



Institute
and Faculty
of Actuaries

Examination Handbook

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Introduction

Please note: The contents of this handbook may be subject to change. Any changes will be identified with a timestamp and communicated by email as well as within your joining instructions and in our Student and Associate newsletter.

The IFoA Examinations Handbook provides essential information about your actuarial exams. It lists the software and hardware you need and explains what to do before, during and after your exam.

It is your responsibility to read and be familiar with the contents of the Examinations Handbook ahead of your exams.

You must be aware of and adhere to the following IFoA guidance and regulations:

[The IFoA Qualification Handbook](#)

[Assessment regulations](#)

[Exam rules](#)

The following policies and procedures may support you when sitting IFoA exams:

[Mitigating circumstances](#)

[Appeals](#)

[Refund policy](#)

[Membership complaint policy](#)

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Exam format overview

Exam	Exam Paper/Materials File Format	Answers should be submitted in:	Exam Length
CB1	PDF	Word	3 hr 20 min
CB2	PDF	Word	3 hr 20 min
CS1A	PDF	Word	3 hr 20 min
CS1B	PDF & R Data	Word	1 hr 50 min
CS2A	PDF	Word	3 hr 20 min
CS2B	PDF & R Data	Word	1 hr 50 min
CM1A	PDF	Word	3 hr 20 min
CM1B	PDF & Excel	Excel	1 hr 50 min
CM2A	PDF	Word	3 hr 20 min
CM2B	PDF & Excel	Excel	1 hr 50 min
CP1 Paper 1 & 2	PDF	Word	3 hr 20 min
CP2 Paper 1 & 2	PDF & Excel	Word & Excel	3 hr 20 min
CP3	PDF	Word	3 hr 5 min
SP1	PDF	Word	3 hr 20 min
SP2	PDF	Word	3 hr 20 min
SP4	PDF	Word	3 hr 20 min
SP5	PDF	Word	3 hr 20 min
SP6	PDF	Word	3 hr 20 min
SP7	PDF	Word	3 hr 20 min
SP8	PDF	Word	3 hr 20 min
SP9	PDF	Word	3 hr 20 min
SA1	PDF	Word	3 hr 20 min
SA2	PDF	Word	3 hr 20 min
SA3	PDF	Word	3 hr 20 min
SA4	PDF	Word	3 hr 20 min

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Exam process timeline

Quick links:

[Key dates](#)

[Assessment regulations](#)

[Marking guidelines](#)

[Mitigating circumstances](#)

[Appeals](#)

[Student and Associate terms and conditions](#)

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EXAM BOOKING

Book your exam via your member portal. Exam and other key dates can be found in the Quick links. Do a 'Test it out' check on IT equipment



2 WEEKS BEFORE

- Joining instructions
- Download Guardian browser
- Complete pre-exam checks
- Download pre-exam materials
- Complete check list



3 DAYS BEFORE

Download CP3 pre-exam materials
Check for system updates/re-test IT equipment



EXAM DAY

Open Guardian browser and go to exam platform to complete proctor checks.
Download exam paper & answer script
Regularly save your work
Upload answers and close proctoring session



POST EXAM DAY

If you experienced an issue or situation that affected your ability to complete your exam, refer to the Mitigating Circumstance policy via Quick links.



RESULTS

You can find the result release dates on our Key Dates webpage. Information about marking can be found in the Quick links.



APPEALS

If you believe there has been an irregular procedure or improper conduct of an assessment, refer to our Appeals webpage via Quick links.



IFoA Exam checklist

Completing the following checklist will help you prepare for your exam(s).

Exam booking / Preparing to sit an exam

- Check your equipment meets the [minimum technical requirements](#) and download [Guardian Browser](#).

- Read this Handbook and the [assessment regulations](#).

- Check and update your [contact details](#), including mobile phone number, in the IFoA member portal.
If you are not a member, please send your contact details to us via memberservices@actuaries.org.uk

- Check you have a valid form of [photographic ID](#).

