



*Fach- und Interessenverband für
seilunterstützte Arbeitstechniken e.V.*

Examination Guidelines for Rope Access

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0. Area of application

These examination guidelines apply to Rope Access of all types, except:

- a) Tree climbing techniques in tree care
- b) Stage Rigging / Rigging in event technology
- c) Outdoor Education and Rope Courses
- d) Rope Rescue Operations (Fire Brigade and similar relief units)
- e) Canyoning
- f) Use of rope techniques in sports activities
- g) Caving / Cave exploration
- h) Use of PPE against falls from a height and connected rescue measures
- i) Use of rope techniques in leisure activities

1. General

1.1 Conformity with standards

- 1.1.1 Rope Access may be conducted in accordance with FISAT's Safety and Work Guidelines. Other procedures may be followed if codified in the guidelines of other countries' guidelines and in accordance with recognized technical standards.
- 1.1.2 Rope Access may only be conducted by properly trained and certified users.

1.2 Terms / Definitions

- 1.2.1 The basic user qualification is Level 1 Rope Access Technician.
- 1.2.2 Users with the next higher qualification Level 2 are designated as Rope Access Technicians.
- 1.2.3 Users with qualification Level 3 are designated as Rope Access Supervisors.

1.3 Requirements for equipment used

- 1.3.1 Equipment used for Rope Access must be in conformity with valid standards, bear the CE symbol, and exclude endangerment of the user.
- 1.3.2 Necessary additional PPE must be worn. In addition to top-quality equipment, sufficient protective clothing must be worn. Wearing a hardhat is mandatory.

1.4. General safety rules

- 1.4.1 Examinations must be pre-planned and conducted so as to exclude danger.
- 1.4.2 Individuals under the influence of alcohol, drugs, or medications are to be excluded from the examination.
- 1.4.3 Prior to each examination, instruction in accident prevention must be given and documented. Responsibility for this lies with the firm conducting the training program.
- 1.4.4 Before admittance to the examination, the candidate must document adequate health conditions. Physically suitable are, for example employees for whom there are no health concerns about working in areas with danger of falling.

1.5 Basic principles of the examinations

- 1.5.1 The examination must be taken in German language. Upon special application to the certification section of FISAT, the examinations Level 1 and Level 2 may also be conducted in English language. Only registered training companies may apply for an examination in English. The written request has to be sent at least two weeks prior to the required date. Confirmation is based upon the availability of an assessor who is fluent in English.
- 1.5.2 Examinations are not public. Besides the candidates, only the presence of the assessor and the trainer are allowed. Exceptions can only be made upon application to the office of FISAT, Plautstraße 80, 04179 Leipzig, Germany.
- 1.5.3 The examination is divided into two sections, one theoretical and one practical.

The following applies to all examinations:

If a section of the examination is not passed, that section (theoretical or practical) must be repeated. The assessor is authorized to present individual candidates with special tasks for examination in case of doubt.

Subsections of the examination Level 1 are:

- a) Theory
- b) Practical:
 - Vertical access techniques
 - Rescue

Should a candidate fail one subsection of the practical examination, the entire practical examination must be repeated.

Subsections of the examination Level 2 are:

- a) Theory
- b) Practical:
 - Anchoring techniques
 - Vertical access techniques
 - Horizontal access techniques
 - Rescue

Should a candidate fail one subsection of the practical examination, the entire practical examination must be repeated.

Subsections of the examination Level 3 are:

- a) Theory
- b) Implementation planning – Elaboration of an access and rescue concept including risk assessment

Upon failure of one section, that one alone must be repeated.

- c) Practical:
 - Vertical access techniques
 - Horizontal and diagonal access techniques
 - Lead ascent access technique
 - Pulley systems
 - Rescue

Should a candidate fail one subsection of the practical examination, the entire practical examination must be repeated.

- 1.5.4 In order to receive certification of successfully completing the examination, the candidate must pass each and every subsection. A repeat examination for sections not passed can take place no earlier than one week after the original examination. All sections of the examination must have been passed within 6 months. Within this period of time, three repeat examinations may be taken with a time lapse of one week after the previous

examination. Should the examination not be passed by the third repeat exam, it can only be repeated again at the earliest twelve months after the last examination taken.

