



# Remote Assessments – Online

## Frequently Asked Questions



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## Assessment Operating Environment

1. What is the recommended screen resolution for Remote Assessments?

The recommended screen resolution to take Remote Assessments is 1024 x 720

2. Which are the Browsers compatible with Remote Assessments and what should be the zoom % of the screen?

Remote Assessments runs on all popular browsers and versions except Safari. However, Google Chrome is the recommended browser. The Browser must be updated with the latest version available. Browser zoom must be set to 100%. Remote Assessments is not supported in iPhone and/or iPad.

3. Which operating systems are supported for launcher based Remote Assessments?

iLeon App based Launcher is compatible with following Operating Systems

Windows 7 (with latest Service Pack installed)

Windows 10

Ubuntu 14

Ubuntu 16

MAC OS - not supported

4. Are you planning to support Ubuntu 18 and Ubuntu 20?

Planned and in the roadmap.

5. Is it recommended to enable cookies and pop-ups for the assessments?

It is recommended to enable cookies and pop-ups in the browser before taking the Assessment

6. What should be the ideal bandwidth for the candidate system?

Remote Assessment does not have a restriction on bandwidth requirement. It can be used from system with internet bandwidth as low as 500 Kbps. However, for smooth functioning and timely completion of assessment it is recommended to have a minimum of 2 mbps bandwidth..

7. Can this remote proctored exam be taken on Apple – iOS?

No

8. Can the assessment be taken without camera or can the candidate continue the assessment after shutting down the camera?

For video/image based proctoring, availability of a working Webcam is mandatory. The Assessment would not start or will disconnect if Camera is not detected by Launcher.

9. Is PDF reader required?

Only if the Useful Data required is in pdf format.

10. Can we have UBUNTU on Apple laptops, Mac?

If the Apple laptop or MAC device is configured to have a virtual operating system with full control on hardware, it can be done. However such an environment is not recommended for this Assessment type.

11. Can an anti virus running in the background impact the assessment performance or user experience?

Anti-Virus programs running in the background could generate false positive System alerts from time to time and would impact smooth running of Launcher & possibly even stop the ongoing Assessment . It is therefore recommended to temporarily disable/stop all anti virus program to avoid such situation.

12. The Self registration process is not working on both laptop/desktop and mobile devices. How do you fix it?

- a. Access the following [link](#) .
- b. Read instruction on Page displayed
- c. Click on the dropdown
- d. Select the camera
- e. Provide the permission to access your camera.
- f. View your self-video from your camera.
- g. If you are still not able to see yourself after selecting the camera OR camera dropdown is not populating automatically, use any other browser for detecting camera and complete the self-registration or contact Helpdesk

13. Is launcher required to be downloaded everytime exam is taken?

Unless there is a Launcher update, if you have appeared for IRC (Infrastructure Readiness Check) and DRC (Dry Run Check) prior to the actual Exam date, the Launcher needed not be downloaded again.

14. What are the hardware requirements for Administrator of such Exams?

There is no stringent hardware requirement for Proctors or Administrators monitoring the Assessment. A standard configuration laptop/desktop with a minimum 5 mbps internet speed can enable a reasonably good experience.

## Remote Assessments Functionality

1. How does the system handle more than one candidate through video feeds?

The system is designed for horizontal scaling to handle concurrent video feeds originating from multiple candidates appearing for the Assessment. Depending on number of candidates taking the exam, the infrastructure can be scaled dynamically to provide a uniform user experience.

2. Where are the audio/video responses stored after the assessment and for long these can be accessed?

The audio/video/image files created during course of proctored assessment are securely stored in an encrypted format in TCS Data centre. The storage and access of these files complies with the Policies contractd with the Customer.

3. Can a timer restriction be incorporated for a specific Section?

Question Paper hierarchy consists of Individual Items (Questions), in a Section, multiple Sections in a Group and one or more Groups forming the Question Paper. The timing restrictions can be configured to a Group.

4. How does the candidate receive the unique key to start the exam and where does this key get generated?

The Remote Assessments key is generated at the TCS Data center, when the candidate launches the Assessment,. The generated key is valid for a predefined duration and made available to candidate on the launch screen.

5. How can we ensure that the key generated is valid only for one Candidate? Is there a possibility of one Candidate sharing his/her key with another student?