Two weeks before your exam

- Ensure you can receive [essential emails](#) about your exam.

- [Create an account](#) and verify your details on the exam platform when you receive your welcome email from alerts@onlinepracticalexams.org.uk

- Review your [joining instructions](#).

- Log in to the exam platform to complete proctor, download and upload pre-checks.

- Ensure the time on your computer is set to your local time.

- For CS1B and CS2B exams, download pre-exam materials from exam platform.

- Check the date, start and end times of your exam.

Three days before (CP3 candidates only)

- Download pre-exam materials from exam platform.

Day before your exam

- Set up your exam space/area before your exam.

- Launch Guardian browser to check for software updates – updates will be automatically installed.

- Make a note of the exam platform URL, your username and password – you will need these on exam day.

We recommend you 'unpin' your regular web browsers, e.g. Chrome, Edge, Mozilla, from your task bar to prevent accidentally opening them during your exam.

Do a final upload/download check.

Day of your exam

Launch Guardian browser and login to the exam platform – you can connect to your proctoring session 20 minutes before your scheduled start time.

Move your mobile device out of reach of your exam desk before downloading your exam paper.

Download your examination paper.

Enable editing on your downloaded answer script template (CM1B, CM2B, CP2/1 & CP2/2).

Save your answer script(s) to your PC using My Documents or Desktop. Do not save to a cloud-based application, e.g. OneDrive, Google Docs.

Make sure you use a desktop version of Word / Excel, not Google Docs or Microsoft 365 online.

Regularly save your exam work, but not after the end of the exam time.

Preparing to sit your exam

This section has all the information you need to prepare for your exam day, including:

- Receiving essential communications.
- The type of hardware and software you will need.
- Downloading the secure web browser.
- The mandatory checks you will need to complete to ensure access to the exam platform on exam day.
- How to download any pre-exam materials for your exam.

Please note if you are sitting an exam through another association, you will not have access to the IFoA member portal and some of the following information may not be relevant.

Your primary contact details

Your preferred email address and phone number, as listed on your ['My Account'](#) area on the IFoA member portal, is used throughout your exam preparation and during the exam session for:

1. Sending you information about your exam booking and the exam platform.

It is your responsibility to check your contact details are correct and up to date. To update details:

1. Login to the member portal and go to ['My Account'](#).
2. Update details as necessary.
3. If you experience difficulties updating your details, contact memberservices@actuaries.org.uk

If you're sitting an exam through another association, please ensure the details being shared with us are up to date. If you want to inform us of a change, email memberservices@actuaries.org.uk.

Email communications

You will receive emails from different addresses. Add the following addresses to your 'safe senders' list to avoid emails going to your junk or spam folder:

- email@notifications.actuaries.org.uk
- news@update.actuaries.org.uk
- exams@actuaries.org.uk
- alerts@onlinepracticalexams.org.uk
- memberservices@actuaries.org.uk

If your preferred email address is your work address, you may need to contact your IT department to ask that the above addresses are whitelisted.

Minimum technical requirements – hardware and software

Please ensure you check that the equipment you intend to use on exam day meets the below hardware and software requirements:

Operating system	Windows 10 or later Mac OS 11.0 or later
Microsoft	Microsoft Office 2013 or later
Web browser	Guardian browser only
Connectivity	3 Mbps (approx 3,000 Kbps) upload and download. WiFi is supported but we recommend a fixed internet connection. Mobile hotspots and tethering is not supported.
Webcam	640x480 resolution
Microphone	All microphones other than those built into headphones are permitted.
Speakers	Built-in or external speakers are required.
RAM	8GB
CPU	We recommend 2 cores at 2.4ghz
Monitor resolution	1366x768
Ports	UDP/TCP 80 UDP/TCP 443
Time and date	Your computer or device date and time must be set to the local time and zone for the country where you are sitting your exam. Please do not adjust the time on your device to UK time.
Microsoft Surface tablet	Not supported
iPhone and Android mobile phones	Not supported
File sizes	Maximum file size should be no more than 100MB. If your file sizes exceed 100MB, your submission may not upload and may not be considered for marking.
ZIP file extractor	Your computer or device must have the ability to extract files from a compressed ZIP folder.
VPN / virtual desktop compatible	No

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Secure Web Browser

To connect to the exam platform and proctoring system (ProctorU) all candidates must install a secure web browser called 'Guardian Browser' to their computer.

