

A Handbook for Online Proctored Examinations

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Preface

As with all Universities around the world, the University of Peradeniya was faced with the necessity of conducting all academic activities in the online mode. At the Faculty of Engineering, various solutions were introduced in order to carry out teaching-learning activities with minimal disturbances. One of the biggest and most complex challenges was conducting examinations for large groups of candidates. Taking up this challenge, the Department of Computer Engineering planned and conducted the first ever set of comprehensive online examinations at the University of Peradeniya.

The first set of online examinations were conducted for five Technical Elective courses and three General Elective (complementary studies) courses, over a period of two weeks. The evaluations of the final year projects, which were also done online, were not considered part of this examination schedule following the usual practice at the Faculty. A total of 72 candidates, who were final year students, participated in the scheduled examinations. Each individual examination was taken by up to 60 candidates. At the conclusion of the examinations, a total of 381 examination attempts were recorded with a successful completion rate of 98%. Only eight attempts out of those were deemed incomplete, and all such cases were due to reasons beyond the control of the candidates.

This first set of online examinations were conducted using two major modes: online proctored; and non-proctored. In the non-proctored mode, the examination questions were released to the candidates in a manner similar to an assignment and an ample window of time was given for the candidates to submit their answers online. Examination questions were designed in such a way that there were no restrictions on authorized materials. All candidates were required to face an online viva-voce evaluation based on the content covered in the examination and their answer scripts.

In the online proctored mode, the requirement was to ensure that the candidates produce their own answers in a thoroughly monitored examination environment which resembled the regular in-person examinations as closely as possible. This mode was designed to support both closed-book and open-book examinations. Closed-book examinations restricted the candidates to use only the material provided in the examination paper. In contrast, open-book examinations allowed the use of printed materials to varying degrees. In either case, regular tools such as authorized calculators were allowed to be used. The candidates were generally

required to write their answers on the computer itself using keyboard and mouse input tools. However, some examinations requested the answers to be written on paper using a pen, in which case the answer scripts were scanned and uploaded at the end of the examination.

Before implementing the introduced procedure for online examinations, it is important and recommended to provide the knowledge required and sufficient training to the relevant authorities and staff members in the institution. Depending on the technology familiarity of the staff members, this preparation may take approximately one to three months. Further, the exam candidates must be provided with sufficient prior experience with the procedures and tools involved in the exam process through practice examinations to help them smoothly adapt to the new system. Also, it is important to identify their issues related to technical resource requirements and the procedure.

A comprehensive set of protocols for a typical University setup were developed during the planning of this first set of online proctored examinations. Based on these protocols, the feedback received from various parties involved, and the experience gained throughout the entire process, this handbook for online proctored examinations was prepared. The handbook is aimed to support the future instances of online examinations which will be conducted at the Faculty of Engineering at the University of Peradeniya and also other similar institutions as well.

Acknowledgement

We would like to express our sincere gratitude to
all those who contributed by any means to the content of this handbook...

Disclaimer

The authors are providing this book and its contents on an “as is” basis and make no representations or warranties of any kind with respect to this book or its contents. The authors disclaim all such representations and warranties, including but not limited to warranties of healthcare for a particular purpose. In addition, the authors assume no responsibility for errors, inaccuracies, omissions, or any other inconsistencies herein.

The authors make no guarantees concerning the level of success you may experience by following the guidelines and strategies contained in this handbook, and you accept the risk that results will differ for each individual. The guidelines and procedure provided in this handbook show exceptional results, which may not apply to the average reader, and are not intended to represent or guarantee that you will achieve the same or similar results. All procedures and guidelines are dependent on the adequate prior training given to all responsible authorities, staff members and candidates. It is recommended to provide enough training workshops for the staff authorities and practice exams for the candidates before taking the actual online examination .

Abbreviations

| | |
|----------------------------|--|
| LMS | Learning Management System |
| OAS | Online Assessment System |
| SEB | Safe Exam Browser |
| VER | Virtual Examination Room |
| EMS | Examination Master Sheet |
| ES | Examination Schedule |
| AR | Assistant Registrar |
| TS | Technical Support |
| T_i | The exam start time for the i th course |
| T_o | $\min(\{T_i\})$ |
| T_i - 7d | <i>7 days before the exam start time</i> |
| T_i + 2h | <i>2 hours after the exam start time</i> |
| T_i - 30m | <i>30 minutes before the exam start time</i> |

Introduction

This handbook provides a comprehensive guide for conducting online proctored examinations at educational institutes such as Universities and Schools, using conveniently accessible tools as opposed to using paid proctoring services. The guide describes the overall procedure of planning and conducting an examination and provides step by step instructions for all parties involved.

Requirements

All software tools used in this guide are freely accessible, except for Zoom. All tools are either open-source or replaceable with an alternative. A complete list of tools used in the guide is given below:

- Zoom video conferencing software
- Moodle Learning Management System software
- Safe Exam Browser software
- Google Workspace Drive file storage and sharing facility
- Google Workspace Sheets collaborative spreadsheet software



ONLINE ASSESSMENT
SYSTEM (OAS)



SAFE EXAM
BROWSER (SEB)



ZOOM CLOUD
MEETINGS



GOOGLE WORKSPACE
DRIVE & SHEETS

Online Examination Environment

The examination environment for online proctored exams consists of three major components:

- Part 1. Virtual Examination Room (VER) on Zoom
- Part 2. Online Assessment System (OAS) based on Moodle LMS
- Part 3. Safe Exam Browser (SEB)

The platform hosting the exam papers is the OAS with Safe Exam Browser integration. The Moodle quiz tool is used for setting up the exam questions. OAS and SEB together account for half of the proctoring done via the online mode. The candidates are required to join a virtual examination room on Zoom with invigilators and stay connected throughout the exam duration, which accounts for the remaining half of the proctoring required.

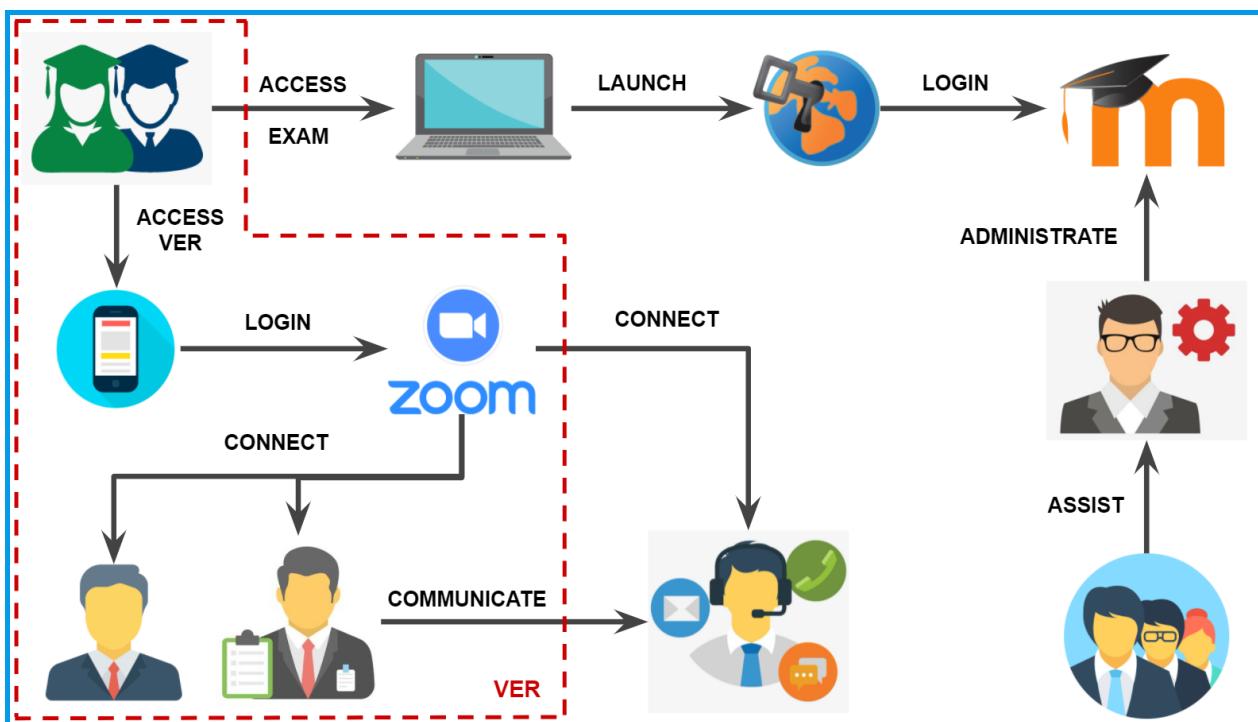


Figure 1: Overview of the Online Examination Environment

Part 1: Virtual Examination Room (VER)

VER corresponds to an online version of a regular examination hall. Hence, the candidate's experience is similar to that of a regular examination except for the fact that it is all happening over the Internet. There are three major parties involved in this VER. They are as follows:

- Candidates
- Chief Invigilator
- Second Invigilator

One VER may contain up to 22 candidates, a chief invigilator and a second invigilator. However, the recommended number of candidates per VER is 12 to ensure thorough visibility. There may be more than one VERs operating in parallel for the same examination. The chief invigilator is in charge of the VER and is responsible for setting up and starting the Zoom meeting for the VER. A VER should be hosted by an institutional Zoom account that does not incorporate a meeting link timeout. VERs are opened at least 30 minutes before the exam start time. Once the zoom meeting starts, the second invigilator and the candidates join it over the internet. Candidates join using smart mobile phones and are required to have their cameras turned on such that their faces, hands and workspace is visible to the invigilators. It is important that the candidates' computer screens are not visible through the camera. Additionally, the candidates must keep their microphones and speakers turned on while in the VER. The candidates and invigilators are expected to communicate with each other verbally.

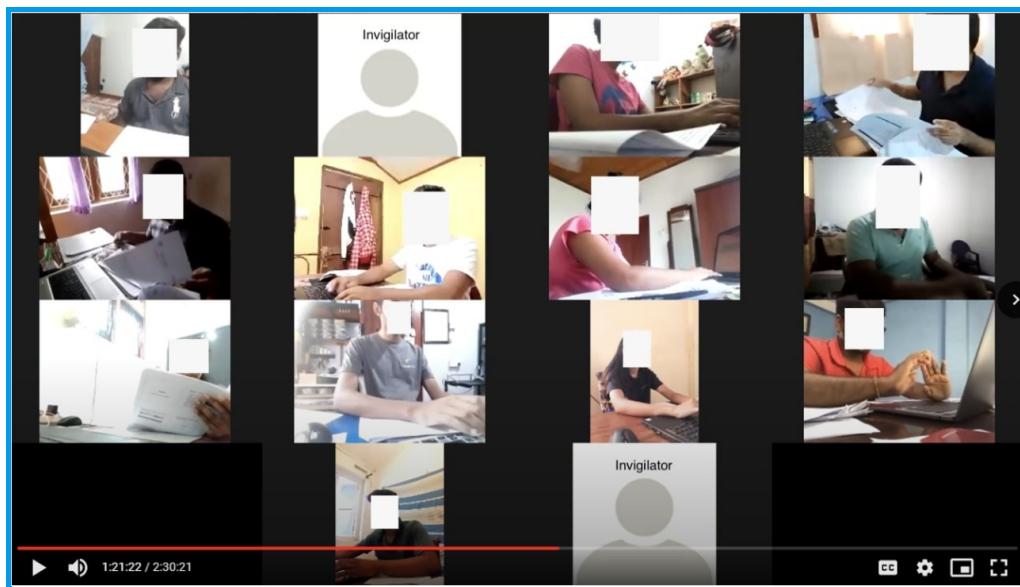


Figure 2: Invigilators' view of a VER.

The invigilators use Zoom Gallery View to observe all candidates at the same time. Figure 2 shows a typical view as seen by an invigilator. The video stream is recorded by both invigilators for later analysis. Upon the request of the invigilators, each candidate should show their surroundings by turning the camera around. This helps invigilators ensure that the candidate does not have access to unauthorized materials, devices or persons within reach. The invigilators provide verbal instructions to the candidates to get the camera views set up properly and ensure that the verbal communication between invigilators and candidates is unobstructed. The chief invigilator reads out exam instructions to all candidates in the VER. Once all parties are ready, the exam can be started by the chief invigilator by informing the candidates to begin their attempts, similar to a regular examination.

The invigilators are required to maintain timestamped notes about any incidents that may happen in the VER, including technical issues faced by candidates as well as invigilators. In the event of a candidate facing technical issues, the invigilators may direct the candidate to the Technical Support channels (See [Technical Support \(TS\) Team](#)). When an issue takes a significant amount of time to resolve, the chief invigilator may grant the candidate extra time for the exam as appropriate in consultation with an OAS administrator.

The candidates are required to stay connected with the VER for the entire exam duration, and any interrupts to connectivity should be reported to the invigilators as early as possible. If a candidate is not able to connect to the VER, or if they face a technical issue that they cannot solve by themselves, they can seek help from the provided Technical Support channels (See [Technical Support \(TS\) Team](#)). It is important that the candidates keep their video and audio turned on while obtaining technical support, in order to maintain the continuity of proctoring.