- 1.5.5 Certificates and identification cards are centrally issued by the FISAT office and sent to the candidate or his company after successfully passing the entire exam. Upon completion of the exam, candidates receive a certification of participation with the results, passed or failed, for the individual subsections of the examination. A confirmation of participation is issued by the assessor and, if the exam is passed, serves as a temporary certification (valid for a maximum of two weeks) until the receipt of the examination certificate and identification card.
- 1.5.6 The ID cards are valid only for the areas of Rope Access and bear a serial number. IDs and certificates are valid for 12 months from the date of the examination and, after passing a refresher course, will be revalidated by the FISAT office and sent to the candidate.
- 1.5.7 Candidates may appeal examination results. Prerequisite for this is receipt of the appeal in the office of FISAT, Plautstraße 80, 04179 Leipzig, Germany. In the case of an appeal, the examination documents will be evaluated by three independent assessors and a decision is made about the result.
- 1.5.8 An inspection of examination records is not intended for the participant.

1.6 Quality assurance

- 1.6.1 FISAT's certification team may revoke qualification certifications in the case of flagrant violations of safety and work guidelines.
- 1.6.2 With receipt of certification from a certification team, the candidate acknowledges the certification team's right to demand return of ID cards and certificates.

1.7 Formalities

In order to ensure the legality of the certification process, candidates are to be informed about their right to appeal under point 1.5.7 (8.11 for Refresher Courses) and about possible quality assurance measures, in particular under point 1.6.2, prior to the examination.

2. Admission/Permission

2.1 Admission to examinations

- 2.1.1 Individuals who have not immediately before completed a training program are also permitted to take the examination. Thus, technicians trained within a company and those without schooling may also participate. They are subject to the same examination requirements.
- 2.1.2 Only preregistered candidates may take the examination. Registration of candidates in due time lies in the responsibility of the registered training company where the assessment is held.
- 2.1.3 On the day of the examination, the assessor verifies:
 - Documentation of physical suitability:
Physically suitable are, for example, employees for whom there are no health concerns about working in areas with danger of falling.
 - Documentation of valid first-aid training.
 - Documentation of work experience for statistics for all participants of an examination Level 2. No minimum work experience is required.

- Documentation of the minimum work experience required for admission to the examination Level 3.

2.2 Admission prerequisites for Level 1 Rope Access Technician

- 2.2.1 Candidates must be at least 18 years old.
- 2.2.2 A valid certification of first-aid training no more than 24 months old. First-aid certificates are only accepted when issued by institutions authorized by the DGUV (German Employer's Liability Insurance Association).
- 2.2.3 Candidates must produce a medical certificate of non-objection for work at height. This medical statement must not be older than 36 months for candidates up to 49 years of age and not older than 18 months for candidates 50 years or older. Only occupational physicians are authorized to issue such a medical statement.

2.3 Admission prerequisites for Level 2 Rope Access Technician

- 2.3.1 Candidates must be at least 18 years old.
- 2.3.2 A valid certification of first-aid training no more than 24 months old. First-aid certificates are only accepted when issued by institutions authorized by the DGUV (German Employers Liability Insurance Association).
- 2.3.3 Candidates must produce a medical certificate of non-objection for work at height. This medical statement must not be older than 36 months for candidates up to 49 years of age and not older than 18 months for candidates 50 years or older. Only occupational physicians are authorized to issue such a medical statement.
- 2.3.4 Candidate must have successfully passed the examination Rope Access Technician Level 1. Level 1 qualification may not be expired for more than 6 months.
- 2.3.5 Documentation of work experience with the qualification as Rope Access Technician Level 1. FISAT's Personal Safety Logbook for Rope Access serves exclusively as proof for logged work experience. No minimum work experience is required.

2.4 Admission prerequisites for Level 3 Rope Access Supervisor

- 2.4.1 Candidates must be at least 21 years old.
- 2.4.2 A valid certification of first-aid training no more than 24 months old. First-aid certificates are only accepted when issued by institutions authorized by the DGUV (German Employers Liability Insurance Association).
- 2.4.3 Candidates must produce a medical certificate of non-objection for work at height. This medical statement must not be older than 36 months for candidates up to 49 years of age and not older than 18 months for candidates 50 years or older. Only occupational physicians are authorized to issue such a medical statement.
- 2.4.4 Candidates must have successfully passed the examination Rope Access Technician Level 2. Level 2 qualification may not be expired for more than 6 months.
- 2.4.5 At least 12 months must have elapsed since the examination Level 2.
- 2.4.6 At least 250 days work experience with the qualification as Rope Access Technician Level 2 must be documented. FISAT's Personal Safety Logbook for Rope Access serves exclusively as proof for logged work experience.

3. Composition of the examination team

The examination team must be composed as follows:

Level 1

At least one external FISAT assessor who was not involved in the candidate's training and at least one trainer from the training company.

The maximum number of candidates per assessor and examination is 10.

Level 2

At least one external FISAT assessor who was not involved in the candidate's training and at least one trainer from the training company.

The maximum number of candidates per assessor and examination is 8.

Level 3

At least one external FISAT assessor who was not involved in the candidate's training and at least one trainer from the training firm.

