c) References of technical or scientific publications authored under item 5;
- d) A summary of training delivered under item 6;
- e) For each certificate, evidence of work activity per year under item.

12.4.4. In both cases (written examination or credit system), the individual shall either provide appropriate documented evidence, acceptable to the certification body, of his continued practical competence in the method or pass a Level 2 practical examination, as specified in 12.2.3, except for the drafting of NDT instructions.

12.4.5. the individual shall successfully complete an examination that includes a minimum of 20 questions on the application of the test method in the sector(s) concerned, which demonstrates an understanding of current NDT techniques, standards, codes or specifications, and applied



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technology and, at the option of the certification body, five additional questions on the requirements of the certification scheme.

12.4.6. IF the individual fails to achieve a grade of at least 70 % in the recertification examination, a maximum of two retests of the recertification examination shall be allowed. The time within which all tests are to be taken shall be 12 months, unless otherwise extended by the certification body.

12.4.7. In the event of failure in the two allowable retests, the certificate shall not be revalidated and, to regain certification for that sector and method the candidate shall be required to achieve success in the appropriate main method examination.

12.4.8. A candidate who applies for and does not meet the requirements of the credit system shall be recertified in accordance with 12.3.2 In the event of failure at the first attempt at recertification by examination, only one retest of the recertification examination shall be allowed within 12 months of the date of application for recertification.

### **13.Re-Sit examination**

- 13.1. A candidate who has not attained the minimum score required to pass an exam shall undergo re-sit examination.
- 13.2. The candidate shall take the examination in the part in which he failed for maximum twice.
- 13.3. Candidates who fail the two re-sit examinations shall not have more opportunities to make partial exams and will be considered again as initial certification candidates in any method and level.
- 13.4. Re-sit examination for General and Specific exams shall be provided from different database of that provided for former examination.
- 13.5. The flawed specimen of Re-sit examination shall be different from the flawed specimen of former examination.
- 13.6. The re-examination shall not take place before a month unless the candidate successfully completes an additional training acceptable by Apex-fi Panel.
- 13.7. A candidate who suspended due to fraudulent conduct must wait 12 months before resubmitted for consideration by any ACNEP NDT method.



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#### **14.Records**

- 14.1.** The ACNEP Certification panel shall keep the records of successful and unsuccessful candidates. These records are accessible to the Governing Board or its nominee's at all reasonable times.
- 14.2.** the certification of ACNEP NDT personnel shall be available for verification through the company website.

#### **15.Claims and Appeals**

- 15.1.** The candidate whose examination, certification or application is canceled or failed to get examination passing score has right to claim through company email [claims@apexfi.net](mailto:claims@apexfi.net) or directly through company website.
- 15.2.** The certification panel shall acknowledge the receipt of the claim within 14 days from the submission date.
- 15.3.** The certification panel shall handle the complaints by viewing all relevant information available and a report is created describing the complaint, the procedure, the evaluation and the conclusion.
- 15.4.** The certification panel shall send the final reports of the claim result to the complainer and the certification body within 30 days from receipt acknowledgment of the claim.
- 15.5.** The complainer whose complain has been rejected may appeal within a month from receiving date of the complaint result through company email [appeals@apexfi.net](mailto:appeals@apexfi.net) or directly through company website.
- 15.6.** Quality Assurance manager shall acknowledge the receipt of the appeal within 14 days from the appeal.
- 15.7.** The notification of the appeal defense shall be sent to appellant within 30 days from receipt acknowledgment of appeal request.
- 15.8.** Top management shall conduct the appeal defense within 30 days from the appeal defense notification.



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**15.9.** Appeal defense may be conducted in meeting or e-meeting according to the availability of the appellant.

**15.10.** top management shall send a final report contains the result of the appeal to the appellant within 14 day from the appeal defense. Top management may consult an external expertise when needed.

## 16.Code of ethics

### 16.1. Code of ethics of ACNEP examination candidates

- a. The ACNEP examination candidate shall not provide any false statement regarding specific information related to experience and training, and commitment to the ACNEP terms and conditions.
- b. The ACNEP examination candidate shall avoid any sort of cheating.
- c. The ACNEP candidate shall not Attempt to remove any ACNEP confidential material during training or examination.
- d. The candidate shall consider the questions he has examined to be confidential information.

**Note:** The candidate who violates any of the rules mentioned above will not be accepted as a candidate for any ACNEP examination for a minimum period of 1 year from the date of the examination.