At the end of the exam, the invigilators may consult an OAS administrator to verify that the answer scripts of all candidates are received. On the instances where answers are typed inside the Moodle quiz itself, all answers are automatically recorded by the system. If the candidates were required to write answers on paper, an additional time is taken at the end to scan and upload the answer scripts. The candidates must remain within the proctored VER until this process is completed, and they are not allowed to write anything during this process. It is important that all candidates in the VER simultaneously follow the chief invigilator's step by step instructions to scan their answer scripts and upload them using a separate smart mobile phone. If a candidate does not have access to a second smart mobile phone for this purpose, they may inform the invigilators and join the VER using their computer, thereby freeing their

only smart mobile phone to be used for scanning and uploading. Once this is completed, the chief invigilator allows the candidates to leave the VER and the Zoom meeting is closed.

When there are multiple VERs for the same exam, it may be convenient for the invigilators, OAS administrators and technical support staff to be located within talking and/or visible distance for communication purposes. However, it is also possible to conduct an examination with all parties joining over the internet, using a suitable communication channel for coordination.

Zoom records extensive logs of data about user activity, which can be extracted at the end of an exam for analysis purposes. This data can be used to identify how long a candidate may have been outside the proctoring system due to various reasons.

Part 2: Online Assessment System (OAS)

OAS is the central online platform used to deliver/receive the examination content to/from the candidates. It is a web-based software, which is set up using Moodle LMS. The main purpose of the OAS is to support the hosting of question papers, facilitate the proctored delivery of the same to the candidates during the exam time and collect the answer scripts. In addition to this, the OAS is used as the main platform connecting the candidates with the institution for all exam related matters including the following:

- distribution of instructions, guidelines and notices
- distribution of admission cards
- distribution of schedules
- provision of web links to the VERs on exam days

The OAS contains separate course pages, one for each course with a scheduled examination. These course pages are only accessible by evaluation panels and candidates, other than OAS administrators. A course page contains: an information rubric about the examination; a link to the question paper; an optional submission link (only if required); and links to the VERs, as shown in Figure 3.

Mid Semester Exam - March 2021

University of Peradeniya
Faculty of Engineering

Mid Semester Examination - March 2021

CO524 - Parallel Computers and Algorithms

Time: 1 hour

Mid Semester Examination contains **25 MCQ** Questions.

This is an **open-book** examination, you may refer to any printed or handwritten materials.

The exam starts at **9.00 a.m.** on Wednesday 17-March-2021.

Video **camera and microphone** must be turned on inside Zoom for the entire duration of the exam

At the end of the Mid Semester exam:

1. Remain in your Exam Room on Zoom, and remain seated.
2. Finish the exam quiz and terminate the Safe Exam Browser.
3. Go to the *End of Semester Exam* quiz, download the quiz configuration file and open it.
4. **Wait** until your supervisor tells you to start.



Mid Semester Exam - March 2021

- Exam Rooms (click on the room name to access):
 1. Exam Room A
 2. Exam Room B

Figure 3: A course-page set up for an examination.

Course-pages are visible to the candidates prior to the start of the examination. A candidate can find their assigned VER number on their own admission card, and join it using the relevant link provided on the course-page. They can also read the information rubric prior to attempting the examination, and request any clarification from the invigilators if needed. The question paper is accessible by candidates only once the exam begins.

The evaluation panel of a course has full access to the course-page. The course coordinator is responsible for setting up the course-page with relevant information including the question paper. The paper is added to the course-page as a Moodle quiz activity. It is important to configure the quiz activity such that:

- it is visible to the candidates only during the specified the exam time;
- candidates can make only one attempt at the exam;
- correct answers and feedback are not shown to the candidates at any point in time; and
- it is only accessible through the Safe Exam Browser¹.

¹https://docs.moodle.org/311/en/Safe_Exam_Browser

Moodle quiz activity supports a range of different question types including MCQ, True–False, Matching, Numeric Answer, Short Answer and Essay. Most of these question types provide the facility to automate the evaluation of answers which are typed or selected within the quiz activity itself. All such answers are continually recorded in the system even while the candidates are attempting the exam. If the candidates are required to write answers on paper, the course coordinator should make sure to provide a separate submission link in the course-page using the Moodle Assignment activity.

In the event where a candidate gets disconnected from the OAS due to a technical issue, they are allowed to log back into the system and resume the attempt. Any answers that were typed or selected inside the quiz activity will be safely available when the attempt is resumed.

Moodle records extensive logs of data about user activity during examinations. Such data logs can be extracted at the end of an exam for analysis purposes. This data can be used to identify misconducts that may have happened during the exam, as well as identify how long a candidate may have been outside the proctoring system during the exam time due to various reasons. Moodle also provides facilities such as preventing the same user account being accessed by different devices at the same time.

It is recommended to set up the OAS as an entity separate to the regular LMS that an institute may be having. This will help with ensuring uninterrupted access to the OAS during exam times, making the extraction and analysis of data logs less cumbersome and enable specific restrictions such as disabling the built-in chat features of Moodle.

Part 3: Safe Exam Browser (SEB)

SEB is a web browser software that facilitates online proctoring for assessments. This browser software transforms any compatible computer to a secure workstation while controlling the access to resources such as system functions, other software, other websites and unauthorized resources during the examination. Computers with Microsoft Windows or Apple macOS operating systems are fully compatible with SEB.

Moodle quiz activity provides a convenient way to configure a quiz such that the quiz may only be attempted through SEB. Once a question paper on OAS is set up with proper configuration settings, candidates can access it only through SEB. Figure 4 shows how a candidate views the question paper from within SEB.

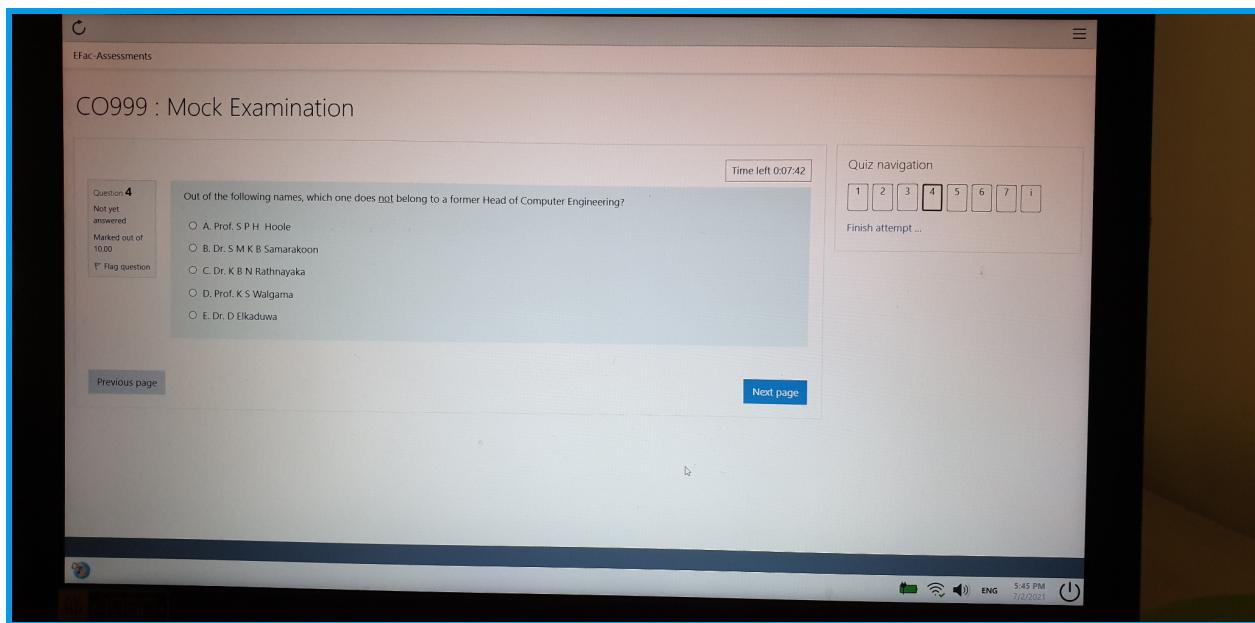


Figure 4: A candidates' view of the question paper through SEB.

When SEB is launched by the candidate on their computer, it prevents the candidate from accessing anything else on that computer including keyboard shortcuts, other than the question paper in the OAS. SEB will not open from inside a virtual machine. The candidates are able to navigate inside the question paper, type/select answers, reload the page and change the wireless network connection if needed.

Terminating SEB without approval from an invigilator is strictly prohibited, and in the event of an unexpected technical issue the candidates are required to inform the invigilators and/or technical support staff as soon as possible.

SEB is known to work with any web based LMS and other web based exam systems. Other than Moodle, an SEB compatible quiz mode is offered in some LMSs such as ILIAS, OpenOLAT and some exam solutions such as Inspera Assessment according to their documentation.

Primary Roles

The key roles participating in the examination process are as follows:

- Exam Candidates
- Invigilators (Chief Invigilator and Second Invigilator)
- Course Coordinators
- University Administration
- OAS Administrator
- OAS Managers
- Technical Support (TS) Team



Figure 5: Primary roles participating in the examination process

The guidelines for the responsibilities and the actions to be performed by each above role is provided in detail in this guide (See [Appendix E](#)).

Candidates

Initially, an admission card and a set of guidelines will be issued to the candidates for the online examination. The admission contains relevant details for the list of exams such as the schedule and assigned VERs. The candidates should make sure to check their admission card

thoroughly for any discrepancies and inform the university administration as soon as possible. The guidelines for candidates (See [Appendix E: Guide 4 - Candidates](#)) contain information about the requirements, how to prepare for the examination, and the procedure the candidates should follow along with a timeline.

Before the exam, candidates should make sure they satisfy all requirements to take the examination in the online exam environment as stipulated by the aforementioned guideline. Firstly, they should have access to a computer, preferably a laptop computer with a working battery, or a PC with backup power (e.g.: with a UPS) with either Windows or MacOS installed. Candidates may keep back up computers ready, if available, to be used incase of power or technical interruptions. Secondly, they should make sure that the relevant SEB software version for their Operating System (refer [Guide 4](#)) is installed on their computer and they have access to the OAS.

Thirdly, they need to have access to two smart mobile phones: one with Zoom software installed to connect to the VER, and a Zoom account created using an institution-issued email address; one with a document scanner software installed, to be used for scanning and uploading answer scripts. If a candidate does not have access to a second smart mobile phone, they may use the same smart mobile phone for Zoom as well as document scanning. In this special situation: the candidates must have Zoom software installed on their computer along with a microphone and a detachable web camera; inform the invigilators during the start of the answer script scanning procedure and join the VER using their computer thereby freeing their only smart mobile phone to be used for scanning and uploading. However, note that using two separate smart mobile phones is the recommended option in order to minimize potential issues.

In addition, the candidates are advised to have a sufficient internet data capacity for the computer (minimum 100 MB/hour), mobile data package (minimum 200MB/hour) and fully charged battery power on both computer and mobile with back up power supply if available (e.g.: UPS, power banks or other available energy sources) ready for the examination. Lastly, the candidates should have access to the technical support chat group with the link provided in the OAS. More specific details on basic identification requirements and writing material are provided in [Guide 4](#). Once the candidates have all the technical requirements ready, they are advised to take at least one mock examination before taking the actual exam. This step is extremely important for the candidates to get familiarized with the online exam environment

and they are encouraged to inform any issues to the technical support staff and obtain assistance required to resolve them.

On the exam day, candidates should join the assigned VER using their smart mobile phones well before the start of the exam. A timeframe no less than 30 minutes should be specified for this by the institution. A candidate's assigned VERs is specified in their admission card, and the web link to the VER is found in the relevant course-page on the OAS. Candidates must keep their microphones and cameras switched-on on their mobile phones. After joining the VER, candidates will get to know the chief invigilator and invigilators assigned to their VER, similar to the environment of a regular examination hall. The invigilators will verbally communicate with the candidates prior to the exam and request candidates to show their surroundings using the camera and to place the camera at an appropriate angle. It is essential that the candidates communicate with invigilators to verify the proper functionality of audio and video feed. Most importantly, invigilators are the first point of contact for candidates after entering the VER and any queries or reporting should be done directly to the invigilators. The candidate's identity will be verified by the chief invigilator during the exam.

Once inside the VER, candidates should then access the OAS using their computer. On the relevant course page of the exam, exam-specific instructions will be displayed. The same instructions will be delivered orally by the chief invigilator as in a regular exam hall. The web link to the exam paper is provided as a Moodle Quiz activity on the course page. Opening the quiz will reveal a button labelled "Download Configuration". Using this button, the candidate should download the SEB configuration file and launch the SEB by double clicking on the downloaded file. The candidate will be navigated to the OAS again automatically through the SEB. Now the candidates should login to their accounts using their standard Moodle LMS credentials. More instructions on launching the quiz are provided in detail in [Guide 4](#). Finally, if the candidate has followed all steps correctly, an "Attempt Quiz Now" button will be visible 3 minutes prior to the exam start time. The candidates should report to the invigilators if this button is not visible in any case. The quiz timer will start once the candidate presses the "Attempt Quiz" button. Note that the candidates should only attempt the quiz upon the chief invigilator's command. Once the attempt has been started, candidates will see a timer on their screen which shows the remaining time. Some exams may instruct candidates to type answers inside the quiz activity, while other exams may instruct them to write answers on paper. The answers typed inside the quiz are automatically recorded once every minute. While inside the SEB, reloading the current page and changing the wireless network connection are allowed. Candidates will not be able to access any other resource on their computers. Terminating the

SEB without invigilator's permission may cause the attempt to be disqualified during post-exam data analysis.