The maximum number of candidates per assessor and examination is 6.

For examinations of more than one level, the highest candidate level determines the maximum number of candidates allowed.

4. Course of the examination

4.1 Theoretical examination

4.1.1 The theoretical examination is in writing on examination sheets provided by the certification team. A certain amount of questions are multiple-choice questions.

Attempted cheating results in exclusion from the examination.

For all theoretical examinations, a score of at least 75% of the maximum points must be achieved.

4.1.2 Level 1 and 2

The maximum number of points ranges from 80 to 130.

Candidates have 90 minutes to answer the questions.

4.1.3 Level 3

The maximum number of points ranges from 80 to 130.

Candidates have 60 minutes to answer the questions.

4.2 Practical examination

4.2.1 The practical examination takes place at a suitable location in accordance with Appendix 2. For this purpose, an object may be chosen that was also used in the training program.

4.2.2 The assessor may reject the location if it is unsuitable for the required task. Minimum requirements for the examination site are governed by Appendix 2 of the Examination Guidelines.

4.2.3 At least one fully equipped trainer must have visual and aural/oral contact with candidates on the examination site.

4.2.4 The training company is responsible for measures to ensure the safety of all parties.

4.2.5 The examination area is to be cordoned off in such a way that no one can be endangered. Materials are to be secured against falling.

4.2.6 In fall-danger zones, each individual is responsible for sufficient self-safety measures.

4.2.7 The practice area is to be closed to access from outside individuals.

4.2.8 The trainer must be able to take immediate action.

4.2.9 All demonstrations must occur under the assessor's direct supervision and observation.

- (a) Candidates are sent to the various examination tasks individually and must complete them in accordance with the assessor's guidelines.
- (b) For examination of rescue scenarios, the candidates are to be divided into pairs of two by the assessor. The assigned task must be completed by the "active" candidate.
- (c) Examination courses are to be coordinated with the assessor before the examination begins and to be erected according to his guidelines.
- (d) If needed, the assessor can demand additional sets of ropes in order to ascend or descend to the examination stations himself.
- (e) Performance in the practical examination is to be recorded on a form provided by the
- (f) For examination of lead climbing and the belay of a lead climber, as part of the assessment Level 3, Rope Access Supervisor, the candidates are to be divided into pairs of two. The task has to be completed by both candidates acting as a team.
- (g) If the division into groups of two is not possible, the assessor may commit the representative of the training company to act as partner for a candidate.

4.3 Safety method statement

A safety method statement (including risk assessment, access and rescue concept) as part of the examination Level 3, Rope Access Supervisor, has to be compiled in writing on forms issued by the assessor.

The safety method statement is to be evaluated as separate subsection of the examination. This subsection can only be done in German language.

Candidates have 90 minutes to complete the task.

The maximum number of points ranges from 75 – 80.

A score of at least 66% of the maximum points must be achieved to pass the subsection.

A chart with an overview of potential hazards is issued as auxiliary material. Other resources are not allowed. Attempts of deception result in an immediate exclusion from the examination.

5. Content of the examinations

5.1 Level 1

- (a) Knowledge of relevant terminology.
- (b) Basic knowledge of relevant requirements for working at height and in fall-danger zones including the most important provisions of the guidelines, especially for individual prerequisites. (Not including prerequisites for construction sites, risk assessment, and instruction)
- (c) Basic knowledge about material and equipment, its usage (incl. storage and care) and its specific characteristics.
- (d) Basic knowledge of knot tying principles.
- (e) Basic knowledge of possible anchor points, artificial anchors and attachments (only breaking strength & examples).
- (f) Knowledge of the use of rope protection.
- (g) Basic knowledge of the physics of falling and of the principles of safety techniques and theory.
- (h) Basic knowledge of suspension trauma / orthostatic shock.
- (i) Theoretical knowledge of simple rescue techniques.
- (j) Putting on equipment.
- (k) Knots
 - Figure-of-eight knot, loop, and follow-through
 - Figure-of-nine loop and follow-through
 - Double fisherman knot

- Clove hitch, knot and loop
- Prusik knot
- (l) Climbing and descending with a descender.
- (m) Climbing with rope clamps.
- (n) Shift from climbing to descending and vice versa.
- (o) Complete transfer from one set of ropes to another.
- (p) Climbing and descending with auxiliary methods.
- (q) Rescue of a rope access technician hanging on a back-up device.
- (r) Rescue of a rope access technician hanging on blocked ascenders.
- (s) Safe use of PPE against falling.
- (t) Rescue of a user of PPE against falling hanging on a shock absorbing lanyard.