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#### 16.2. Code of ethics of ACNEP NDT certificate holders

- a) The ACNEP NDT certified persons shall act impartially, honestly with complete integrity in professional matters for each client or employer; and shall serve the public, clients, and employer with devotion.
- b) The certified person informs the CB, without delay, of matters that can affect the capability of the certified person to continue to fulfill the certification requirements.
- c) The Level 3 certified persons shall not to use their certification in a misleading manner.
- d) Accept to perform assignments only when qualified by training and experience.
- e) The ACNEP NDT certified persons shall avoid conflict of interest with the employer or client. Nevertheless, if it is not possible under any reason, he shall clarify the circumstances to all parties.
- f) In the event of suspension of certification, the certified person refrains from further promotion of the certification while it is suspended.
- g) In the event of withdrawal of certification, the certified person refrains from use of all references to a certified status.
- h) The ACNEP NDT Personnel shall not pay, mediate, nor offer, directly or indirectly, any sort of bribe.

**Warning:** The ACNEP NDT certified persons who proved to commit one of the above violations or any unethical action evidence, His/her ACNEP certifications will be suspended for minimum three years.





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### **17.Language**

- a) This document which is written in English is the main edition of the ACNEP scheme.
- b) The certification is issued in English language and may be issued upon request by any other language. In this case, the scheme shall be translated to this language and all approved training material and exams shall be translated accordingly.
- c) The certification scheme shall be translated under the certification panel's supervision.
- d) Examination questions shall be translated under the supervision of the examination panel.
- e) The ACNEP certification panel shall take all necessary measure to ensure that translation process shall not affect the impartiality and confidentiality of this document.
- f) ACNEP certificate holders or their employers must not use or refer to ACNEP certificates, nor the ACNEP logo, nor must they knowingly allow them to be used or referred to by a third party, in a manner that may be considered fraudulent or to bring the ACNEP Scheme into disrepute. The full conditions of use of the ACNEP logo, or reference to ACNEP certification, are detailed in a separate document (ACNEP\_LU\_001) available from **APEX-FI** website.



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### ANNEX No. (1)

**Table (1): the General scope of ACNEP Scheme:**

Method	Technique / Category	Product Sector	Industrial Sector	Levels
VT	General Application	Welds	(pre& In-service)	Level 1,2,3
MT	General Application	C/F/W/WP	(pre& In-service)	Level 1,2,3
	Portable Equipment	Welds/WP	(pre& In-service)	Level 1,2
PT	General Application	(C/F/W/WP)	(pre& In-service)	Level 1,2,3
	Portable Equipment	Welds/WP	(pre& In-service)	Level 1,2
RT	RT Manual / Weld Imaging	Welds	(pre& In-service)	Level 1,2,3
UT	Conventional / Weld Inspection	Welds (plates & pipes)	(pre& In-service)	Level 1,2,3
	Conventional / Weld Inspection	Welds Nozzle and Nodes	(pre& In-service)	Level 2
	Conventional / Thickness Gauging and Lamination testing	C/F/WP	(pre& In-service)	Level 2
PAUT	Weld scanning	Welds	(pre& In-service)	Level 2, Level 3
	Corrosion Mapping	Wrought Products	(pre& In-service)	Level 2
	General Application	Multi-Sector - C/F/W	(pre& In-service)	Level 2, Level 3
TOFD	Weld Scanning	Welds	(pre& In-service)	Level 2, Level 3
	Corrosion Mapping	Wrought product (corrosion mapping)	(pre& In-service)	Level 2

**Table (2): the limited scope of ACNEP Scheme**

Method	Technique	Product Sector	Industrial Sector	Levels
RT	RTFI	Welds	(pre& In-service)	Level 2
UT	Automatic Ultrasonic (PAUT/TOFD) Data Interpretation	Welds	(pre& In-service)	Level 2