In case of any interruptions due to technical issues during the exam, the candidates are allowed to resume the examination while informing the invigilators. Candidates should make sure to clearly report to the invigilators any issues they encounter verbally. Incase of a prolonged issue, the candidate will be referred to the Technical Support (TS) Team by the invigilators and the candidate must immediately join the Technical Support (TS) Zoom room with the chief invigilators approval. If candidates are unable to contact the invigilators, they should directly report to the TS team immediately, using the TS Zoom link available on OAS during the exam or using the TS Chat group. Only in such an emergency situation, candidates are allowed to touch their mobile phone(s) during the exam time without invigilator approval.

At the end of the exam, candidates can submit the quiz to complete the exam. If the candidate has not submitted the quiz, it will be automatically submitted once the exam time is over. For exams where the answers need to be written on paper, an additional time will be given to scan and upload the answer scripts. During this additional time, candidates must not write anything on the answer scripts. Candidates must use a separate smart mobile phone to scan their answer scripts and upload, not the same mobile phone they use to access the VER. If a candidate does not have access to a second smart mobile phone for this purpose, they may inform the invigilators and join the VER using their computer, thereby freeing their only smart mobile phone to be used for scanning and uploading. Special instructions to be followed during this time for written mode exams are available in [Guide 4](#) in detail. The candidates should remain in the VER until the chief invigilator informs them to leave. Any issue reporting or clarifications should be done during this time before leaving the VER. Once all standard procedures are completed, candidates will be allowed to leave the VER.

Invigilators

There is a chief invigilator and a second invigilator assigned for each VER for a maximum number of 12 candidates. The Exam Schedule (ES) and Examination Master Sheet (EMS) will be provided by the University Administration to the invigilators well before the first examination start date. Details about the exam such as the start time, duration, authorized materials, VERs, lists of eligible candidates, assigned invigilators and other specific instructions are available on the EMS (See [Appendix B](#)).

Both invigilators should thoroughly monitor the VER for any unauthorized activity by the candidates during the entire exam duration and make notes of such observations on the EMS.

If interruptions occur due to technical issues during the exam for any candidate, the invigilators should make notes about such incidents along with the relevant timestamps. Both invigilators must record the video grid of the VER from the start. Once the exam is over, each invigilator should upload their video recordings to shared storage for record keeping.

Chief Invigilator

The chief invigilator is the person in charge of a VER and is responsible for creating the Institutional Zoom meeting for the VER while assigning the second invigilator as the alternative host. The chief invigilator should make sure to have the latest update version of Zoom client (See [Guide 3 - Exam Invigilators and Chief Invigilators](#)) when creating the VER meeting, ensure the correct configurations are applied as indicated in [Guide 3](#), and add the meeting link to the EMS as early as possible. The course coordinator can then retrieve this link and include it in the OAS course-page for the exam.

On the exam day, the chief invigilator should start the VER Zoom meeting at the time specified by the institution. This meeting start time should be no less than 30 minutes before the exam start time. The chief invigilator will be the host of the VER meeting. Once the meeting is started, Zoom “Gallery-View” should be selected which enables viewing all participants joined with video to be visible on the same screen. Chief invigilator should provide recording permissions to the second invigilator assigned to the room and should ensure that video recording is started by both invigilators. Before the exam start time, the chief invigilator needs to perform a procedural check with each candidate before starting the examination to make sure that they are audible to the candidates and vice versa. Then, each candidate should be informed to show their surroundings by turning the camera and to set up the view such that their workspaces are clearly visible in Zoom. Moreover, the chief invigilator should make sure that all candidates have their Record Books and/or Identification as required, and also that they do not possess any unauthorized materials in the workspace. Additionally, if a second smart mobile phone is required for scanning answer scripts, the chief invigilator should inform the candidates to place it at a visible location in the candidate’s workspace and verify. Finally, five minutes before the exam start time, the chief invigilator should check whether all candidates are logged in to OAS using the SEB and read out the exam instructions specified in the EMS.

Three minutes before the exam start time, the chief invigilator should ensure that all candidates see the “Attempt Quiz Now” button for the exam quiz. It is preferable that all candidates in the VER start the exam at once. A grace period for this may be stipulated by the

institute. As such, if all candidates are not ready by the exam start time, the chief invigilator may delay the start of the exam if required. However, if the start time has to be delayed more than the allowed grace period, it should be immediately informed to the OAS administrator so that time settings for the quiz may be updated appropriately. Once all candidates are ready, the chief invigilator should officially announce the candidates to start the exam. Alternatively, if only one or two candidates are having issues with access to the exam quiz, they may be referred to the Technical Support staff and the rest of the candidates may be allowed to start the exam together.

After 30 minutes elapsed from the exam start time, the chief invigilator should mark the attendance of the candidates in the EMS after checking their identification using the University ID or Record Book. When 30 minutes are remaining from the exam duration, the chief invigilator should remind the candidates to check their remaining time displayed on the screen. At the end of the exam duration, the chief invigilator should verify whether all candidates have completed the exam. All exam attempts will be automatically completed by this time based on the automatic timers, and all in-quiz answers will be automatically recorded.

If any candidate experiences prolonged interruptions due to technical difficulties during the exam, the chief invigilator can request the candidate to leave the VER and join the Technical Support Zoom immediately. To handle the situation, the chief invigilator has to inform a technical support staff member before allowing the candidate to leave. After any interruption, candidates should be allowed to re-enter the VER and resume their exam attempts. In such cases, the chief invigilator may decide whether extra time should be given for a particular candidate. An OAS administrator's assistance should be taken to add extra time for individual candidates.

After the exam duration, if the answers were typed or selected within the quiz itself, the chief invigilator can finish the examination by allowing all candidates to leave the VER and finish the video recording. On the other hand, if the answers were handwritten on paper, an additional scan and upload procedure (see [Guide 3](#)) has to be carried out before finishing the examination before ending the exam. The candidates should not be allowed to write anything during this scan and upload period. Step by step instructions should be given to the candidates to: show their answer script to the camera; scan the answer script using the mobile phone and create a PDF file; upload the PDF file to the specified submission link in the OAS course-page. It is important to note that these steps should be followed by all candidates in the VER together.

Second Invigilator

The main duties of the second invigilator are: to join the VER with the provided link in the EMS at the specified time, to begin recording the video using Zoom Gallery View; and to perform thorough invigilation for any unauthorized activity while assisting the chief invigilator.

Course Coordinators

A course coordinator represents an evaluation panel for a particular course in which an exam is conducted. They are responsible for preparing the exam papers as in a regular examination, however along with different procedures and tools to use in addition to preparing the exam questions. Specifically, the question papers should be set up as a Moodle quiz activity inside the OAS course-page.

The course coordinators are provided access to the Examination Schedule (ES) and Examination Master Sheet (EMS) several days before the start date of the first examination, and they should make sure that exam papers are set up in the OAS at least three days prior to the exam start date. Detailed guidelines are provided for setting up the exam paper on the OAS (see [Guide 2 - Course Coordinators](#)) and the course coordinators should ensure that proper LMS quiz settings are applied. It is crucial to use the correct quiz settings to make sure that proctoring requirements are met satisfactorily. With proper settings, the exam quiz will only be available to students during the specified time period and only be accessible using the Safe Exam Browser. Course coordinators can obtain support from the OAS managers in this regard.

Once the quiz configurations are done, the coordinators should make sure to add the exam-specific instructions to the OAS course-page as well as within the exam quiz ([See Appendix C](#)). Further, they should add these instructions and other exam related information to the EMS so that VER invigilators can access these information. Additionally, the course coordinators are responsible for obtaining the VER meeting links from the EMS and adding those to the OAS course-page.

If the candidates are expected to write answers on paper, a separate submission link should be provided in the OAS course-page in the form of a Moodle Assignment. Typically, the candidates should be allowed to submit such answer scripts in PDF format. However, depending on the nature of the exam, other formats may be allowed. Keeping this submission link hidden from candidates until the end of the exams is recommended. Making the submission link visible at the appropriate time is the responsibility of the course coordinator.

During the preparations of the exams, it is important to keep OAS course-pages hidden from candidates in order to avoid potential issues.

On the exam day, the course coordinators should make the OAS course-page visible to the candidates one hour before the exam start time. Making the course-page hidden from candidates soon after the exam is concluded should also be done by the course coordinators.

After the exam, answer scripts are available for marking on the relevant OAS course page.

University (Faculty/ Institution/ Exam) Administration

The University Administration role defines the official administration body that holds the responsibility to initiate and coordinate the examination process in the educational institution. For example, in the University system this can be the Assistant Registrar of a Faculty. The administration is responsible for preparing the official documents, scheduling of the examinations and overall coordination of the process.

The administration has to prepare and share the Examination Schedule (ES) with the course evaluation panels, OAS administrators, OAS managers and candidates several days prior to the examination. The administration should request the coordinators to prepare the exam quizzes in OAS, a suitable amount of time before each exam. At the same time, they should prepare the Examination Master Sheet (EMS) and the Admission Cards for the students. Maintenance of the EMS is one of the major responsibilities of the administration. Additionally, the administration should prepare the Google Workspace shared storage folder for the examination and maintain it throughout. Setting up subfolders for video recordings, giving access permissions, adding the respective links to the EMS are to be done by the administration. Information and the instructions to prepare these documents are well described in [Guide 1 - University/ Institution Administration](#).

Three days prior to each examination, the administration should verify whether the quiz is ready with exam papers along with correct SEB configurations in the OAS course-page, as well as the availability of exam-specific instructions on the EMS by contacting the course coordinators and OAS managers. At the same time they should ensure that the VER meeting links are ready in the EMS by contacting the invigilators. Further the administration should remind the invigilators about the examination dates/times one day before the examination. On the exam day, the administration should ensure that all necessary documents, equipment and support staff are available to relevant parties either physically or online as appropriate. At the

end of each exam, it is very important to protect the EMS information by locking the relevant page.

One day after each examination, the administration should verify that all recorded videos are uploaded to relevant Google Workspace folders. At the conclusion of all exams, the administration should prepare a data analysis report and make decisions regarding the validity of attempts of candidates. Administrative data logs from VERs (Zoom), OAS (Moodle) and information recorded by invigilators and technical support team may be used for this. The administration can follow up with the candidates if needed for arranging alternate examinations in this regard.

OAS Administrator

OAS Administrator is the authority responsible for the functionality of the Moodle LMS for conducting online assessments along with overseeing technical assistance to all other parties. Since this demands a significant time commitment, some of the responsibilities are distributed among a team of OAS Managers and Technical Support (TS) Team. A guideline for the OAS Administrator with all responsibilities and detailed instructions are provided in [Guide 5 - OAS Administrator](#).

The OAS Administrator will receive the examination schedule and related information from the University administration. Then, they should: create a new shared folder for the scheduled examinations in the shared Google Workspace storage dedicated for the online examinations of the institution; add an Examination Master Sheet (EMS) template; and provide both of those to the University Administration. At the same time, the OAS front page for exams should be prepared along with relevant notices. Further, separate course-pages must be created for the scheduled examinations on OAS using the list of courses provided by the University administration, with relevant students enrolled in the courses. A team should be formed for Technical Support (TS) including staff members familiar with Zoom, Moodle and SEB and the team should be available on the scheduled exam days. An institutional Zoom meeting should be created for technical support, and its link should be added to the OAS for candidates' access. Additionally, a chat group using a freely accessible platform (ex: WhatsApp) should be created and linked to the OAS for the candidates to obtain technical support before and during examinations. Details about the above support channels are provided in [Guide 5](#).

On the exam day, the OAS administrator should oversee the operation of the TS channels. The TS Zoom should be started at least 30 minutes before the examination start time, with co-host permissions given to the team members. It is important for at least two team members to

record the session video. During the examination, candidates seeking help may join the TS Zoom meeting. The TS team and the OAS administrator should provide assistance to get their issues resolved and keep timestamped logs about such cases in the EMS and once the issues are resolved, the candidate should be informed to rejoin their respective VER immediately. Also, extra time may be allotted to candidates through OAS upon a chief invigilator's request in such cases. Towards the end of the exam, chief invigilators may seek assistance in verifying whether candidates have completed their submissions if required.

After the exam, the video recording of the TS Zoom meeting should be uploaded to the relevant folder in the shared Google Workspace storage. Once the exams are concluded, the OAS administrator should retrieve Moodle data logs related to user activity on OAS and provide those to the University Administration along with any details recorded about candidates obtaining TS through Zoom or chat channels.

OAS Managers

The main role of OAS managers is to provide technical assistance to the evaluation panels when setting up exam quizzes in OAS. OAS managers may be appointed based on the sub-organizations found within the institute, such as departments of academic specializations. OAS managers will receive the exam schedule from University administration. They may check with the OAS administration whether respective course-pages are created within the OAS according to the scheduled examinations and provide access to the course coordinators and evaluation panels to relevant courses. At the same time, they should verify whether candidates have access to the courses they are enrolled in. They should assist the course coordinators and evaluation panels to configure the exam quiz settings including timing, allowed attempts, review options and SEB. More details are available in [Guide 6 – OAS Managers \(Department Representatives\)](#).

During the preparation for online examinations, it is of vital importance that candidates are provided with opportunities to familiarize themselves with the procedures and environment. For this purpose, mock examinations should be arranged for candidates and the OAS managers are expected to arrange these within their respective sub-organizations.