5.2 Level 2

- (a) Good knowledge of relevant terminology.
- (b) Basic knowledge of risk assessment, instructing in work-safety and health protection, and securing the job-site.
- (c) Competence in acting in case of accidents and other unforeseen events.
- (d) Precise knowledge of material and equipment.
- (e) Good knowledge of knot tying principles.
- (f) Good knowledge of possible anchor points and advanced anchoring techniques, as well as of artificial anchors and attachments.
- (g) Knowledge of the physics of falling and safety techniques.
- (h) Knowledge of medical aspects.
- (i) Knowledge for evaluating anchor points and necessary anchoring techniques including knowledge about transportable anchors and attachments.
- (j) Theoretical knowledge about standard rescue, rescuing to above, rescuing from structures difficult to maneuver in.
- (k) Selecting and putting on equipment.
- (l) Knots
 - Bowline follow-through
 - Bunny knot
 - Alpine Butterfly
 - Italian hitch (munter hitch), knot and loop
 - Klemmheist knot
- (m) Climbing and descending with auxiliary equipment.
- (n) Climbing and descending via re-belays and knots.
- (o) Horizontal movement in all variations.
- (p) Positioning beyond the fall-danger line with anchor points.
- (q) Rescue scenarios: to the top, active & passive rescue from horizontal tram lines and structures.
- (r) Setting-up and rigging ropes.
- (s) Basic knowledge of pulley systems and their assembly.
- (t) Safe use of PPE against falling.

5.3 Level 3

- (a) Detailed knowledge of relevant terminology.
- (b) Very good knowledge of relevant regulations for Rope Access and fall-danger zones including the most important provisions of the guidelines, in particular prerequisites for personnel employed.
- (c) Knowledge of the relevant subsections of Rope Access in the "BetriebsSicherheitsVerordnung", TRBS 2121 Teil 3, DGUV Information 201-018 (former

BGI 772), DGUV Regel 112-198 and 112-199 (former BGR 198/199) and the current Safety Guidelines of FISAT.

- (d) Knowledge about needs in job-site preparation and personnel planning.
- (e) Knowledge about what is needed to operate a job-site using rope access and supervision thereof.
- (f) Detailed knowledge of the preparation of a risk analysis, ability to write a risk assessment, and prepare working instructions.
- (g) Ability to conduct general and specific instruction sessions.
- (h) Detailed knowledge about material and equipment, selection thereof, and its specific characteristics, in particular also of components and auxiliary devices employed.
- (i) Knowledge of knot tying principles.
- (j) Knowledge in the evaluation of anchor points and necessary anchoring techniques including knowledge about transportable anchors and attachments.
- (k) Knowledge of the physics of falling and safety techniques.
- (l) Knowledge of medical aspects.
- (m) Rescuing to the ground, to above, from structures difficult to maneuver in, via rebelay and knots, and from tram lines.
- (n) Rescue planning and implementation on site.
- (o) Advanced knowledge of pulley systems.
- (p) Lead climbing and belaying a lead climber.
- (q) Safe use of PPE against falling.

6. Scoring criteria and keys

6.1 Theoretical section

- 6.1.1 The theoretical section of the examination for rope access technicians is scored according to a point key.
- 6.1.2 The number of points possible must be indicated on the examination sheet after each question.
- 6.1.3 The assessor awards points for correspondence to the answers in the solution key.
- 6.1.4 In case of open questions, the assessor has a certain leeway in this consisting of up to the maximum number of points available for the question. He may also grant half points.
- 6.1.5 At least 75% of the possible number of points must be achieved, otherwise the theoretical examination cannot be considered passed.

6.2 Practical section

- 6.2.1 Level 1
Each candidate receives a credit of 100 points at the beginning of the practical examination. Performance is documented with an objective evaluation form. On the form, only errors are recorded; all other requirements are considered to have been correctly fulfilled. The recorded error points are documented on the examination form. The practical examination is considered passed when at least 10 points remain after completion of all tasks and/or stations.
- 6.2.2 Level 2
Each candidate receives a credit of 100 points at the beginning of the practical examination. Performance is documented with an objective evaluation form. On the form, only errors are recorded; all other requirements are considered to have been correctly fulfilled. The recorded error points are documented on the examination form. The practical examination is considered passed when at least 20 points remain after completion of all tasks and/or stations.

6.2.3 Level 3

Each candidate receives a credit of 100 points at the beginning of the practical examination. Performance is documented with an objective evaluation form. On the form, only errors are recorded; all other requirements are considered to have been correctly fulfilled. The recorded error points are documented on the examination form. The practical examination is considered passed when at least 30 points remain after completion of all tasks and/or stations.

6.3 *Error evaluation in the practical section*

Possible errors in the practical section are subdivided into categories according to severity of the error:

6.3.1 Slight errors

Errors which do not place the candidate in a critical situation.
For a slight error, the certifier issues 10-25 error points.