- You can download Guardian Browser to your computer at: guardian.meazurelearning.com
- Click here for more information on how to download [Guardian Browser](#).
- You can test that your equipment meets the required specification at: go.proctoru.com/testitout

Please note – do not navigate to other areas from the 'test it out' webpage.

Information and guidance on the ProctorU website may not be relevant to your exam and could cause confusion.

If you plan to sit your exam at your employer's premises, or on an employer-provided computer, you may need permission or consent to download the secure browser.

For more information about proctoring and Guardian Browser please refer to our [exam FAQs](#).

Testing your equipment

Test your equipment using the device you will be using during the exam and in the location you plan to be in as early as possible. We strongly recommend doing this as soon as you book an exam to allow time to resolve any issues.

In addition to testing your equipment, you must also make sure you can download and upload to the exam platform. You can do these tests as soon as you receive your exam joining instructions, two weeks before the exam session. Please note, anti-virus software may affect your ability to download the exam paper.

Guardian Browser is regularly updated, so we recommend you open the browser to check for updates the day before your exam. Updates will be automatically installed.

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2 WEEKS BEFORE

Joining instructions

Two weeks before the start of the exam session, joining instructions will be available to download from your members area of the IFoA website.

1. Once logged in, go to the [Review exam booking page](#).
2. Your joining instructions will include how to create and verify your details in the exam platform and how to complete the examination.
3. If you are sitting an examination through another association, you will receive joining instructions by email.

Create an account and verify your details on the exam platform

You will receive an email for each exam you have registered to sit from:

alerts@onlinepracticalexams.org.uk.

The email/s will be sent to your preferred email address as registered in your [IFoA Member portal](#).

- If you do not receive this email, please check your contact details on your member portal and contact the Assessment Delivery team at exams@actuaries.org.uk no more than seven working days before your exam to ensure you have enough time to prepare for your exam.
- If this is your first IFoA exam, you will need to create an account on the exam platform by selecting 'set up my account' from the email. It is important to do this ahead of time and not on exam day.
- You will be required to enter an authentication code sent via your mobile phone.

If you have previously created an account for a past exam, it is recommended you check your login details and verify your mobile phone number by selecting '[set up my account](#)' from the email.

For step-by-step instructions with screen shots please see [Appendix 3](#).

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Exam platform

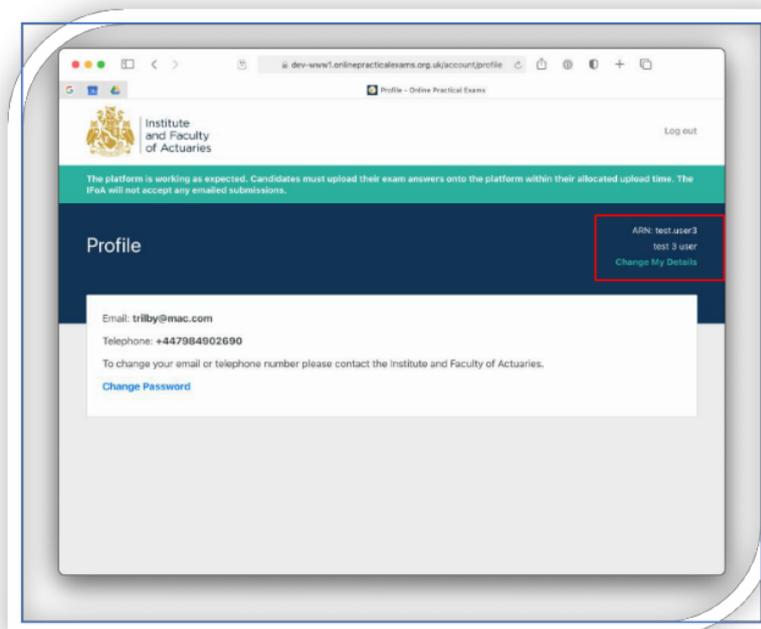
Once your account has been created you will be able to log in by navigating to this address in Guardian Browser: onlinepracticalexams.org.uk

You will need to enter your ARN (Actuarial Reference Number) and the password you created to access the exam platform.