During the examination, the managers are expected to be available to oversee the OAS activity for relevant exams, and generally ensure that the candidates are able to obtain technical support when required. In special circumstances, Chief Invigilators may decide that candidates are entitled to have extra time for their exam attempts and seek assistance from OAS

managers. Further, OAS managers should assist the chief invigilator to verify the exam completion status of candidates if required.

Technical Support (TS) Team

The role of the Technical Support (TS) team is to provide technical assistance to candidates before and during the examinations through Zoom and chat channels. This team is formed by the OAS administrator, and members should be conversant with Zoom, Moodle and SEB software.

The TS chat channel should be available to the candidates before the exams so they can obtain support while preparing. The TS team should join the TS Zoom meeting at least 30 minutes before the examination start time and they should assist the candidates who join the TS Zoom with technical issues related to Moodle, Zoom and SEB. The TS team should give necessary guidance to solve the technical issues and the candidates should be continuously connected online with video on until all issues are resolved and they are ready to resume the exam quiz. Moreover, the TS team should provide assistance to the OAS administrator throughout the process.

Documents

There are four major documents prepared to carry out the online examination process. They are required to maintain the plan, authority and integrity of the procedure among the roles involved with the process. The documents are mainly as follows:

- Candidate Declaration
- Admission Card
- Examination Schedule (ES)
- Examination Master Sheet (EMS)

The University Administration is responsible for preparing and maintaining the above documents, as well as providing the relevant parties with appropriate access..

Candidate Declaration

The proctoring process requires the invigilators to visually monitor the candidates' conduct during an exam, as well as to record the video for post-exam analysis. It is mandatory to explain this requirement to the candidates and obtain their consent prior to the exams. The declaration document is used for this purpose, as well as to collect data about the computers used by the candidates and inform any rules and regulations related to examinations (See [Appendix A - Sample Student Declaration](#))

Admission Card

This is the digital version of the regular examination admission card issued to a candidate. The examination venue specified the admission card is the name of a VER instead of a physical location (See [Appendix D - Admission Card](#)).

Examination Schedule (ES)

The process of organizing examinations starts with preparing the schedule, which contains information about dates, times and venues for all individual exams.

Examination Master Sheet (EMS)

This is the central document which holds detailed information about all individual exams, such as the list of eligible candidates, exam-specific instructions, VERs, invigilators, candidates' attendance, remarks, etc. All roles involved in the examination process, except the candidates, have personalized access to the relevant sections in the ES (See [Appendix B](#)).

Procedure

The detailed procedure along with the responsibilities of the participating roles and the timeline (recommended minimum) is explained in this section along with illustrations. The OAS hosting the examination procedure is indicated as follows:



The main roles participating in the process are represented using the following figures.



UNIVERSITY
ADMINISTRATION



OAS
ADMINISTRATOR



OAS MANAGERS



TECHNICAL
SUPPORT TEAM



COURSE COORDINATOR



CHIEF INVIGILATOR

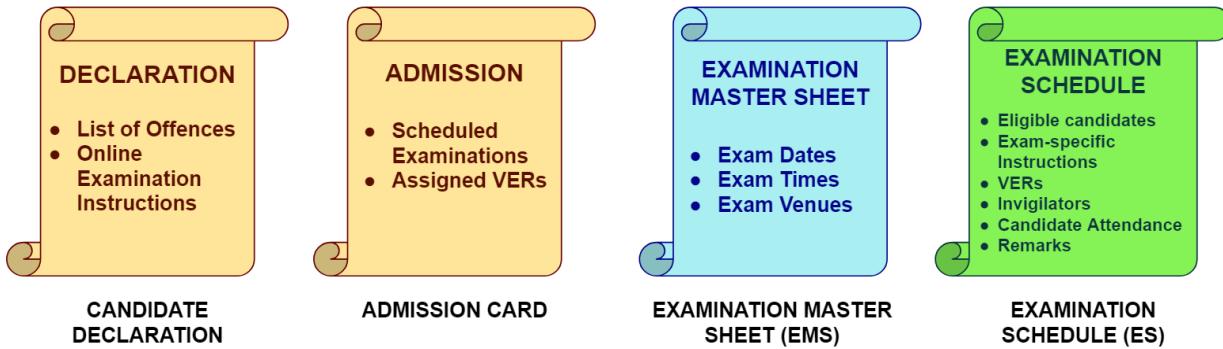


SECOND INVIGILATOR



CANDIDATES

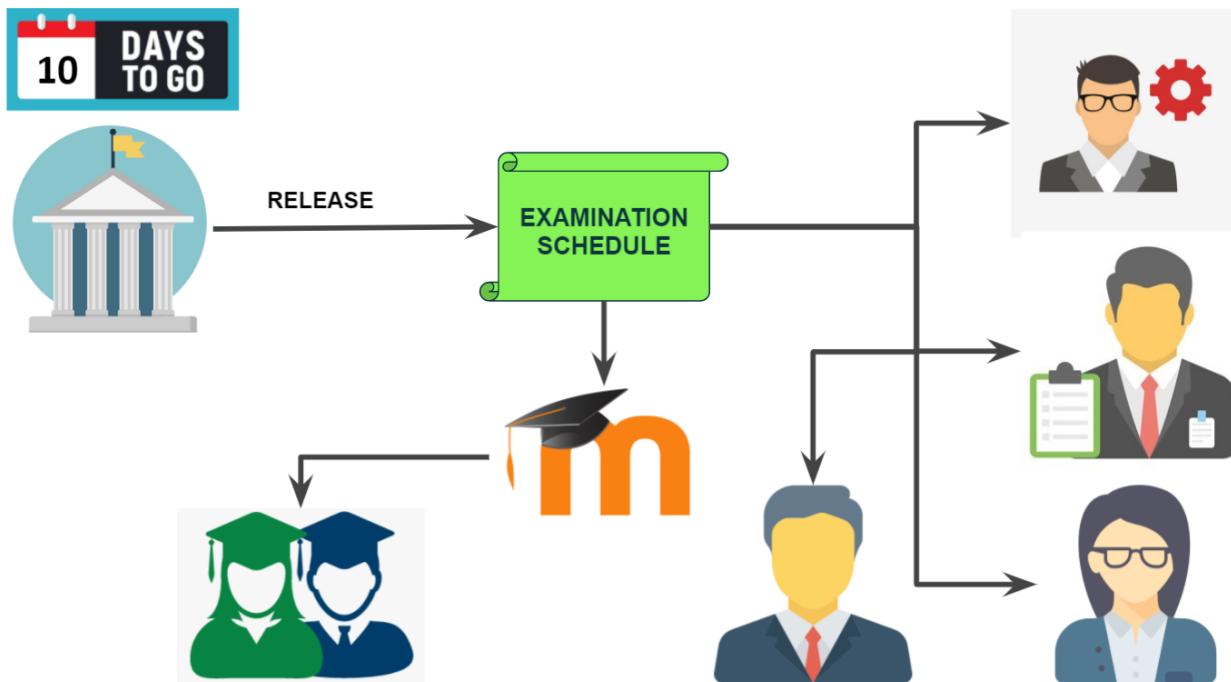
The documents used in the procedure are represented using the following figures.



Before Exam

Before Ten Days

Initially, the university administration should release the Examination Schedule (ES) to the OAS Administrator, OAS Managers, Course Coordinators, Invigilators and Candidates at least ten days before the first exam is scheduled. The examination schedule for the candidates can be released on the OAS.



Subsequently, a declaration document should be prepared to contain a declaration for candidates to sign accepting the online mode of proctoring along with the list of exam-related regulations, offences and online specific instructions. The declaration should be released at

least ten days before the scheduled examination start date. The document can be released on the OAS for the students to access and download.

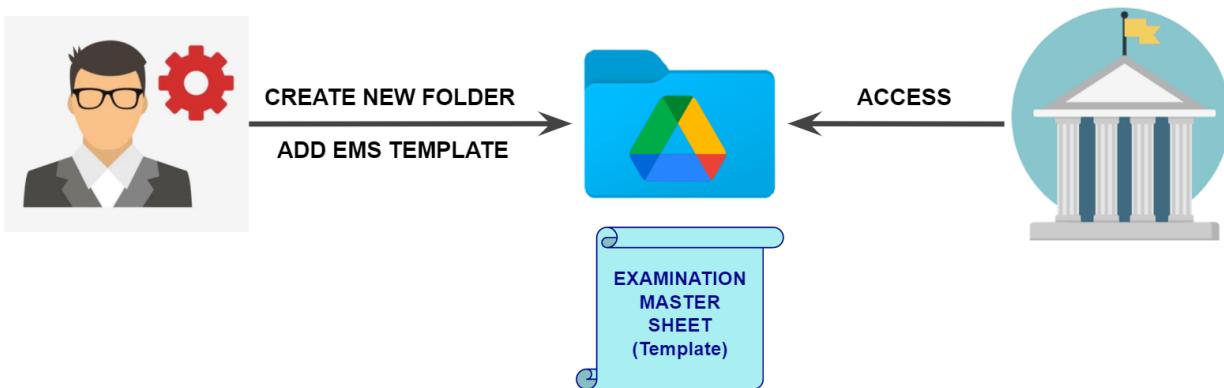


After receiving the declaration and exam schedule, the candidates should accept the online mode of examination by signing the declaration to proceed with the online examination system. By signing this declaration, the candidates accept that they are able and willing to participate in the online examination while satisfying the basic requirements of the system, and provide consent for the proctoring to be done via video. Hence, it is important to consider and understand the rules and regulations stipulated by the University administration before signing the declaration. The signed declaration forms must be duly submitted to the provided OAS submission link.

At the same time, the OAS administrator should prepare the Examination Master Sheet (EMS) template (see [Appendix B](#)) which can be commonly used for all scheduled examinations. . The template should be comprised of the following content:

- List of eligible candidates
- Exams taken
- Exam venue (i.e. VER)
- Scheduled time
- Assigned coordinators
- Assigned chief invigilators and second invigilators for each VER

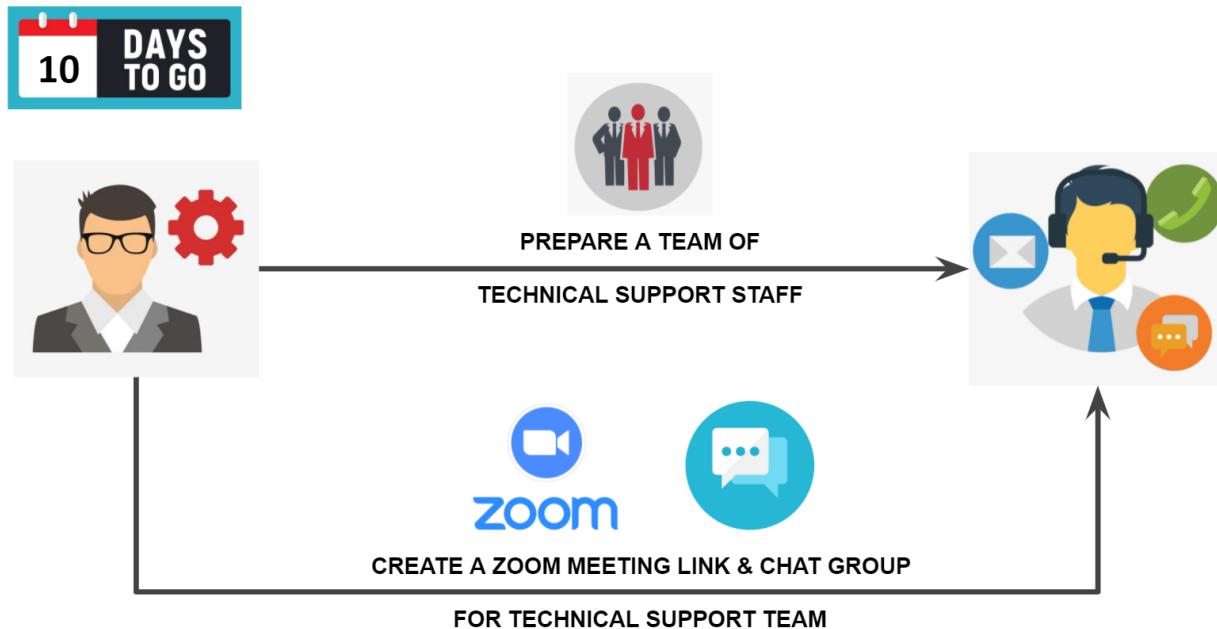
The OAS administrator should create a new folder for the current examination in the shared Google Workspace drive dedicated for online examinations and add a copy of the EMS template. The University administration can access the provided template to prepare the EMS by filling the required details for the scheduled examinations.