6.3.2 Critical errors

Errors which place the candidate in a dangerous situation but do not directly endanger him or third parties.
For a critical error, the certifier issues 50-75 error points.

6.3.3 Safety-relevant errors

Errors which place the candidate in a dangerous situation or directly endanger third parties.
For a safety-relevant error, the certifier issues 100 error points.

7. *Exceptions*

7.1 *Generalities*

When a certification is conducted in a training company for the first time, two FISAT assessors must be present.

7.2 *Admission*

Equivalent qualifications from other organizations may also be accepted as prerequisites for admission to the examination Level 2 or Level 3. Decisions as to their recognition is made on a case-by-case basis by written application to the office of FISAT, Plautstraße 80, 04179 Leipzig, Germany.

7.3 *Theoretical evaluation*

- 7.3.1 Should a candidate achieve a score no more than max. 5% below a passing score, the assessor can conduct an oral repeat examination for this section to determine whether the candidate has passed.
- 7.3.2 Thereby, the assessor may fall back on questions from the examination catalogue or formulate questions by himself.
- 7.3.3 It is entirely up to the assessor then to declare whether this section of the examination has been passed or not.
- 7.3.4 For candidates with difficulties formulating in writing, the theoretical examination can also be conducted orally. The possibility of an oral exam is given only in the second or third repeat exam.

7.4 Prerequisites for admission to the examination Level 3, Rope Access Supervisor

- 7.4.1 Since January 1st, 2013 a minimum working experience of 250 working days holding a valid Level 2 qualification must be documented. FISAT's Personal Safety Logbook for Rope Access serves exclusively as proof for logged working experience.
- 7.4.2 Until June 30th, 2016 admission to the examination Level 3, Rope Access Supervisor can be granted, if the candidate was holding a valid Level 2 qualification for at least 2 years without discontinuity at the day of assessment. In this case working experience is documented for statistics. FISAT's Personal Safety Logbook for Rope Access serves exclusively as proof for logged working experience.

7.5 First Aid Certificates and Medical Statements

If the candidate can proof that he resides outside Germany or his place of employment lays outside Germany:

- 7.5.1 A first aid certificate issued by an organization from the candidate's country of residence will be accepted if in English or German and if the duration of training is stated.
- 7.5.2 Medical Statements from any physician will be accepted if in English or German. The FISAT form "Information about physical constitution" available for training companies will also be accepted.

8. Refresher courses

- 8.1 Every FISAT certified Rope Access Technician must document an annual refresher course corresponding to his qualification level.
- 8.2 Not passing the examination for a higher level can be recognized as a refresher course upon written request to the office of FISAT, Plautstraße 80, 04179 Leipzig.
- 8.3 If such a refresher course is not documented within 6 months after expiration of the qualification, the entire examination for that qualification level must be repeated. The deadline of 6 months can be extended for another 3 months if a hardship case can be attested. A written request therefor has to be sent to the office of FISAT before the 6 month deadline ends.
- 8.4 If a Rope Access Technician takes part in a refresher course after his qualification has expired, the new ID card will be valid from the day of the refresher course until the day of expiration of the old ID plus one year.
- 8.5 Rope Access Technicians can take part in a refresher course up to three months before expiration of their ID. In this case the new ID will be valid from the day of expiration of the old ID for one year.
- 8.6 For reasons of quality assurance, refresher courses may only be conducted by FISAT assessors.
- 8.7 Refresher courses are only allowed for pre-registered individuals. Registration is conducted by the training companies.
- 8.8 Refresher courses cannot be conducted simultaneously with certification examinations.
- 8.9 Refresher courses serve to review and deepen theoretical and practical knowledge of certified Rope Access Technicians as well as to teach new information. For Rope Access Supervisors, knowledge concerning risk assessments is extended. The time frame of the course is 8 hours.
- 8.10 Should the certified Rope Access Technician's theoretical knowledge or practical skills demonstrated not be in accordance with valid FISAT guidelines, the assessor may deny prolongation of the ID and certification.
Non-conformities in practical exercise are at hand, when the candidate is unable to perform a specific technique or rescue drill at the third attempt in a satisfactory way. The assessor will judge this third attempt similar to the practical section of an examination.