The key is auto-generated by Application and is unique across the Assessment life cycle. It is tagged to a specific Candidate ID at time of generation. The key generated for one Candidate ID therefore cannot be used by another Candidate ID to start the assessment.

6. Can I login into iDL through multiple devices?

With the same iDL login ID one can log in on multiple devices at the same time. However, the Assessment can only be launched in one system at a time.

7. Is Scientific Calculator available during exam?

Scientific Calculator can be configured for an Assessment

8. Is Math Editor/Tool for Mathematical and other Formulae available during exam?

Math Editor/tool can be configured for an Assessment

9. Is Zoom feature available for images in a question?

Images can be attached to a Questions and these can be zoomed in or out.

10. In case of any technical issue, who should the candidate contact? How does the escalation matrix work?

Candidate will be provided an option to raise Trouble Ticket using HelpDesk tab available as part of Assessment Product. This option can be leveraged to raise queries or issues faced before launching the Assessment. The Helpdesk Agent has the mechanism to escalate unresolved Trouble Tickets.

11. In case of Internet interruption at candidate, monitoring is lost. How do we handle this risk? Some candidates might intentionally disconnect their internet to copy during the offline period.
- On disruption of internet connection, Candidate's Remote Assessment Session is stopped and candidate cannot access the Questions (attempted or un-attempted) anymore.
  - Only on re-establishing the internet connection, the Candidate can relaunch the assessment and is thereafter allowed a limited additional 'grace time' to mitigate against time lost due to such incident
  - The number of such interruptions allowed can be pre-configured to abate any missue of the facility provided
12. How does the Product handle special requirements like Drawing (Engineering Drawing) / Graphs etc.?
- With the use of the keyboard, Product has the capability to respond to canvas-type Responses. The candidates can draw their responses on the screen similar to the scratchpad.
  - Such submitted Responses by the candidates can be thereafter be evaluated through iON Markers Hub.
  - Product does not support Engineering drawing / graphs in the candidate console.
13. Is there an option in the candidate console, where candidate can download some pre populated document (say excel with details on accounting related problem) or an option of whitelisting one or two applications which candidate can access during the course of assessment?
- For this Useful Data feature should be used.
14. What is the average data consumption for a candidate participating in Remote Assessments?
- There are various factors influencing data consumption – Assessment content, Response types and assessment duration and the duration for which the system is active.
15. There is a countdown of time marked on top right of the screen. Why is there also a submit button at the end of the assessment? Is it for a candidate to submit if he/she finishes the exam earlier?
- The timer for Assessment is visible on the top right corner of the Candidate's console. The "Submit" button is for the Candidate to submit his/her Exam. This button can configured to be active per parameters applicable to the Assessment
16. There is an option of "Mark for review" for candidates to review his answer later. If one marks this option, what happens if he does not review later?
- The 'marked' answer is saved and based on configuration, it can be considered / not considered for final evaluation.
17. When will the WIRIS tool be available on Candidate Console?
- WIRIS tool is tentatively planned for Q4 FY21. Currently, Math Type editor tool is configured for use.

18. Does the Product have the capability to take test of students through Remote Assessments where candidate can write answer for Subjective Questions (~400- 500 words) in the candidate console (PC/ mobile/tablet) in Bengali or any other regional language and the question paper will also be in Bengali?

If the candidate has the supporting keyboard in their mobile or / laptop/desktop, they can give the assessment in any language without any restrictions. Candidate may face discrepancies in the number of words and overall size as word count may not be accurate. In addition, a confirmation from content creator is required for any specific language as there maybe specific requirement with specific characters in a regional languages.

19. Is there any word limitation available for the descriptive answers or is there any provision for the examiner to fix word limitation?

This is a configurable parameter and word limit can be set per the requirement.

20. How does the Product evaluate descriptive, diagrammatic and subjective questions in an intelligent and automated way?

Post submission of the Response by Candidate, Questions that require descriptive / Diagrams as Response are uploaded to iON Markers Hub. Assigned Markers can subsequently log in to this Hub from any location with Internet access , with their assigned User ID and Password, and securely evaluate these Responses.

21. Can the remote exam mode permit usage of software like Excel, R, Python etc. which the student needs to access to compute the answers? If yes, how will the exam software allow this switching of screen between exam page and software tool?

Product in-built tools like Notepad, Scratchpad, Ruler, Protractor, Scientific Calculator required for computation, are available for use of Candidates. Tools not already configured within the Application, are not allowed access. This is to mitigate any security risk to the sanctity of the Assessment.