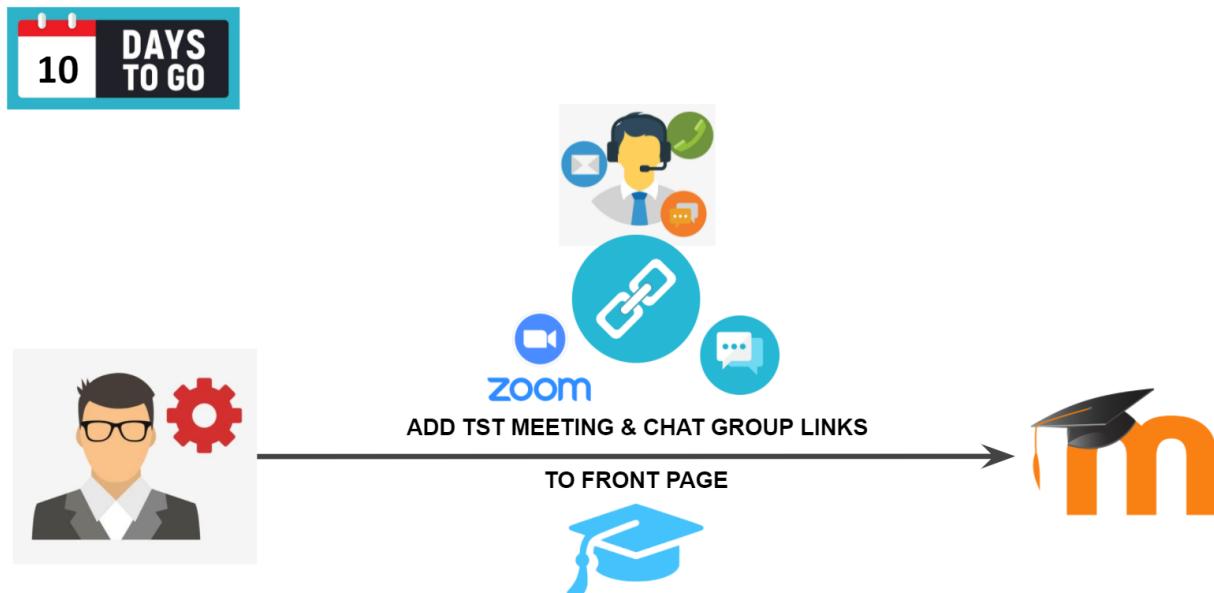
Concurrently, the OAS administrator should prepare the front page of the OAS for examinations and create course pages for each scheduled examination while posting relevant notices.



Further, the OAS administrator should prepare a team of technical support staff who are familiar with Zoom, SEB and Moodle and create a Zoom meeting link and a chat group for the Technical Support Team (TST).

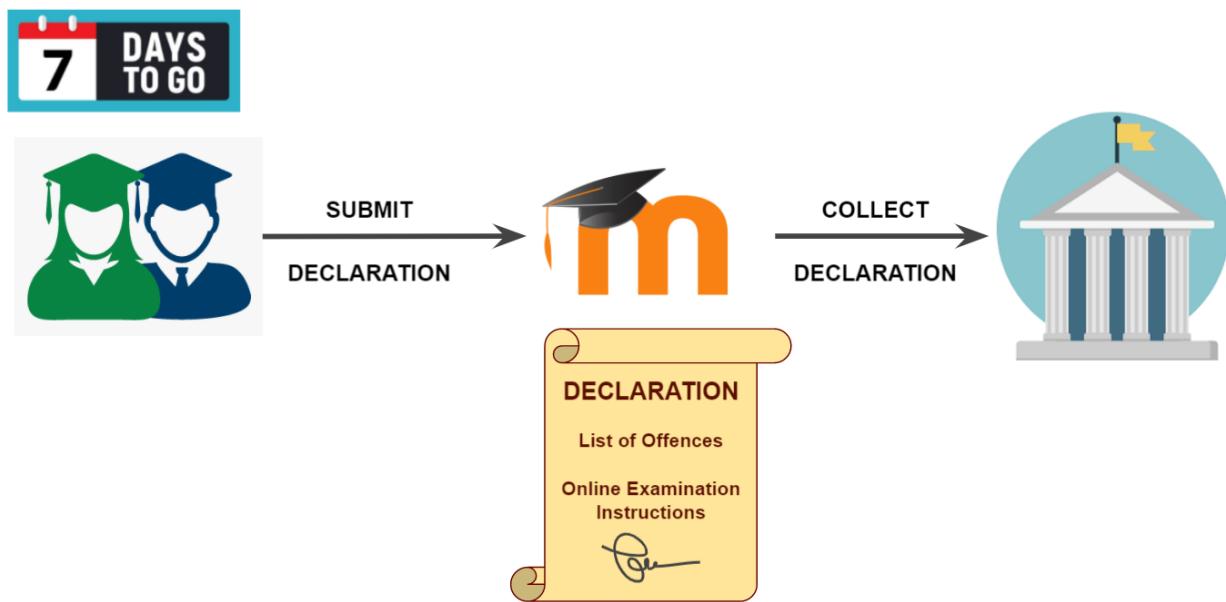


Then, the OAS administrator should add the links of the created TST channels to the OAS front page.

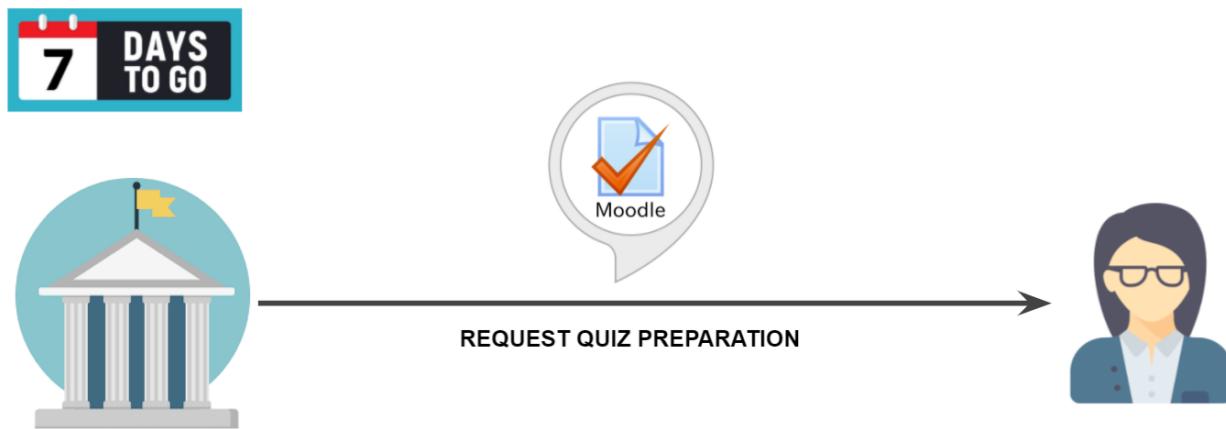


Before Seven Days

The university administration collects the signed declarations from the OAS submissions at least one week before the examination and uses it for official use.



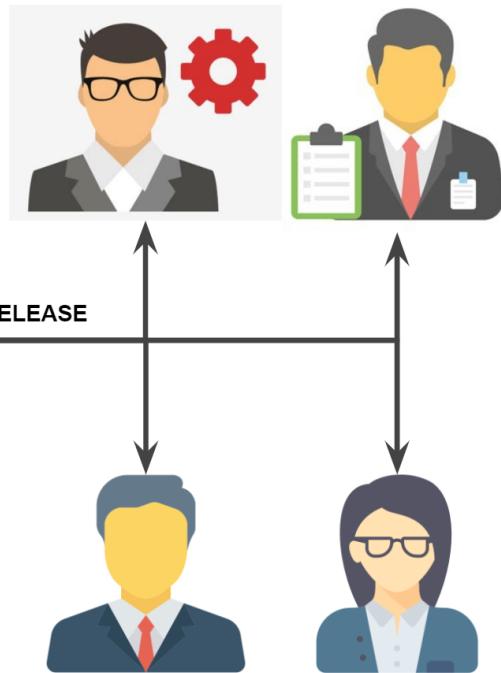
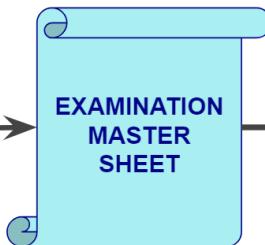
One week before the examination start date, the university administration requests the course coordinators to prepare the exam quizzes within the course pages on OAS.



At the same time, the university administration should release the EMS updated with the required information in the template for each examination scheduled to the Coordinators, Invigilators and OAS Administrator.



UPDATE



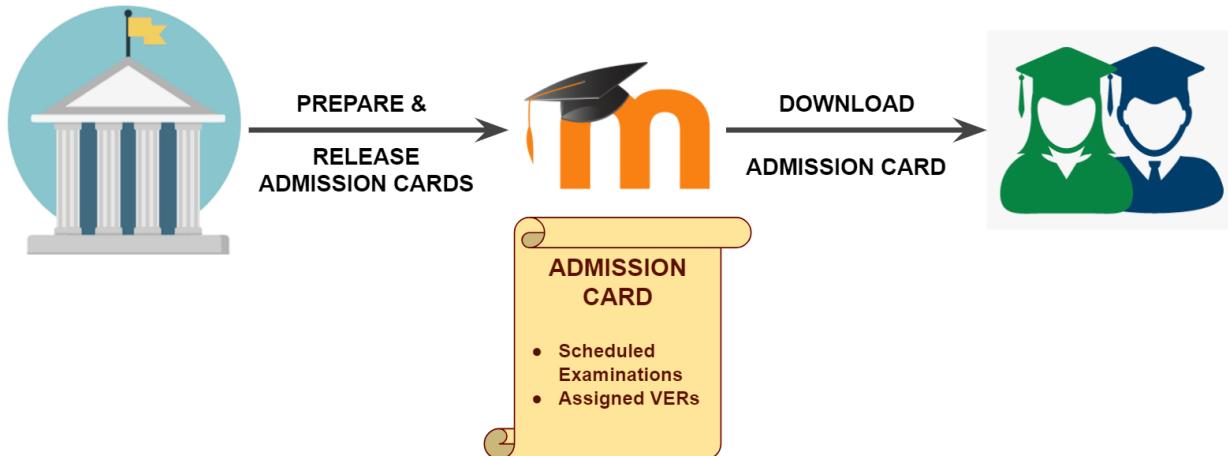
Subsequently, the university administration should request the chief invigilators to create Zoom links using their institutional accounts for each VER assigned to them.



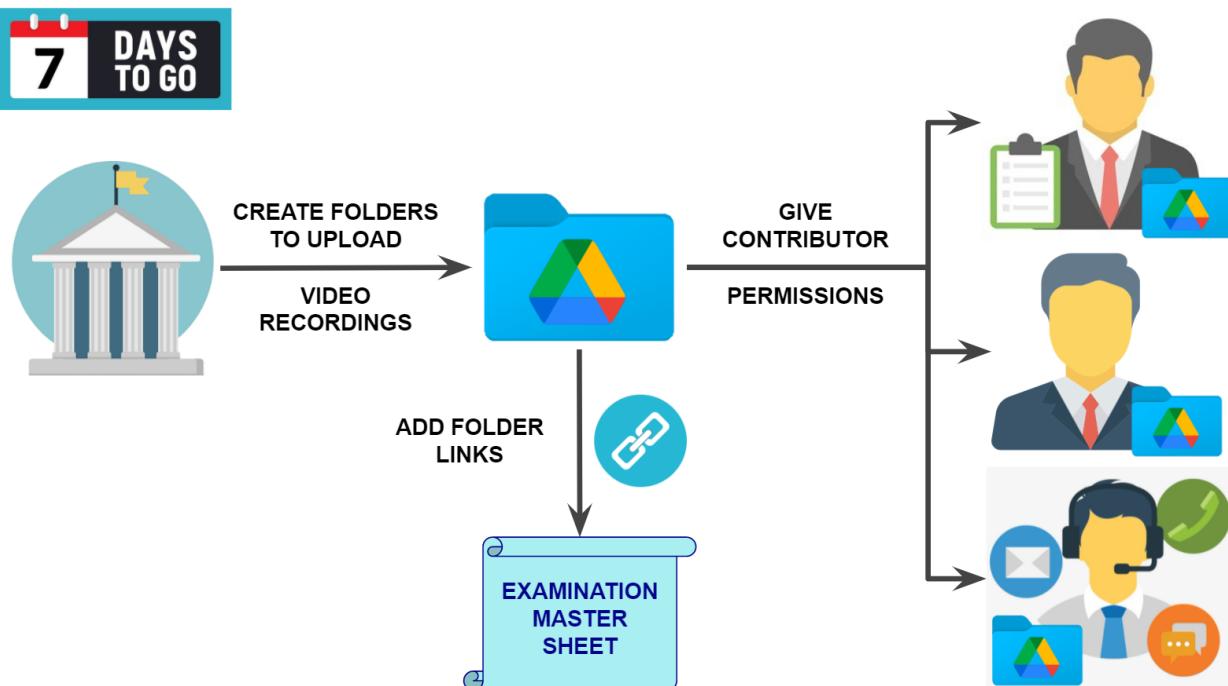
REQUEST TO CREATE MEETING LINKS



The university administration should release the admission card through the OAS to the candidates at least one week before the examination starts. The candidates can access their individual admission cards and download them from the OAS.