- 8.11 A repeat course is possible only after at least one week. Should sufficient skills still not be determine in this repeat refresher course, an examination for the given qualification level must be repeated in total and completely.
Exception for refresher courses Level 2 and Level 3:
Should sufficient skills still not be determine in this repeat refresher course, candidates can take part in a refresher course corresponding to the level below their actual qualification within two weeks after the second attempt. A written request to the office of FISAT, Plautstraße 80, 04179 Leipzig, is obligatory for this procedure. If the skills shown are in accordance with the requirements of this level, the candidate will be downgraded and certified in this respective lower level. Qualification in the original level can only be regained when passing the respective examination. Admission prerequisites for the examination of the original level are invalidated in this case.
- 8.12 The Rope Access Technician can appeal the decision within two weeks. Receipt of the appeal in the office of FISAT is determining: FISAT, Plautstraße 80, 04179 Leipzig, Germany. Appeals will be considered by three independent certifiers who decide on the result.
- 8.13 The candidate must certify having undergone a medical check-up for this activity (medical statement must not be older than 36 months for candidates up to 49 years of age and not older than 18 months for candidates 50 years or older) and present valid documentation of a first-aid training not older than 24 months.
- 8.14 Permissible number of participants for refresher courses
- Level 1 – 10 participants
Level 2 – 8 participants
Level 3 – 6 participants
- For refresher courses for more than one level, the highest level determines the maximum number of participants allowed.
- 8.15 To ensure feasibility of practical drills, it is recommended that refresher courses for level 2 and 3 always have at least 2 Rope Access Technicians of the same qualification level participating.
- 8.16 Content of refresher courses is to be documented on a form by the assessor for each individual participant.
- 8.17 During all practical exercises the general safety rules according to 1.4 of this examination guideline have to be respected.

9. *Literature – References*

- TRBS 2121-3 Technical rules for job safety TRBS 2121 part 3
 Danger of falling for individuals – provision and use of access and positioning
 techniques involving the use of ropes –
- DGUV Information
201-018 Rules for safety and health protection in the usage of manually controlled work
 seats (former BGI 772)
- DGUV Regel
112-198 Rules for use of PPE against falling (former BGR 198)
- DGUV Regel
112-199 Rules for rescuing a user of PPE against falling (former BGR 199)
- BetrSichV Betriebssicherheitsverordnung (German law for company safety regulations)
- FSR-SZP FISAT Safety and Work Guidelines for Rope Access
- WAHR 2005 The Work at Height Regulations 2005

Appendix 1

Evaluation criteria for practical exams Rope Access Level 1, 2, and 3 – Component of the Examination Guidelines –

The examination ends only upon dismissal by the examiner and his departure from the training site. Candidates are liable for any incorrect usage of Rope Access (even after passing the exam).

In the practical section, each candidate has an account with 100 points. Points are deducted for errors. In order to pass the exam, the following minimum amount of points is necessary:

- Level 1: at least 10 points
- Level 2: at least 20 points
- Level 3: at least 30 points

Errors are divided into 3 main categories:

- Non-critical/slight errors 10 - 25 points deducted
- Critical errors: 50 - 75 points deducted
- Safety-relevant errors: 100 points deducted

Candidates attempting to assist another fellow candidate will be considered to have cheated themselves. At the discretion of the examiner, points may be deducted and/or the candidate excluded from the examination.

What tasks must be fulfilled?

General:

- Complete harness / or certified combination,
The working harness must have at least one abdominal and one sternal grommet. The candidate must, in case of doubt, be able to document that the harness is certified.
- All knots with safety knots (exception: double fisherman knot, prusik knot, and all knots along the course of the rope),
- Constant redundancy (except PPE usage),
- All karabiners used must have closure safeguards. Karabiners used must have a closed gate strength of at least 20 kN (FISAT recommendation is 22 kN).
- Usage of rope protection in erection of rope courses and stretches according to risk assessment.
- V positioning according to risk assessment.
Danger arising from falling against structures must be absolutely excluded.
- Only knots in accordance to the examination guidelines are permissible.

Techniques using personal safety equipment against falls (PPE against falling)

- Y-fall-arrest equipment, attachment with a sternal grommet, no usage of 2x I-fall-arrest equipment.
- Cautious anchoring with minimal fall factor, exception: when moving along structures with no anchoring points above,
- On vertical or diagonal structures anchor loops are to be fastened with klemmheist knots in order to avoid a high fall factor.

Vertical techniques:

- Descenders on an abdominal grommet or work seat.
- Karabiner closures for descenders must be directed downwards and towards the body.
- Back-up device and fall-arrest systems on a sternal grommet.
- Descent always with rerouting of the braking rope from the descender to add friction. (Exception: short re-positioning, 50 cm or less)
- When interrupting descent, the descender must be locked.
- When ascending with rope clamps, a connection between harness and handled ascender is mandatory.
- When positioning and ascending with rope clamps, according to the level of danger, the clamp must be secured with karabiners in the upper holes (e.g. oblique load).