Please note that you cannot save or bookmark the exam platform in Guardian Browser. You should make a note of the address and your password before exam day.

- The date and time on your equipment must be set to the correct time and zone for the country you are sitting your exam in. Do not change your computer to UK time.

If you need to change your details, including your password, select '[change my details](#)' at the top right corner of the exam platform.



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2 WEEKS BEFORE

Pre-exam equipment checks

You are required to do these checks every exam session and for all exams.

This includes both papers in a dual-paper exam.

You will not be able to access your exam paper if you do not complete the pre-exam equipment checks.

Complete these checks on the device you will use on exam day at the location in which you plan to sit your exam.

- If you are sitting an exam at your workplace or on equipment issued by your employer, you must contact your IT department if you experience any issues accessing Guardian Browser or the exam platform.
- Check for pending system updates, restrictions or firewalls that may cause access issues for you on exam day.

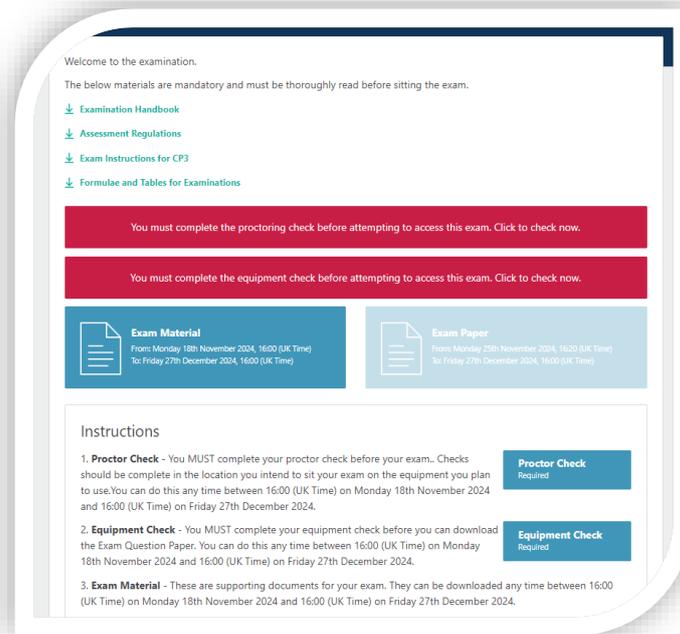
Accessing the pre-exam checks

1. Launch Guardian Browser – you may need to update and restart the browser if prompted.
2. Log in to the exam platform at onlinepracticalexams.org.uk
3. Once logged into the exam platform, you will see the welcome page.



4. To begin an equipment check, select '**View Exam**'.
5. Before you can check your equipment, you must confirm you have read and understood the IFoA [assessment regulations](#).
6. Once you check the box, you will proceed to a page like this:

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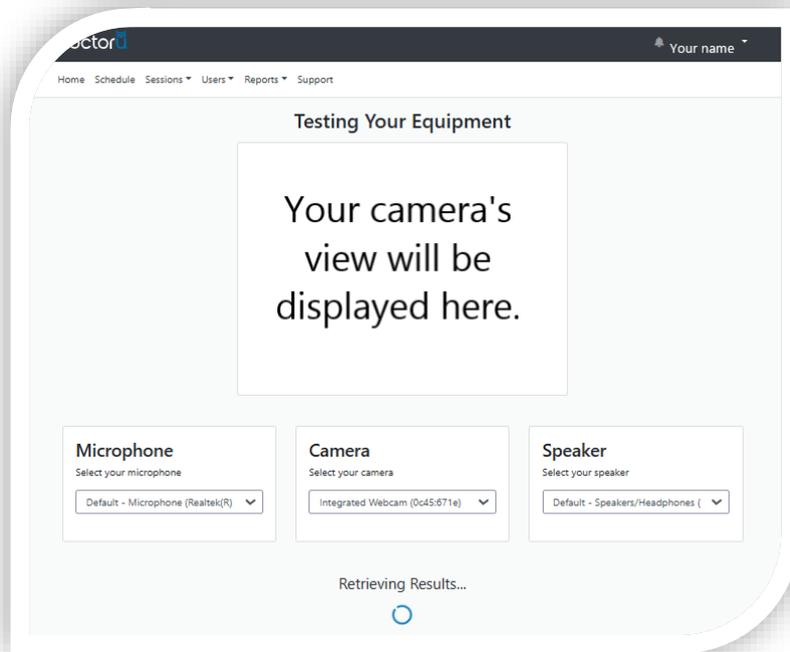


7. Click on **'Proctor Check'**. This will automatically launch ProctorU to allow you to carry out your system checks.
8. Click on the blue **'Equipment Check'** box to access download and upload checks.
9. You must test both download (to access exam paper on exam day) and upload (to submit your answer script on exam day).
10. Both the **'Proctor Check'** and **'Equipment Check'** must be marked as complete for your exam paper to become available.
11. There is no limit to the number of times you can carry out the checks.

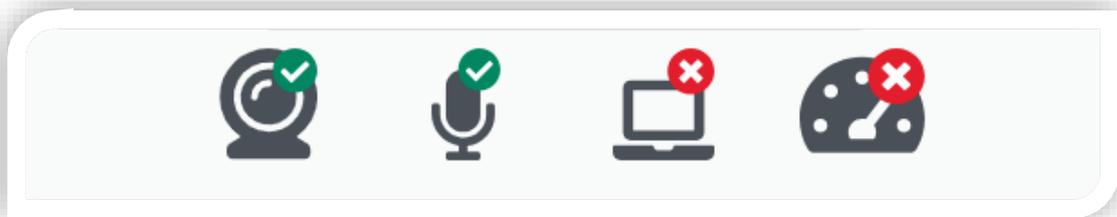
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Proctor Check

1. Select '**Proctor Check**'.
2. Allow the test to run.



3. The results of your tests will be shown once the test has run.
You will need to review and fix any test that fails to meet requirements.



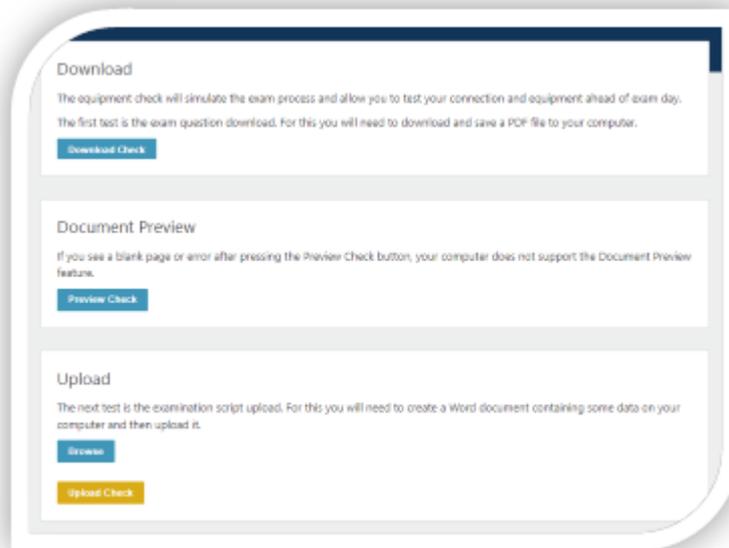
4. A red banner will show at the top of the examination area if you have not completed your proctor check correctly.