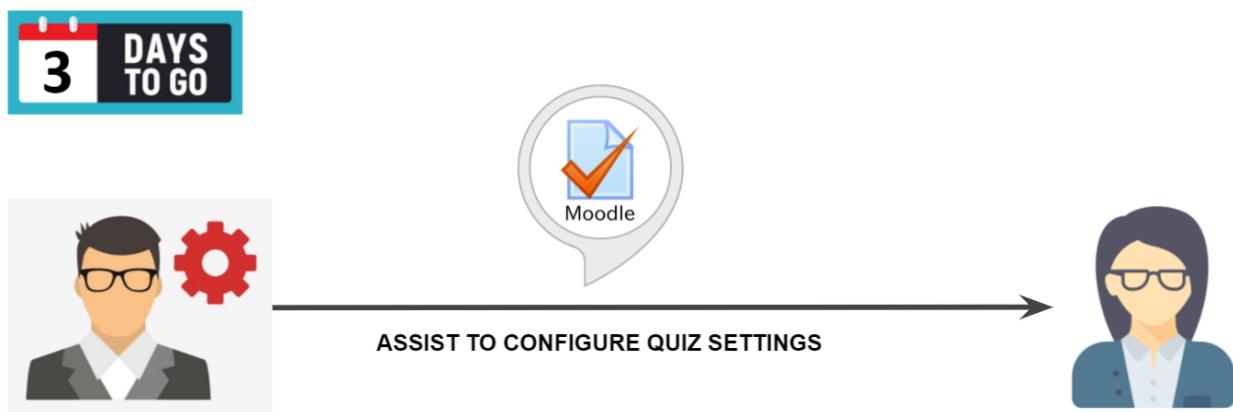


The University Administration should set up Google Workspace drive folders to upload Zoom video recordings by creating separate folders for Chief invigilators, Invigilators and Technical Support for each examination. Contributor permission should be given for the relevant staff ensuring that they possess Google Workspace accounts.

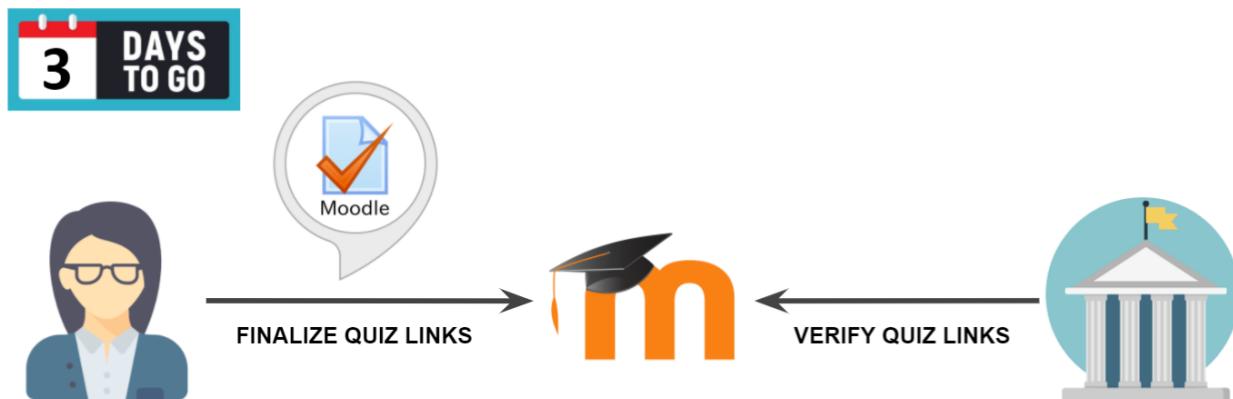


Before Three Days

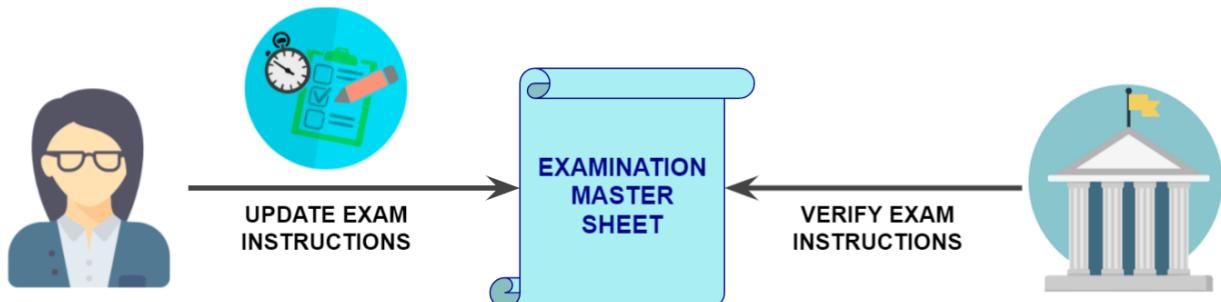
Three days prior to the examination start date, the OAS administrator should assist the course coordinators to configure the quiz settings correctly for each course scheduled with examinations.



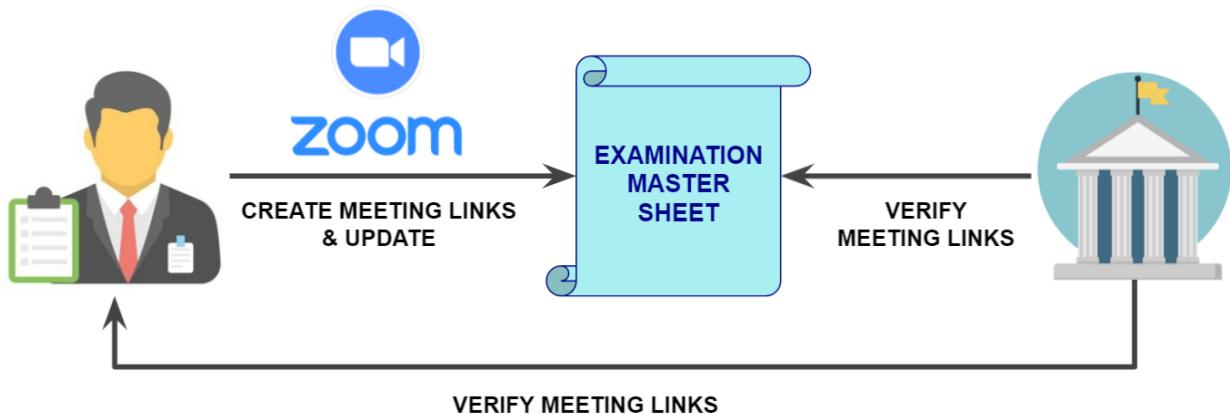
The coordinators should finalize the exam quizzes with exam questions and correct SEB configurations by three days before the examination starts. The university administration should verify the readiness of the quiz links and availability on OAS for every examination scheduled.



The coordinators should also update the exam instructions to the EMS. The university administration should verify the availability of updated instructions on the EMS.

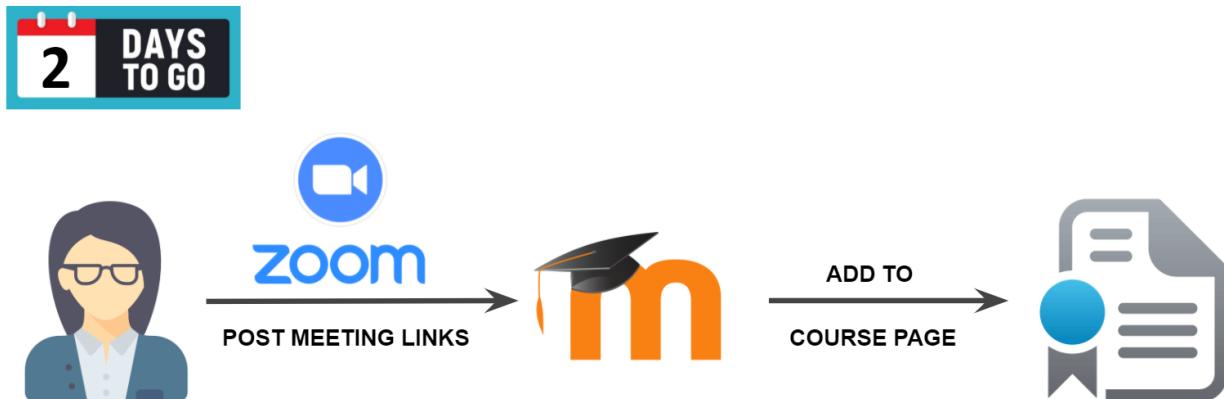


The chief invigilators should create institutional Zoom meeting links for the VERs they are assigned in the EMS. The created Zoom links should be updated to the EMS and the University administration should verify the presence of Zoom meeting links on the EMS.



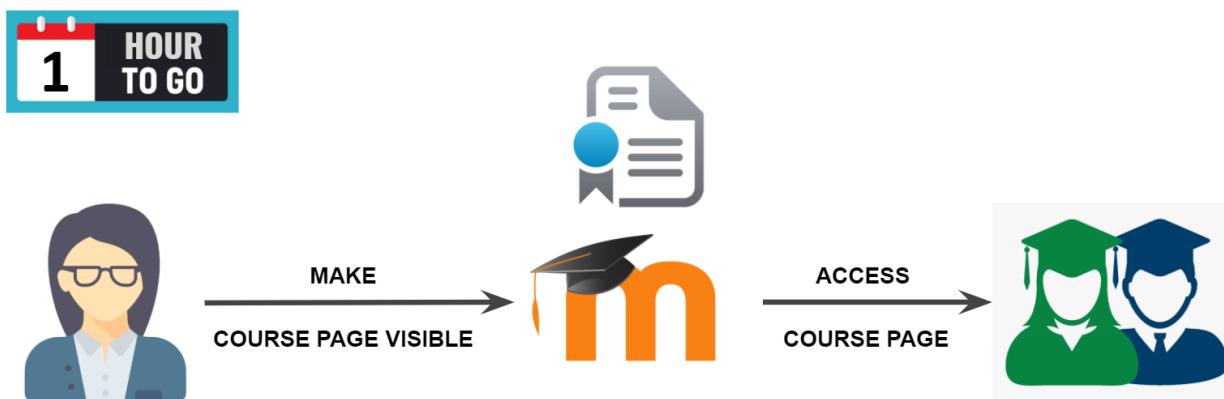
Before Two Days

The coordinators should make the VER Zoom links available on OAS Course pages as a list of Zoom links along with corresponding VER numbers.

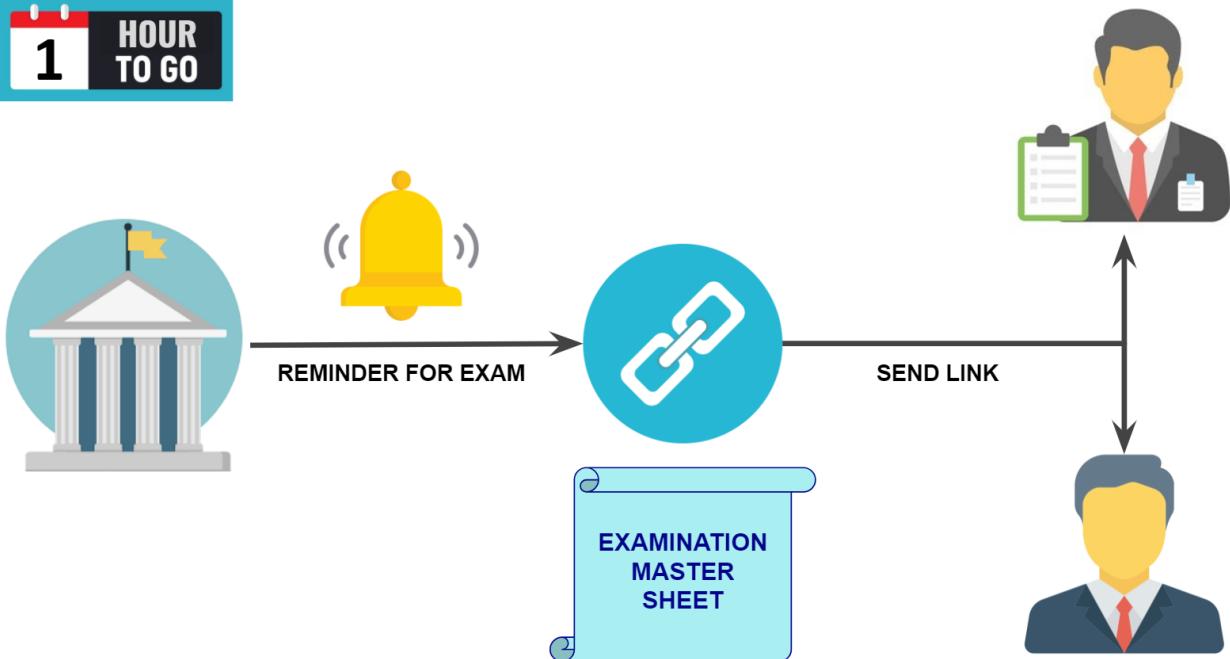


Before One Hour

The Coordinators of each examination should make the respective course pages visible on OAS. The candidates can access the course pages on OAS only afterwards.