Horizontal techniques:

- Moving beneath structures with static connection and fall arrest system for safety (recommendation: use a dynamic means of connection and no static connections).
- Moving beneath from point to point (traversing) with two forms of connection and a third connection as safety backup.
- Ropeway with two spanned ropes, spanning ropes with a loose pulley and two people,
- Moving along an oblique ropeway, always redundant (2 fall-arrest systems, 2 systems against uncontrolled starting).
- Moving along tram lines: As a rule, both ropes must be used simultaneously. Exception: moving from below

Pulley systems:

- Definitions: travelling pulley, fixed pulley, simple pulley system, compound pulley system, complex pulley system, in-line pulley system, ganged pulley systems, ratchet / reverse lock systems: reversible, irreversible.
- Construction and explanation of a pulley system according to instructions (e.g. hauling a load of 200 kg with a (theoretical) force of 50 kg).
- Rope clamps as reverse brakes must be installed on the burden free end of the pulley system. No rope clamps with teeth may be used to place a pulley system on a load bearing system if the load exceeds the load of one person.
- How large are the required theoretical forces (without loss for friction)?
- What loads are effective at the anchor point?
- A maximum load of 250 kg may be moved with rope access equipment.

Lead climbing:

- Insure that training and testing of lead climbing is only performed when using a backup system (top rope, retractable type fall arresters or guided type fall arresters).
- Lead climbing with dynamic rope (EN 892), single strand (semi-static rope (EN 1891) may only be used, when a fall factor below 0.3) can be guaranteed).
- Direct attachment of the lead climber is sternal or sternal/abdominal.
- Only auto-locking devices according to EN 1284:2006 Type C are allowed for belaying a lead climber.
- Safety person must be secured against pull and at all times be able to release himself from the system without any difficulty.
- Interim anchors with webbing/slings according to risk assessment (eventually with protection) and karabiners with locking mechanism.
- Distance between interim anchors (max. shock load 6 kN):

Interim anchor	distance from the ground	distance from previous anchor
1	approx. 2,0 m	-
2	+ 2,5 m	0,5 m
3	+ 3,0 m	0,5 m
4	+ 4,0 m	1,0 m
5	+ 5,0 m	1,0 m
6	+ 7,0 m	2,0 m
7	+ 9,0 m	2,0 m
additional anchors		2,0 m

- Minimum lead climb path vertically and/or horizontally 8 m
- Lead climber may use a work positioning lanyard for support.
- Partner check prior to climbing.
- Clear communication; command: Stand = lead climber is secured.
- Stopper knots at the end of the rope and rope guidelines (rope must have free play),
- Pay attention to rope run course,
- Safety person: visual contact with the lead climber, secure operation of the safety device,
- Rescue of lead climber on free play rope up to a max. of rope midpoint: by direct lowering; with rope free play beyond rope midpoint: by ascent to the helpless person by means of PPE against falling and active/passive rescue,
- Each candidate will be examined as lead climber and as safety person.

Rescue:

- The rescue load is to be attached to the load bearing karabiner of the rescuer's descent device. This main connection ensures that the load is transferred to the main line rather than to the harness of the rescuer.
- A backup is to be established from the central d-ring of the rescuer's harness to the victim.
- All connections have to be attached at the victim's sternal d-ring.
- The braking rope of the descent device is to be diverted for additional friction with two turns or a munter hitch.
- When lowering a load with a descent device (passive rescue), the braking rope must be diverted.
- For standard active rescue to the ground, both backup devices remain on the ropes.
- Rescue from horizontal rope paths or structures, active or passive; rescue ropes can also be attached directly without karabiners (only with secured clove hitch).
- Passive rescue with descent device and backup device; main line and safety line may be attached to the helpless person with karabiners.
- For active rescue from PPE/structure/ropeway, only backup devices suitable for a two person load are to be used. Attention: redundant connection between rescuer and helpless person. The operating mode of shock absorbing lanyards may not be impeded.
- Rescue to the top with pulley systems: reversible reverse lock systems; exception: when first pulling on the rescue load to create a rope loop for installation of the reverse lock system.
- When performing the rescue drill rescue to the top, only the material a rope access technician is carrying on his harness under regular circumstances is allowed to use. Additional gear like double pulleys or pre-rigged hauling systems is not allowed.
- For rescue to the top, the helpless person's safety line must be shortened by means of an auto-locking descent device (EN 12841:2006 Type C), backup device (EN 12841:2006 Type A) or friction hitch using a certified sling (EN 795 or EN 566). Ensure simplicity and visibility of the pulley system.
- Diagonal tram line rescue: active, rescuer approaches from above or below, rescue downwards to the anchor point of the tram line.
- Inline rescue: the rescuer may use the helpless person's main line as safety line and the safety line as his main line.

What requires particular attention?