You must complete the proctoring check before attempting to access this exam. [Click to check now.](#)

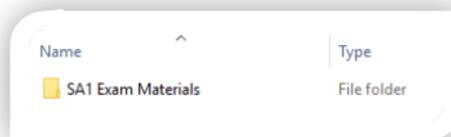
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Download test

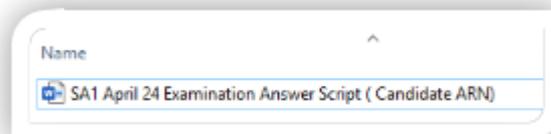
1. Select the blue 'Download Check' button.



2. A zip file containing a sample exam paper and, if sitting CM1, CM2 or CP2, an Excel spreadsheet answer template will be downloaded



3. Open the zip file and ensure you can open the sample PDF Exam Paper.
4. If applicable, open the Excel answer template and 'enable editing'.
5. Save your answer template to the file you intend to use on exam day e.g. 'My Documents'. Use your candidate ARN in the saved file name. You must use this file to do the upload test.

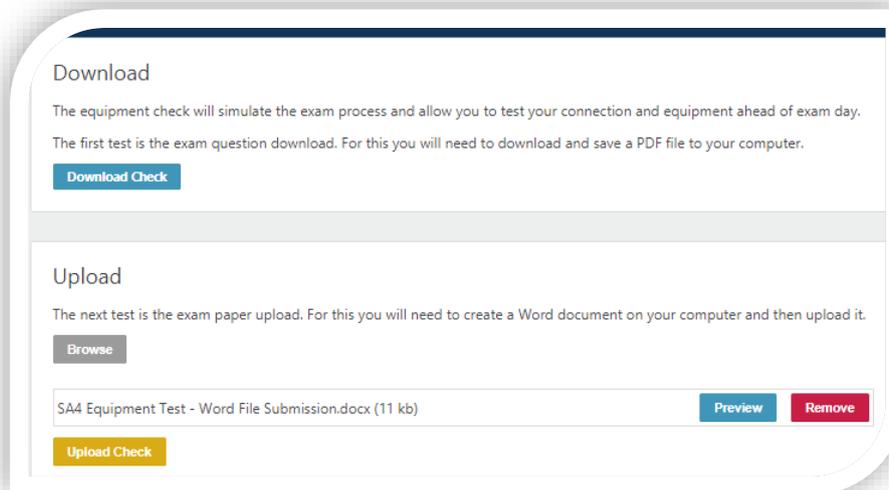
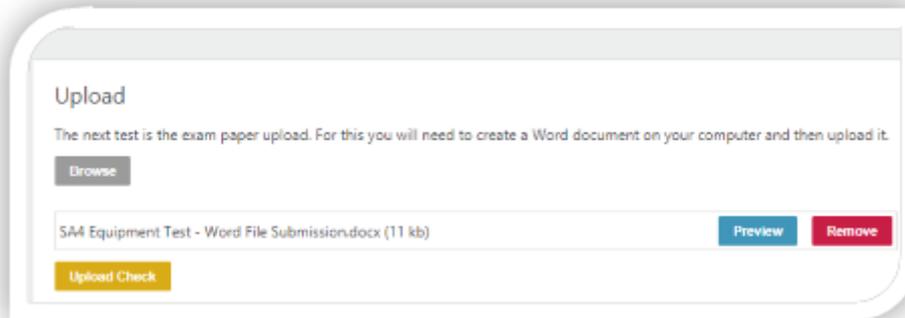


The answer file format for your exam can be found [here](#).