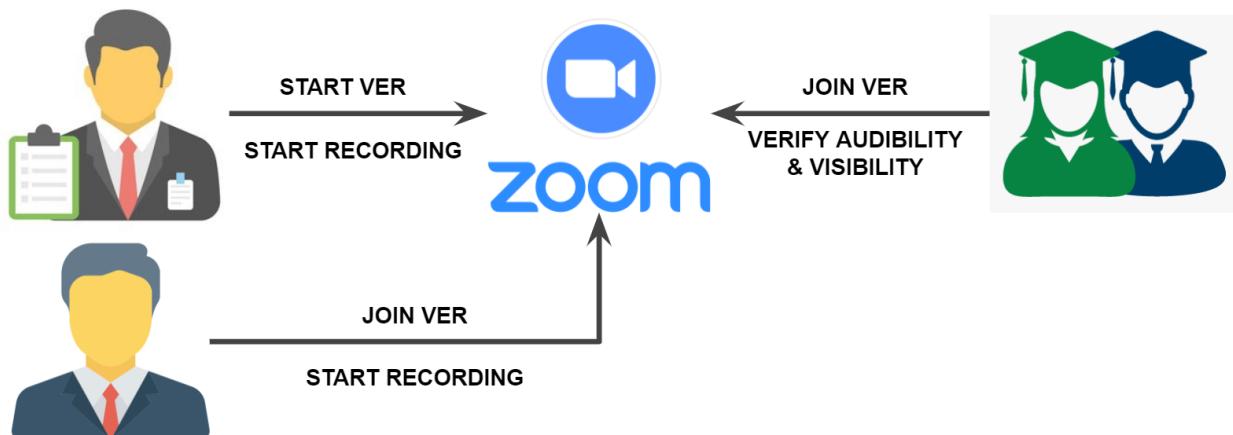


The university administration should remind the chief invigilators and second invigilators about the relevant exams by sending a link to the EMS and should ensure that all Zoom meeting links are updated properly in the EMS.



Before Thirty Minutes

The Chief Invigilator should start the VER and provide recording permission to the Second Invigilator. Then, the Chief invigilator should start recording the VER using the Gallery View option in Zoom.

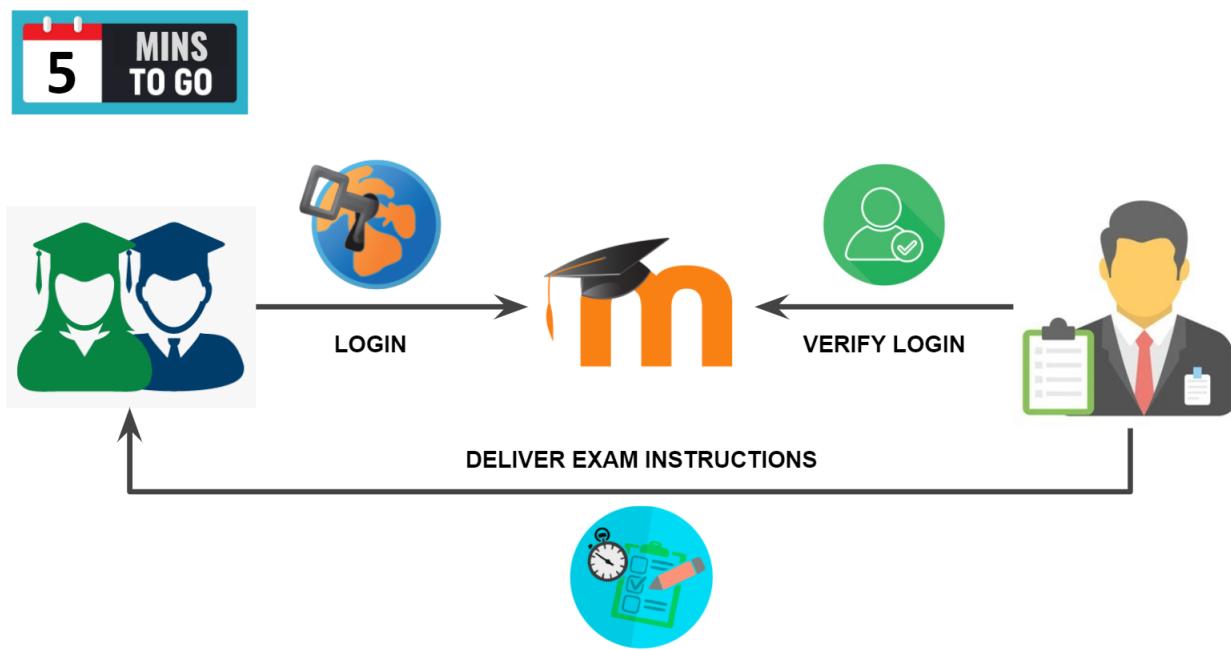


At the same time, the Second Invigilator should join the VER and start recording using Gallery View. Afterwards, invigilators should request each candidate to show their surroundings by

turning the camera, then set up the camera properly (in such a way that the candidate and their workspace is clearly visible). Through the above steps, the invigilators can ensure proper visibility and audibility of each candidate.

Before Five Minutes

The chief invigilators should verify whether all candidates can login to the OAS through SEB. Once all candidates can access without any issues, the chief invigilator can deliver the exam instructions for the particular exam to be commenced.



Before Three Minutes

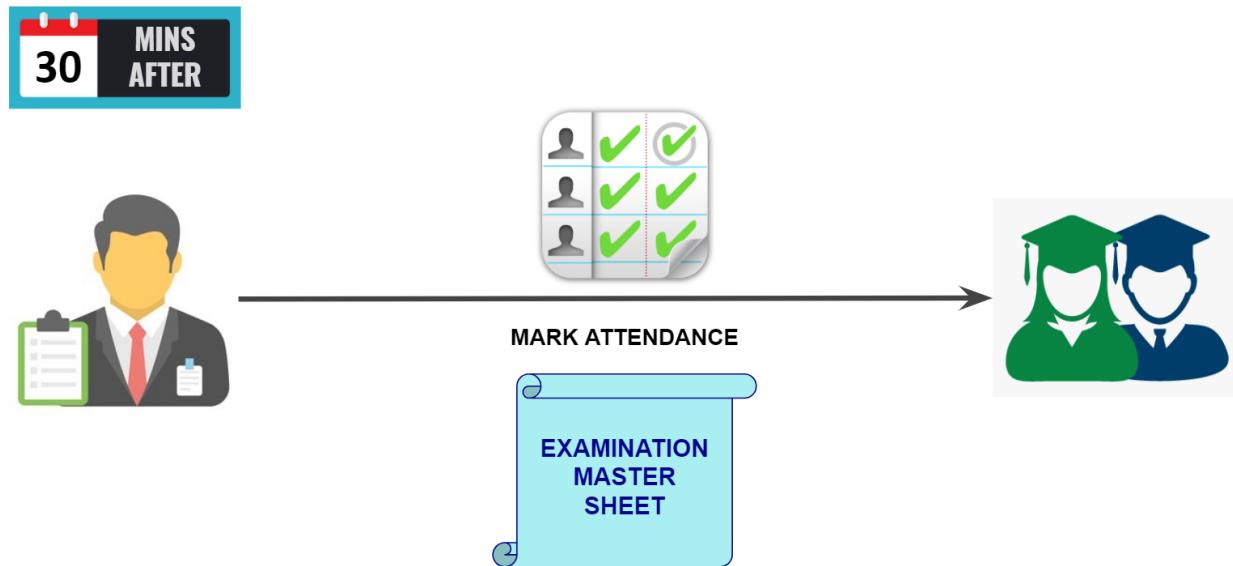
The candidates should be able to see and access the “Attempt Quiz Now” button for the scheduled examination when there are 3 minutes left to begin the examination. The chief invigilator should verify whether all the candidates can access this button before starting the examination.



During Exam

After Thirty Minutes From Exam Start

The chief invigilator should check the identification of the candidates and mark the attendance on the EMS.



End of Exam

Once the allocated time for the examination is over, the exam quiz will automatically end, and any answers selected/typed inside the quiz will be automatically submitted.

If the exam required the answers to be written on paper, the candidates should scan and upload their answer scripts following the provided guidelines for uploading. Candidates must use a separate smart mobile phone to scan their answer scripts and upload, not the same mobile

phone they use to access the VER. If a candidate does not have access to a second smart mobile phone for this purpose, they may inform the invigilators and join the VER using their computer, thereby freeing their only smart mobile phone to be used for scanning and uploading. Then, the chief invigilator should provide step-by-step instructions for all candidates in the VER to carry out the scanning and uploading activities.

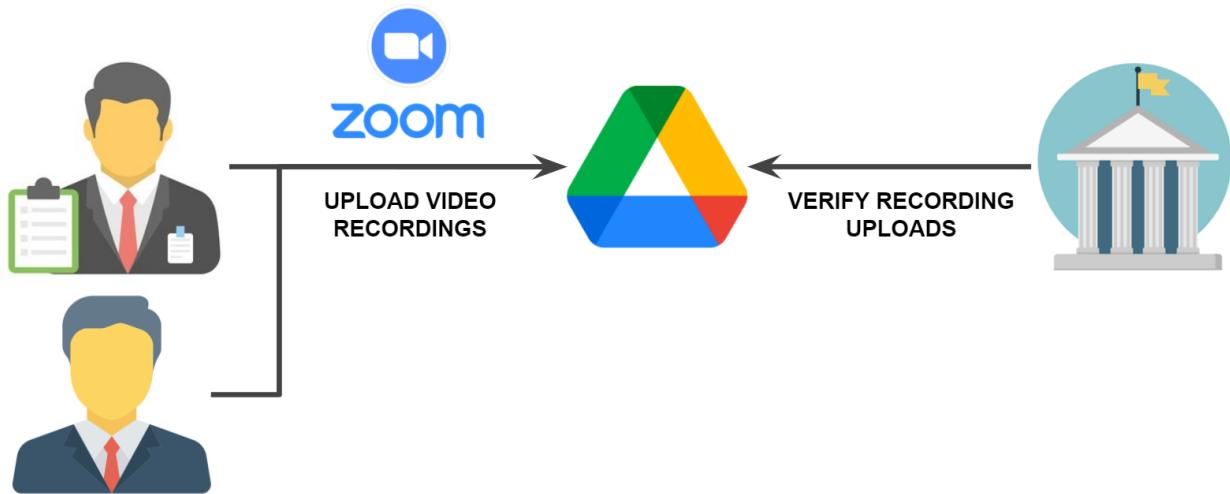
Finally, the chief invigilator should verify whether all candidates have completed submitting their answers to the scheduled examination automatically or via scan and upload. For this, the candidates may be requested to self-verify whether their files were successfully uploaded, and/or the OAS Managers may be consulted. The chief invigilator should record any special concerns about candidates or complaints from candidates before allowing the candidates to leave the VER.



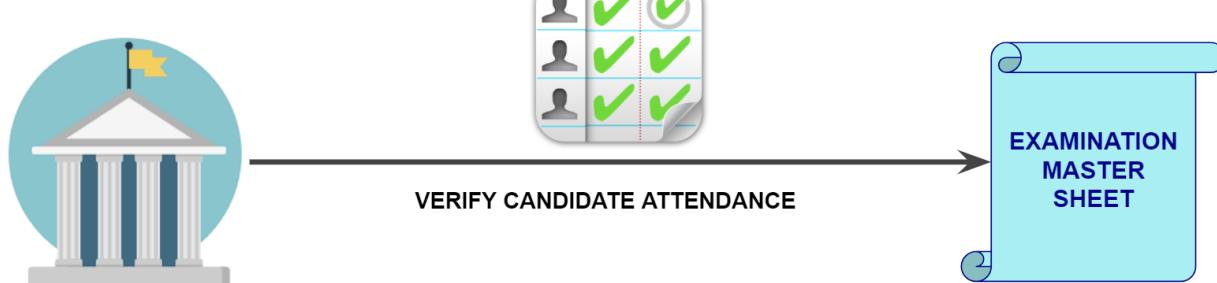
After Exam

One Day After

The chief invigilator and the second invigilator should upload the Zoom Meeting recordings containing video and audio feed of the VERs to the relevant Google Workspace Drive folders specified in the EMS with links provided within one day from the exam. The University administration should verify the presence of the recordings in relevant folders and check with the invigilators if there are any delays in uploading.



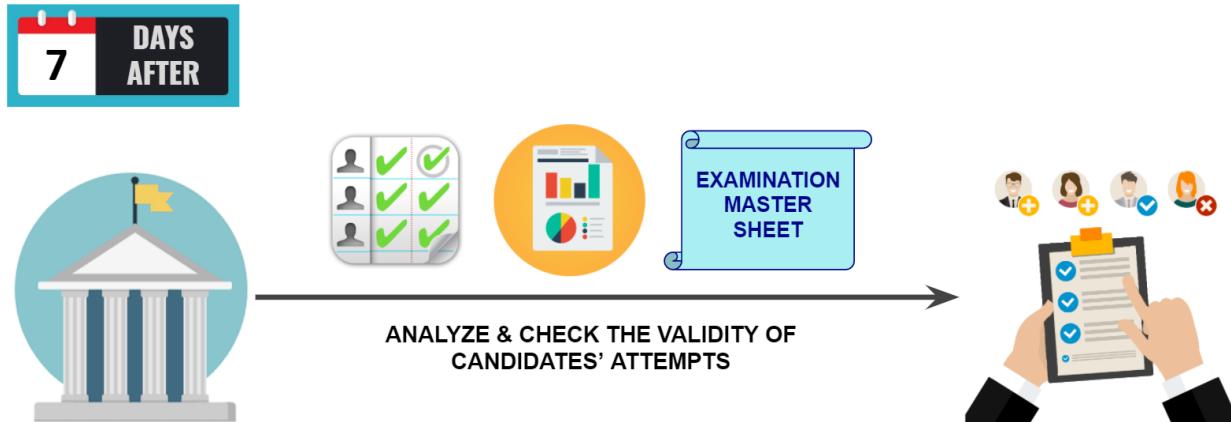
The university administration should verify the candidates attendance from the EMS and get the records for needed official use of examinations.



Seven Days After

The University Administration should obtain the activity logs from OAS administration and Zoom administration related to the conducted exams. These data should be analysed and cross referenced with invigilator remarks, in order to validate that the candidates' exam attempts were satisfactorily proctored.