22. Can we use the stylus pen to write the answers? To avoid keyboard, is possible to use pen and paper or integrate digital writing pad?

a. On-date, Stylus pen / digital writing pad are not allowed as Remote Proctored Assessment cannot be taken on Tablets.

b. Students can, however, type their answers to subjective questions on the screen or they can write them on paper and subsequently upload the scanned images using the provision made through Product configuration.

23. Examinations results are confidential so how will security be provided? Also, can the system notify that more than one student is taking exam from the same location?



- a. Product feature allows configuration of display of the candidates achieved Scores on his/her screen immediately after completion of his/her Assessment. This is configurable as per requirement of the Assessment.
- b. Alternately, post the Assessment, Answer keys can be uploaded by the Exam-conducting Body, and system generated Scores and other Reports for all Candidates can be processed and uploaded to a secured Web Cabinet.
- c. The Proctors, aided by AI/ML features can detect more than one person in front of the same candidate Console.

## Assessment environment Security

1. Are screenshots allowed or screen recording allowed while the student is taking assessment?

Taking screenshots while attempting the exam is prohibited. Candidate identified taking screenshot can be disqualified from the Assessment.

2. Can screenshots of question paper be taken on a mobile phone?

Taking screenshots while attempting the exam is prohibited. Candidate identified to be taking screenshots can be disqualified from the exam.

3. How do we safeguard from frauds/malpractices?

There are various safeguards built into the iLeon Launcher that guard the system from external access, use of unfair means to commit a fraud. The machine learning based proctoring continuously monitors candidates image/video feed to identify anomalies and raise alert. All action that candidate take while attempting the test are recorded in candidate audit log and are available for subsequent analysis and action.

4. How do we safeguard from malpractices outside the scope of camera?

To avoid such possibilities

- i. the Proctors are expected to diligently monitor the on-screen Alerts and video/image available during the Assessment from candidates' session.
- ii. Proctors can leverage the AI/ML Alerts processed by system, interrupt information etc. and make a judgement call on suspicion of malpractice.
- iii. The Product is equipped with feature of Proctor sending pre-defined messages to candidate console to allow proctors to warn Candidates of observed non-compliance to Assessment honor code. Dialogue box with such messages move away from Candidate screen only after the candidate acknowledges the same with a click on "Ok" button. All such messages are simultaneously captured and can be retrieved from the Audit Log.

5. Can someone else take the assessment on behalf of the Candidate? How can this be prevented?

Before starting the Assessment, candidate must mandatorily complete self-registration. Throughout the course of assessment machine learning based AI system monitors also monitors for impersonation. The Proctor has access to candidate's photo provided at time of Self-registration and uses it to cross check the authenticity of candidate. There is an additional feature to upload application image and the same is displayed on the Proctor's console. Proctor can manually compare this image with image captured during Self-registration.

6. What prevents candidates to 'open book' or 'take help' from others during exam?

In a RA, Candidates near real-time video feed is available to Proctors. Any such a behaviour observed, coupled with. Machine Learning based AI algorithms that continuously monitor candidate's video to raise alert, can be used as data points to escalate to the Exam-conducting Body for a decision on the Candidate's continuing eligibility for the Assessment

7. How do we ensure all candidates use the launcher? Is there any parameter on admin dashboard?

Taking Assessment through android devices has been added capability to provide equal opportunities to all candidates. The backend system provides indicators and a Report to Proctor, highlighting the Mode through which candidate is taking the assessment. This can be used to take a decision on candidates found violating published Examination guidelines.

8. Can a third party take Remote Control of Candidate's console through a RC Application like Team Viewer?

iLEON launcher is not vulnerable to any backdoor trojans.

9. Can candidates draw / create images as responses?

Please refer response to Question No. 12

10. Is Remote Assessments GDPR Compliant?

Yes

11. ID Verification today includes Email / OTP Authentication. Any plan to include Facial Recognition?

Facial recognition is part of Product enhancement roadmap.