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**Table (3): Prerequisites and experience requirements for general sector.**

method	Product Sector	Industrial Sector	Category	Designated Level	Experience in Month	Training Hours	Specific Prerequisite
VT	Welds	Pre & In-service	General Engineering	Level 1	1	21	N/A
				Level 2	2	14	N/A
				Level 3	12	21	N/A
MT	WP-C-W-F	Pre & In-service	General Engineering	Level 1	1	16	N/A
				Level 2	3	24	N/A
				Level 3	12	32	N/A
	Welds – WP	Pre& In-service	Portable Equipment	Level 1	1	16	N/A
				Level 2	3	24	N/A
PT	Multi-Sector (WP-C-W-F)	Pre& In-service	General Engineering	Level 1	1	16	N/A
				Level 2	3	24	N/A
				Level 3	12	24	N/A
	Welds - WP	Pre& In-service	Portable Equipment	Level 1	1	16	N/A
				Level 2	3	24	N/A
RT	Welds	Pre& In-service	Butt welds	Level 1	3	40	N/A
				Level 2	9	80	N/A
				Level 3	18	40	N/A
UT	Welds	Pre& In-service	Welds (pipes & plates)	Level 1	3	40	N/A
				Level 2	9	80	N/A
				Level 3	18	40	N/A
	Welds	Pre& In-service	Welded TKY Joints	Level 2	3	40	UTL2-Welds
PAUT	WP	Pre& In-service	Lamination Testing /ThicknessGauging	Level 2	9	60	N/A
	Welds	Pre& In-service	Weld Scanning	Level 2	3	120	UTL2-Welds
	WP	Pre & In-service	Corrosion Mapping	Level 2	3	120	UTL2 lamination testing and thickness gauging
TOFD	Multi-Sector (C/F/W/WP)	Pre & In-service	General Application	Level 2	3	120	UTL2-welds and UT L2 lamination testing andthickness gauging
	Welds	Pre& In-service	Weld Scanning	Level 2	3	80	UTL2-Welds
TOFD	WP	Pre & In-service	Corrosion Mapping-	Level 2	3	40	UT L2 lamination testing andthickness gauging



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**Table (4): Prerequisites and experience requirements for limited sector.**

Method	Technique	Designated Level	Experience in Month	Training Hours	Specific Prerequisite
RT	Film Interpretation	Level 2	9	56	N/A
UT	AUT (PAUT/TOFD) Data interpretation	Level 2	3	40	UT Level 2

**Table (5): percentile weighting for practical examination of level 1 and level 2.**

POINT	PART	Weight %	
		Level 1	Level 2
1	<b><u>Knowledge of methodology</u></b> a) Control system functional verification b) Verification settings	20	10
		10	5
		10	5
2	<b><u>Application of the method</u></b> a) advance preparation b) Choice of technique c) Device settings d) Performance of the test e) operations subsequent to the test	35	20
		5	2
		N/A	7
		15	5
		10	5
		5	1
3	<b><u>Detection and reporting of the discontinuities (a)</u></b> a) Detection of discontinuities compulsory b) Characterization c) Evaluation according to established criteria d) Report making	45	55
		20	15
		15	15
		N/A	15
		10	10
4	<b><u>Writing (b)</u></b> a) Background b) Personal c) Equipment d) Product e) Test conditions f) detailed instructions g) Assessment of indications h) Recording and reporting	N/A	15
			1
			1
			3
			2
			2
			3
			2
			1

a) The candidate who does not report a discontinuity marked as mandatory, will receive a zero in Part 3 of the exam.

b) The candidate who reports a major flaw (Crack, IF,IP) which is not exist in the master report will receive zero in part 3 of the exam.



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**Table 6 Basic Level 3 examination parts**

Part	Subject	No of Questions		
<b>Part A</b>	Material and manufacturing process	30		
<b>Part B</b>	NDT Method level 2	75	RT	15
			UT	15
			VT	7
			ET	7
			MT	15
			PT	15
			VT	4
			AE	1
			MFL	1
<b>Part C</b>	Questions on certification schemes	30	ISO 9712	10
			ACNEP Specific	10
			SNT-TC-1A	10

**Table 7 Method Level 3 examination Parts**

Part	Subject	No of Hours	No of questions	Scope
<b>Part D</b>	Theory Exam	1.5	30	Advanced and more detailed knowledge of the method
<b>Part E</b>	Product Technology	1	20	Application of the NDT method in the sector concerned, including the applicable codes, standards, specifications and procedures
<b>Part F</b>	Procedure exam	4	Procedure creation as per <b>Table 8</b> annex (1)	Drafting of one or more NDT procedures in the relevant sector. The applicable codes, standards, and procedure: open Book exam , All resources should be provided to the candidate during the exam



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**Table 8 Guidance on the percentile weighting for the Level 3 NDT procedure examination**