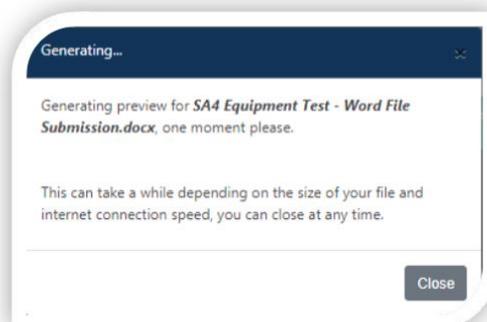
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Upload test

1. Select the 'browse' button and navigate to the location you saved your answer script.



2. If uploading more than one file (applicable for CP2 only), you will need to select all files at the same time. To select two documents, click on the **first file** you wish to upload, then press the Ctrl button on your keyboard and click on the **second file**. Both files should now be highlighted, which will allow you to upload both at the same time.
3. You can preview the file(s) you have uploaded by clicking the 'Preview' button



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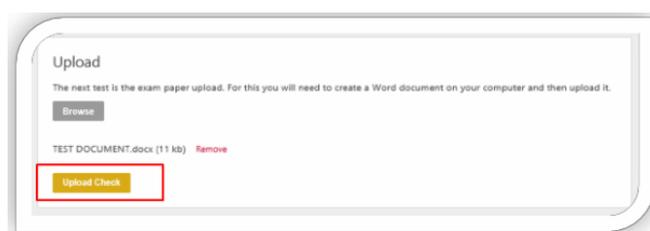
4. If you have selected the wrong file, click **'Remove'**. You can then browse and select the correct file(s).

Please note that the **'Preview'** function may not be compatible with certain networks or devices.

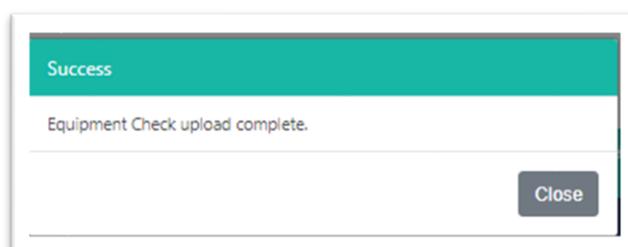
If you are uploading a large file (such as an Excel file), the function may take longer to generate.

When previewing an Excel document, the preview will display an image similar to the 'print preview' function in Excel. This does not mean there is a problem with the system or your file. On exam day the preview feature may run slower than usual as all candidates will be attempting to use it at a similar time. If the function does not work for you, you can still check the title of the file you are attempting to upload to ensure you are selecting the correct file.

5. If you are happy that the file(s) you selected is correct, select **'Upload Check'**, to upload the file(s).



6. Once complete, a confirmation popup box will appear.



7. A red banner will show at the top of the examination area if you have not completed your



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If you experience issues during your pre-exam checks, follow our [troubleshooting advice](#) in the first instance. If you are still experiencing issues, please contact us on +44 (0)1865 268 873 or email exams@actuaries.org.uk.

It is your responsibility to check your equipment and test the exam platform for all exams and papers before your exam sitting date. If you fail to do this ahead of time you will need to do it before you can download your exam paper and will lose exam time.

Once you have successfully completed your equipment checks, the blue button will state that you have completed the checks for that exam by showing a tick and the word 'completed'. If the button does not state this, you may have missed a step in the checks.

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2 WEEKS BEFORE

Pre-exam materials – CS1 & CS2

If you are sitting CS1 or CS2 you may need to download pre-exam materials from the exam platform for the **B Papers**. Your joining instructions will tell you if pre-exam materials are required.

3 DAYS BEFORE

Pre-exam materials – CP3 (only)

If you are sitting CP3 you will need to download pre-exam materials from the exam platform three days before your exam.

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EXAM DAY

On the day of your exam

- Allow enough time before the exam begins to prepare your equipment and work area.
- No additional time will be given if you fail to log in on time.

You must start your proctoring session and download the exam paper within 30 minutes of the exam start time. After this time you will be marked as absent and your attempt will be marked as a fail.

Logging into the examination platform

- Log into the exam system 20 minutes before the start of your exam.
- Use the same equipment you used to complete your pre-exam checks.
- Type or copy and paste the following address into Guardian Browser to access the exam platform: <https://www.onlinepracticalexams.org.uk/>
- Select your exam from the welcome screen and [connect to your proctoring session](#).
- [Download your exam paper](#) at the scheduled start time.