If there are invalid attempts, the University Administration should take necessary actions and inform the candidates about any alternate exam attempts if applicable.



Appendices

A - Sample Student Declaration

Faculty of Engineering
University of Peradeniya

Mid and End of Semester Examination - March 2021

Declaration Accepting Alternative Online Assessment Environment

I, (E/...../.....) (*full name and registration number*), the undersigned, hereby declare that I accept the online examination as an alternative for the paper-based examination, for the mid-semester and end-of-semester examinations held in March 2021 at the Faculty of Engineering, University of Peradeniya.

I hereby give my consent for my video and audio streams to be viewed and recorded during the examinations by the University for invigilation purposes.

I acknowledge that I am aware of the established academic conventions on honesty in examination work. I am aware of the disciplinary actions stipulated by the University against examination offences. I hereby declare that I will not seek assistance from any person or utilize any electronic sources in an unauthorized manner to gain an unfair academic advantage in the examinations.

I acknowledge that I have read and understood the Online Examination Instructions listed under Annexe A on page 2 of this document, and agree to the Online Examination Rules listed under Annexe B on page 3 of this document.

| | | | |
|---|--|------------------|--|
| Name with Initials: | | | |
| Registration Number: | | NIC Number: | |
| Device to be used for the examination: | | Windows PC Mac | |
| MAC Address of the device used for the examination: | | | |
| Date: | | Signature: | |

Annexe A: Online Examination Instructions

General Instructions

- This is an **Online Exam** and the **only online tools allowed** are:
 - Faculty of Engineering Online Assessment System (FoEOAS)
 - Zoom Software
 - Safe Exam Browser (SEB)
- You should be logged in to **Zoom** and **FoEOAS** at least **30 min before** the exam.
- Make sure to **show yourself and things around you** to the camera maximally.
- The supervisor will announce the **exam start time** through **Zoom**.
- The exam will **automatically finish** after the exam duration from **your start time**.
- Starting the online exam will be considered equivalent to *sitting for the exam*.
- If you encounter any exam-related issues, **you can talk to the supervisor in your VER**.
- Issues regarding the exam questions:
 - As in any examination, you are not expected to get questions clarified from the supervisor in the exam hall. Rather, you are expected to read the paper and answer it to the best of your understanding. You are expected to follow the same here.
- Remaining time will be always displayed to you inside the exam.
- Identification and taking attendance will be done 30 minutes after the exam starts.
- If any **interruptions** occur during the exam, you must **inform the supervisor/invigilator** with your registration number as soon as possible. You are allowed to resume the exam at any time before the official closing. However, the Faculty will decide whether your attempt was successful after the exam ends.
- To avoid disturbances due to network/power losses, be ready to use a mobile hotspot. You may also have backup mobile phones and computers ready for such situations.

What do I do during an Interruption

- The following special cases are considered as **Interruption Cases** to the Online Examination (*The steps you should follow to report them are stated along*):

I.Network connectivity issues and power failure:

- *Keep a record of the time it began.*
- If it is not automatically resolved, you need to connect back to the Zoom meeting using an alternative network/power/device option available to you.
- Inform the supervisor about the issue through Zoom.
- With supervisor's approval, you may contact Technical Support provided by the Faculty.

II.Other emergency:

- This is regarding any other unexpected situations that might arise after you started the exam (falling sick, emergency at home, etc.)
- Inform the supervisor as soon as possible and continue the exam.
- If you are **unable/unsuccessful** in connecting back to the exam in either of the above **cases**, you need to report it as a failure to attempt the exam to the AR/Engineering course coordinator and Head of Department within 3 days of the exam for further processing.

Annexe B: Online Examination Rules

- You are allowed to use the network/internet facility to access **only the exam** using **Zoom and FoEOAS LMS**
- You must use your *Google Workspace email accounts* to log in to Zoom and the *screen name* should be your **registration number**.
- You are **not allowed to turn off your cameras or microphones** during the entire exam duration for any reason.
- You should make sure that **your face and surroundings** are **maximally visible** through the web camera to the invigilators throughout the exam.
- You are **strictly not allowed to navigate out of SEB** (quit SEB) during the exam duration without the supervisor's approval.
- You are **not allowed to keep or use any unauthorized materials with you** including your mobile phone or any other electronic media (headsets, headphones, tablets, etc.) during the exam, **except for the computer you are using to do the exam and the mobile phone you use to connect to the VER**. A list of authorized materials will be informed by the supervisor before the start of the examination.
- You are **not allowed to communicate with anyone by any means** (including any social media, email or any other communication media to get help for the exam).
- **Violating any of the above examination rules may be considered as an Examination Offence.**

B - Examination Master Sheet Template

Main - Student List

| Exam Master Sheet - Template | | | | | | |
|---|----|-------------------------|--------------|-------------------|--------------------------|--------------------------|
| File Edit View Insert Format Data Tools Add-ons Help Last edit was 13 minutes ago | | | | | | |
| A1 | A | B | C | D | E | F |
| 1 | | All registered students | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | # | Reg No. | Student Name | Dept | Declaration Signed | Admission Sent |
| 5 | 1 | E/15/000 | A B C Perera | Civil Engineering | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | 2 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | 3 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | 4 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | 5 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | 6 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 11 | 7 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 | 8 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 | 9 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 14 | 10 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 15 | 11 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 16 | 12 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 17 | 13 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 18 | 14 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 19 | 15 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 20 | 16 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 21 | 17 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 22 | 18 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 23 | 19 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 24 | 20 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 25 | 21 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 26 | 22 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 27 | 23 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 28 | 24 | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| 29 | 25 | | | | <input type="checkbox"/> | <input type="checkbox"/> |

Course Template for Take Home Assignments

| Exam Master Sheet - Template | | | | | | | | | |
|--|------------|--------------------------|------------------|-----------|------------|-------------|--------------------------|---------|---|
| course 2 (course code : course name) | | | | | | | | | |
| A1 | B | C | D | E | F | G | H | I | J |
| 1 | | Date | | | | | | | |
| 2 | | Time | - | | | | | | |
| 3 | | Duration | - | | | | | | |
| 4 | | Course coordinator | | | | | | | |
| 5 | | Exam mode | Take-Home + Viva | | | | | | |
| 6 | | Authorized Materials | - | | | | | | |
| 7 | | Additional Instructions | - | | | | | | |
| 8 | | Total students | 0 | | | | | | |
| 9 | | Total attendance | 0 | | | | | | |
| 10 | # Reg No. | Eligible | Exam Room | Zoom Link | Supervisor | Invigilator | Attendance | Remarks | |
| 11 | 1 E/15/000 | <input type="checkbox"/> | | | | | <input type="checkbox"/> | | |
| 12 | 2 | #N/A | | | | | <input type="checkbox"/> | | |
| 13 | 3 | #N/A | | | | | <input type="checkbox"/> | | |
| 14 | 4 | #N/A | | | | | <input type="checkbox"/> | | |
| 15 | 5 | #N/A | | | | | <input type="checkbox"/> | | |
| 16 | 6 | #N/A | | | | | <input type="checkbox"/> | | |
| 17 | 7 | #N/A | | | | | <input type="checkbox"/> | | |
| 18 | 8 | #N/A | | | | | <input type="checkbox"/> | | |
| 19 | 9 | #N/A | | | | | <input type="checkbox"/> | | |
| 20 | 10 | #N/A | | | | | <input type="checkbox"/> | | |
| 21 | 11 | #N/A | | | | | <input type="checkbox"/> | | |
| 22 | 12 | #N/A | | | | | <input type="checkbox"/> | | |
| 23 | 13 | #N/A | | | | | <input type="checkbox"/> | | |
| 24 | 14 | #N/A | | | | | <input type="checkbox"/> | | |
| 25 | 15 | #N/A | | | | | <input type="checkbox"/> | | |
| 26 | 16 | #N/A | | | | | <input type="checkbox"/> | | |
| + Main-Student List Course-Code-Takehome Course-code-proctored | | | | | | | | | |

Course Template for Proctored Examinations

| Exam Master Sheet - Template | | | | | | | | | |
|--|------------|---------------------------------|---|-----------|------------|-------------|-------------------------------------|---------|---|
| course 1 (course code : course name) | | | | | | | | | |
| A1 | B | C | D | E | F | G | H | I | J |
| 1 | | Date | | | | | | | |
| 2 | | Time | 9:00 a.m. | | | | | | |
| 3 | | Duration | 3 hours (within 9:00 a.m. to 12:15 p.m.) | | | | | | |
| 4 | | Course coordinator | | | | | | | |
| 5 | | Exam mode | Online Proctored | | | | | | |
| 6 | | Authorized Materials | Closed book. Mobile phone allowed for scanning answer scripts only. | | | | | | |
| 7 | | Additional Instructions | All answers must be written on paper. Allow and additional 20 minutes at the end of the exam to scan/photograph and upload the answers. | | | | | | |
| 8 | | Room A: | | | | | | | |
| 9 | | Video upload link (supervisor) | Room B: | | | | | | |
| 10 | | Room C: | | | | | | | |
| 11 | | Room A: | | | | | | | |
| 12 | | Video upload link (invigilator) | Room B: | | | | | | |
| 13 | | Room C: | | | | | | | |
| 14 | # Reg No. | Total students | 0 | | | | | | |
| 15 | 1 E/15/000 | Total attendance | 0 | | | | | | |
| 16 | | Eligible | Exam Room | Zoom Link | Supervisor | Invigilator | Attendance | Remarks | |
| 17 | | <input type="checkbox"/> | | | | | <input type="checkbox"/> | | |
| 18 | 2 | #N/A | | | | | <input checked="" type="checkbox"/> | | |
| 19 | 3 | #N/A | | | | | <input type="checkbox"/> | | |
| 20 | 4 | #N/A | | | | | <input checked="" type="checkbox"/> | | |
| 21 | 5 | #N/A | | | | | <input type="checkbox"/> | | |
| 22 | 6 | #N/A | | | | | <input checked="" type="checkbox"/> | | |
| 23 | 7 | #N/A | A | | | | <input type="checkbox"/> | | |
| 24 | 8 | #N/A | | | | | <input type="checkbox"/> | | |
| 25 | 9 | #N/A | | | | | <input type="checkbox"/> | | |
| 26 | 10 | #N/A | | | | | <input type="checkbox"/> | | |
| + Main-Student List Course-Code-Takehome Course-code-proctored | | | | | | | | | |

C - Information Rubric

University of Peradeniya
Faculty of Engineering

End of Semester Examination - March 2021

GP106 - Computing
(2 hours)

This paper contains four (4) questions, all questions carry equal marks.

Answer all four (4) questions on **writing paper**.

This is a **closed-book** examination.

Exam starts at 9.00 a.m. on Tuesday 16-March-2021.

Video camera and microphone must be turned on inside Zoom for the entire duration of the exam.

Verify you have written your **registration number** and **page numbers** on all pages of the answer script before the end of the exam.

At the end of the exam:

1. Supervisor will announce the end of the exam. Candidates must not write anything on the answer script beyond this point.
2. Upon supervisor's command, show all pages of the answer script through the camera, page by page.
3. Scan your answer scripts. Use a scanner application on a mobile phone. You may save the scanned files as images or PDF. (If you are using your mobile phone for Zoom, you must use a second phone for scanning).
4. Terminate the Safe Exam Browser.
5. Verify that the submission link is visible on FoEOAS.
6. Upload the scanned answers (you may use your mobile phone or computer for uploading).
 7. Verify all your files are uploaded.
 8. Supervisor will make any final announcements (see below)
9. Remain in the Zoom session until your supervisor informs you can leave.

D - Admission Card

| Faculty of Engineering - University of Peradeniya Admission Card | | | | | | |
|---|-----------|-----------------------------------|-----------------------|--------------------|------------------|-------------|
| End of Semester Examination (Computer Engineering)- March 2021 (Online) | | | | | | |
| E/M | | Computer Engineering | | | | |
| CODE | EXAM ROOM | SUBJECT | DATE | TIME | EXAM MODE | TYPE |
| CO542 | | Neural Networks and Fuzzy Systems | 13/03/2021-14/03/2021 | - | Take-Home + Viva | |
| CO528 | A | Applied Software Architecture | 15/03/2021 | 9:00 AM - 12:00 PM | Online Proctored | Open Book |
| CO551 | A | Theory of Computation | 16/03/2021 | 9:00 AM - 12:00 PM | Online Proctored | Closed Book |
| CO542-VIVA | | Neural Networks and Fuzzy Systems | 18/03/2021-19/03/2021 | 9:00 AM - 4:00 PM | Take-Home + Viva | |

You are hereby informed to abide by the rules and regulations of Examination governing for Semester –based course unit system


Assistant Registrar / Faculty of Engineering

E - Guidelines

Refer all Guidelines: <https://cepdnaclk.github.io/proctored-exam-handbook/>

For Individual Guidelines:

[Guide 1 - University/ Institution Administration](#)

[Guide 2 - Course Coordinators](#)

[Guide 3 - Exam Invigilators and Chief Invigilators](#)

[Guide 4 - Candidates](#)

[Guide 5 - OAS Administrator](#)

[Guide 6 - OAS Managers \(Department Representatives\)](#)

[Guide 7 - Non-Proctored Examinations](#)

[Guide 8 - Manual SEB Configuration Guideline](#)