Subject	% maximum
<b>Part 1 — General:</b>	
a) scope (field of application, product);	2
b) Document control;	2
c) Normative references and complementary information.	4
<b>Sub-total</b>	<b>8</b>
<b>Part 2 — NDT personnel</b>	<b>2</b>
<b>Part 3 — Materials and equipment:</b>	
a) main NDT equipment (including defining calibration status and pre-test serviceability checks);	10
b) Ancillary equipment (reference and calibration blocks, consumables, measuring equipment, viewing aids...etc.).	10
<b>Sub-total</b>	<b>20</b>
<b>Part 4 — Test piece:</b>	
a) Physical condition and surface preparation (temperature, access, removal of protective coatings, roughness, etc.);	1
b) description of area or volume to be tested, including reference datum;	1
c) Discontinuities sought.	3
<b>Sub-total</b>	<b>5</b>
<b>Part 5 — Performance of the test:</b>	
a) NDT method(s) and technique(s) to be used;	10
b) setting up the apparatus;	10
c) conducting the test (including reference to NDT instructions);	10
d) Characterization of discontinuities.	10
<b>Sub-total</b>	<b>40</b>
<b>Part 6 — Acceptance criteria</b>	<b>7</b>
<b>Part 7 — Post-test procedure:</b>	
a) disposition of non-conforming product (labeling, segregation);	2
b) Restoration of protective coatings (where required).	1
<b>Sub-total</b>	<b>3</b>
<b>Part 8 — Production of the test report</b>	<b>5</b>
<b>Part 9 — Overall presentation</b>	<b>10</b>
<b>Grand total</b>	<b>100</b>



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**Table 9 minimum number of specimens/ Interpretation subjects required per candidate for each General scope Certification**

Method		Sector	Minimum Specimens per sit Level 1	Minimum Specimens per sit Level 2
	Technique			
VT	General	Welds	2	2
	General	Multisector (C/F/W)	3	3
MT	Portable Equipment	Welds	2	2
	General	Multi-Sector (C/F W)	3	3
PT	Portable Equipment	Welds	2	2
	RT Manual	Welds	2	2+ (12 Dense Rs)
UT	Conventional	Welds (pipes & plates)	2	2
		Welds (T-Joints Nozzles & nodes)	2	2
	Lamination Testing and Thickness Gauging	C/F/WP	N/A	3
PAUT		Welds	2	2
		Wrought Products (Corrosion Mapping)	2	2
		Multi-Sector C/F/W & Wrought Product	3	3
TOFD		Welds	2	2
		Wrought Products (Corrosion Mapping)	2	2
		Welds & Wrought Products (Corrosion Mapping)	3	3



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**Table 10 Minimum examination specimens/ Interpretation subjects required for each candidate for limited scope certification**

Method	Technique	Sector		Level 2
RT	RTFI	Welds	Dense Material	12 RS
			Light Material	12 RS
			Dense &Light	12 Dense RS +12 light RS
UT	AUT (PAUT & TOFD) Data Interpretation	Welds		4 DF

**Table 11 Structured credit system for Level 3 recertification**

Serial	Activity	Points per Item	Max points per year	Max points per 5 year
<b>1</b>	Membership of an NDT society, attendance at seminars, symposia, conferences and/or courses covering NDT and related sciences and technologies	1	3	8(a)
<b>2.1</b>	Attendance at international and national standardization Committees	1	3	8a
<b>2.2</b>	Convenorship of standardization committees	1	3	8ab
<b>3.1</b>	Attendance at sessions of other NDT committees	1	3	8a
<b>3.2</b>	Convenorship of sessions of other NDT committees	1	3	8ab
<b>4.1</b>	Attendance at sessions of NDT related working groups	1	5	15ab
<b>4.2</b>	Convenorship of NDT related working groups	1	5	15ab
<b>5.1</b>	NDT related technical/scientific contributions or Publications	3	6	20cd
<b>5.2</b>	NDT related research work published	3	6	15cd
<b>5.3</b>	NDT research activity	3	6	15cd
<b>6</b>	NDT technical instructor (per 2 h) and/or NDT examiner (per examination)	1	10	30d
<b>7.1</b>	Professional activity within a NDT facility, NDT training center or NDT examination facility or for Engineering of NDT for each full year	10	10	40d
<b>7.2</b>	Dealing with disputes referring to clients	1	5	15d
<b>7.3</b>	Development of NDT applications	1	5	15d

a. Maximum points for items 1 to 4: 20.

b. Points to be given for both convenorship and attendance.

c. If there is more than one author, the lead author shall define points for the other authors.

d. Maximum points for each of items 5 and 6: 30, and 7: 50.