- Blocking the descent device when interrupting descent,
- Transition from descent device to chest ascender must be done smoothly, insufficient caution will be graded.
- No slack in the safety line when ascending.
- Using a connection between the harness and the handled ascender during ascent with chest ascender. This connection must be detachable in order to be able to detach the handled ascender in emergencies for example.
- Placing an emergency call when beginning rescue drills (simulated).
- Careful handling of the helpless person during rescue drills.
- No lateral load on the closure of the load bearing karabiner from the descent device after taking on the rescue load.
- All connecting karabiners must be locked (karabiner: descent device, connection with the helpless person, safety device).
- During descent with the helpless person, the connection to the backup/safety device must be maintained above the arm.
- Helpless person does react: sitting position
- Helpless person does not react: recovery position (as in the first-aid course)
- Re-belay/interim anchor: always ensure redundancy
- Re-belay/interim anchor : consider lateral load on the karabiner
- Rescue to the top: proper placement of the load-bearing system in the descent device
- Ropeway: the free playing rope of the backup and descent devices must be secured.
- When traveling along ropeways, check for open karabiners. Transition with additional backup (third connection).
- Lead climbing: there may never be any possibility of contact with the ground in the case of a free fall. Extreme free fall distances are to be avoided.

Appendix 2

Minimum requirements for exam sites

– Component of the Examination Guidelines –

In order to ensure undisturbed, smooth operation and conditions suitable for Rope Access for the candidates and the team of assessors from FISAT, examination sites must meet the following minimum requirements.

In the cases of discrepancies in one or more points of these minimum requirements, the assessor is authorized to reject the examination site, as per 4.2.2 of the examination guidelines and after consultation of a FISAT representative.

All costs arising there from are the responsibility of the training company.

General requirements:

- Easy accessibility, eventually with public transportation as well.
- Entrances, pathways, and emergency exits must be free of obstacles and have sufficient lighting.
- In case of emergency, participants must be able to leave any and all parts of the site quickly and safely.

Organizational requirements:

- Examination sites should in general meet the requirements for worksites according to valid guidelines (sanitary facilities, ventilation, lighting).
- A first-aid box must be present at the examination site in accordance with DIN 13157, it must be clearly marked and accessible at all times.
- It must always be possible to place an emergency call in case of emergency.
- At least one contact participating in the training must be available on site at all times for clarification of any points open to discussion.

Technical requirements:

a) Theoretical exam:

- There must be a closed room of sufficient size for the number of candidates taking the exam to complete the written portion of the examination.
- Noise levels must be low enough to permit concentrated work.
- The examination room must have suitable temperature during the written exam.
- Seating must permit enough room between candidates to exclude any attempts at cheating.
- The assessor must have a separate workplace with seat from which he has a view of all candidates.

b) Practical exam:

- All practical trainings and assessments are to be executed according to German work safety regulations (TRBS 2121 Part 3). The presence of a rope access supervisor, FISAT Level 3, as representative of the training company is mandatory.
- The practical exam site must provide protection for the candidates against extreme weather conditions (temperature, humidity, wind).
- The practical exam site must ensure that candidates are not disturbed by undue noise levels or harmful effects from gases, vapors, dust, etc.
- The floor/ground must be free of anything that could cause stumbling.
- Slipping or falling on the way to the installed ropes must be excluded by means of appropriate measures.
- The practical exam site must provide sufficient height for vertical ropes with a minimum length of 5 m and horizontal anchor points at a minimum height of 4.5 m. Appropriate measures must be taken to prevent candidates from hitting the floor/ground when falling in the backup/safety system.
- The practical exam site must provide for proper conduct of all content and techniques for the individual examination levels.
- Static load bearing of anchor points must be in accordance with DIN EN 795 or DIN 4426. Minimum breaking strength of natural anchor points (braces, beams, supports) has to be at least 10 kN. Breaking strength must be calculated or estimated in a comprehensible way and documented in the risk analysis for the respective examination site. Static calculations are preferred.
- When using scaffolding as anchor devices, the training company must provide a comprehensible documentation of its suitability. Individual anchor points must be indicated in the results of the suitability test. When using scaffolding as work scaffolding, it must be in accordance with TRBS 2121 Part 1 or the user's protection against fall must be ensured by other appropriate means.
- For examinations outdoors, the assessor must be guaranteed access to a dry environment at all times to fill in the examination form without having to interrupt the course of the examination to do so.
- In accordance with point 4.2.4 of the examination guidelines, immediate rescue of all participants must be ensured by the hosting training company. This may be provided by the presence of a fully equipped trainer or by technical means, such as a cherry picker, ladders, or rolling scaffolds.
- The examination site must have sufficient natural or artificial light.