12. Any feature to Record, Upload and Review of Assessment with candidate's suspicious activities flagged?

Candidate suspicious activities can be auto-flagged in case machine proctoring is being used and Proctor has capability to mark such identified activities

13. How candidate is monitored during writing and scanning?

Candidates can be specifically instructed to have the camera cover the area they are using to physically write on a sheet of Paper. Additionally, they may also be instructed to hold up the physical Answer Sheets in front of the camera before they start writing and after they have completed writing their answers on the physical sheets. For future reference, these actions and pages of Answer Sheets can be captured and recorded by the web camera

14. Can Remote Assessments be integrated with any third party Product (e.g. Prutor – <https://ict.iitk.ac.in//prutor-a-coding-platform/>) or with MS Teams?

The same is in the roadmap. On date, no personalized Application has been integrated to mitigate any form of Trojan attack and / or malpractice.

15. How can the institute / proctor distinguish between a candidate who has a genuine issues (outage) and a candidate with intent of malpractice?

The assigned Proctor need to review available data like video/image available from candidates session, alerts raised by system, interrupt information etc and decide accordingly.

16. Does the surveillance capture Sounds / Audio? Example - Candidate talking / Somebody dictating the answer?

- Currently only video recording capability is being provided under remote proctoring service.
- Audio is captured only if the proctored assessment is taken from mobile devices.
- Capturing the audio in iLEON launcher from laptop/desktop and audio analysis are part of Product roadmap

17. Is it possible to have the Remote Assessments launcher and required s/w to be on an USB- which the candidate plugs into his system?

The launcher can be downloaded on the USB and copied to the candidate machine.

18. Is there an option to not allow the candidates to login after certain time (say 30 minutes) post start of the exam?

The feature of restricting Remote Assessments URL time can be leveraged as the assessment duration time. If any candidate logs in late he/she will only get the remainder of the official time allotted.

19. Is there any option to alert the candidate in case of malpractice and warning him during the course of the exam?

There is a pre-configured Option to send pre-defined messages to candidate console by the Proctor. This allows Proctor to send Warning messages to the erring Candidate. The Candidate needs to acknowledge each of these message by clicking "Ok" on the dialogue box before he/she can continue with the Assessment. All these actions are also captured in Candidate's audit logs.

20. As the iLEON launcher locks the candidate system during the exam, can the candidate browse, upload a pre recorded video / audio / other files?

Pre-recorded audio/video/scanned file can only be uploaded using browse button in candidate console, if the same is configured for the Assessment. Access to Windows explorer is blocked when iLEON launcher is active.

21. Can the photograph captured at application stage be also used for comparison as part of AI/ML framework?

AI/ML comparison is done using the 5 photos captured at the time of self-registration. The photograph uploaded by the Candidate during Application can be configured on the Proctor's Console for a manual comparison.

22. Is the Candidate screen also captured as part of proctoring?

No

23. Can system capture eye movement and audio at candidate?

Candidate eye movement needs to be physically monitored by the Proctor. Audio from mobile devices get captured as part of video recording. However, this is not used for any analysis or decision making.

24. How do we validate candidate ID?

In case the Proctor has a doubt over candidate's identity, Proctor can ask candidate to display his/her ID card in front of the web camera for a pre-defined duration. The photograph taken can be

25. Are you validating the candidate vs image uploaded at time of assessment?

Product has a capability to take pictures of the Candidate before start of the exam during the process of Self-registration and these are compared during the Exam. In addition, the Candidate photograph uploaded during the Application can be displayed on the Proctor's Console.

26. Does the Product provide automated reports of face mismatch, multiple face or no face found?

The machine learning based proctoring triggers an alert when 'no face', 'low face' or 'multiple face' are detected. The Proctor can leverage these Alerts. These alerts are recorded and can also be made available in form of report on demand.

27. Is there any report that can be generated to identify if the screen is mirrored?

In the next Remote Assessments Release, such Incident and Launcher log report are being made available..

28. Are we supporting Live Chat feature or any similar functionality for candidate communication before or post assessment?

HelpDesk feature is available and candidates to raise any query with regards to the issues faced by them in starting the Exam. Live exchange of written communication is currently not configured to avoid any possible unfair means adopted in collaboration with a Proctor.

## Proctoring Functionality

1. Do we have the ability to create separate login for each proctor in the admin console and assigning certain range of candidates to the proctor?  
Both features are supported by the Product .
2. How many maximum concurrent users can take the remote proctored assessments?  
Remote Assessments is served through a Cloud Data Centre. Depending on number of Candidates, additional computing capacity can be added to provide required horizontal scalability.
3. What are the different methods of remote proctoring?
  - a. Remote proctoring can be provided in two different modes
  - b. Machine proctoring mode: Machine learning based AI models to analyse near real-time images/ video recording of candidate and trigger Alerts based on predefined rules
  - c. Machine Proctoring-cum-Human proctoring mode: In this mode, human proctors visually inspect the near real-time image/video feed and take decision accordingly. This is often combined with machine proctoring to make the outcome more effective
4. What is the minimum and maximum time for capturing image / video?
  - a. Both the duration and the frequency of image/video capture are configurable parameters and must be defined at the time of configuring the Assessment..
  - b. Minimum length of Video captured – 2 Seconds, maximum duration – 60 Seconds
  - c. Minimum frequency between captured image or video – 60 Seconds
  - d. Recommended for optimum results of capture, upload and analysis – 5 sec videos every 60 secs
5. Do we have any internal process set up to assist customer with monitoring Remote Assessments since there is approx. 1:15 invigilator ratio? Have we done a POC to check how Proctor's view of the candidates images / videos are?  
All processes are tried and tested with POC and actual Assessments conducted.
6. Can proctoring data be accessed post exam?  
The videos and logs are available post the Exam. Access can be provided to the recorded video
7. What are the go-live timelines for our Remote Human Proctoring, Machine Proctoring & Self Registration features?  
Remote Proctoring, Machine Proctoring and Self-Registration are features already available to all Customers of TCS iON.
8. If candidate is unable to complete exam due to internet issues, is this reflected in any report to sort out genuine cases?  
Time spent on the Assessment and all activities done on the Console can be determined from analysis of the Audit Log report.

9. For face mismatch/ no face detected / multiple faces detected, is there any report generated so that customer can analyse this report?

System Reports can support such AI/ML analysis.

10. Can the system automatically allot the proctor depending on the number of candidates for an assessment basis the ratio agreed on (e.g 1:15)?

Candidate to Proctor auto-mapping is part of Product roadmap. Currently the configuration maps them manually to provide flexibility on accommodating any change in Candidate list.

11. If candidate assessment stops working due to connectivity loss / issue, will the exam resume automatically or will this require proctor intervention?

In case of an internet connectivity loss, the candidate session is interrupted and access to Launcher terminated. Candidate must mandatorily reconnect System to internet and relaunch the Assessment. Reasonable time loss, if any, for the Candidate is covered by a pre-configured 'grace time'.. Proctor intervention is not required.

12. How many Candidates can be monitored by 1 Proctor?

The recommended ratio is 1:15

13. Does the proctor need to monitor the feed from different candidates or will the system raises using AI which needs to be reviewed by proctor?

System alerts are triggered and Candidates videos flagged based on AI/ML algorithm output. While the Proctor have the option to only monitor Candidate videos with such flags, it is strongly advised to Proctors to also physically select and monitor all Candidates assigned to his/her queue..

14. What AI/ML algorithms are being used? Are these inbuilt technologies or based on some industry standards?

This information is confidential and proprietary to TCSand cannot be shared.

15. Does the Product support image and video proctoring for an assessment taken from a mobile device?

Both video and image with & without comparison are supported on mobile. Mobile devices are currently not configured with a Launcher control and hence desktop / laptop use is strongly recommended.

16. Can both the front and back camera of mobile devices can be functional for video recording?

Only the front camera is enabled.

17. What steps to be taken if the browser is not able to access or detect camera during the process of self-registration?

Detailed process steps are provided in the Candidate Exam Instruction Manual. However, in short –

- a. In browser settings, under search settings type “Camera”
- b. Click on site settings then click on camera.
- c. Under “Allow” click on <https://digialm.com>
- d. Under “Usage” click on “Clear Data” and Under “Permissions” click on Reset Permissions
- e. Go to Self Registration and Candidate Consent Page, reload it and click on “Allow to use your camera”

18. Is image capturing mandatory to register?

This is a mandatory steps to initiate the security protocol for Assessment. Candidate must complete the Self-registration process to enable and commence the Remote Assessments to prevent impersonation attempts during the Assessment and support AI/ML analysis

19. Is the image registration required for every time or one time? If one time, what happens if in case the candidate changes his facial features like shaving or growing beard or tonsure of head etc.-?

Candidate must complete the Self-registration process with his live photograph (5 photographs are taken by the Application using the Candidate’s webcam) just before he/she commences the Assessment. This enables capture of his/her current facial features at the time of taking the Assessment.