If you experience problems logging into the exam platform, please follow the steps outlined in our [troubleshooting section](#).

Answering your exam and saving your work

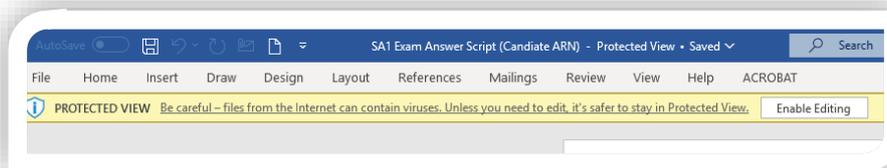
- For CM1 and CM2 'B' Papers you will be provided with Excel answer templates.
- For CP2 you will be provided with an Excel file containing the model data.
- It is your responsibility to ensure you regularly save your exam work.
- Save your file(s) to a folder you can browse via your computer's file explorer, for example **My Documents** or **Desktop**.
- **Failure to save your work will not be considered as a mitigating circumstance.**
- Add your ARN to your answer script file name.
- Do not save or change the file name after the exam time ends, including during the 30-minute upload window. This will change the 'last modified' time of your file, and your exam script **will not be marked**.
- To avoid your file(s) being saved after the exam time ends, we recommend you turn off autosave functionality.
- Any information that could identify you, e.g. your ARN, **must not** be included in the content, headers or footers of your file(s).
- We strongly recommend you do not use online versions of Microsoft Word or Excel as you may be unable to upload your answer script to the exam platform correctly.

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- The exam platform will only upload the following file formats:

Document	Software Package	Suffix
Word	Microsoft Office	.docx
Excel	Microsoft Office	.xlsx

- You may use keystrokes in place of the mathematical formulae and symbols in Word. A list of keystrokes can be found [here](#).
- You can use Excel for calculations.
- Unless specifically advised not to, include **all** calculation steps, and/or sufficient formulae for examiners to understand and assess how you determined your answer.
- If using Excel for calculations:
 - Data within Excel (or similar) should be copied and pasted directly into your answer file.
 - Screen shots or image capture will be accepted for marking but you will need to ensure all workings are visible to be marked, unless specifically advised not to.
 - Data copied from Excel (or similar) must not be linked to another source file.
 - Do not copy/insert an Excel (or similar) sheet into Word.
- Ensure your answer file is not saved in protected view/read only mode. This will prevent you uploading it to the exam platform. Enable editing when using template answer files.



- Do not password protect your answer file – we cannot mark it.
- Do not include links within your answer file, our marking system will not accept files that contain links.
- Do not leave any messages for the markers in your answer file.
- You must type all your answers, unless the IFoA have approved specific access arrangements. For the avoidance of doubt, 'typed' is defined as keyboard entry.
- There are no restrictions on which calculators can be used.

Uploading your examination

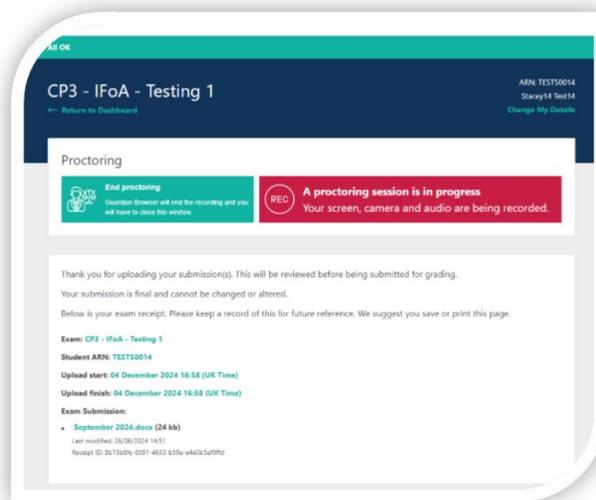
- You can upload your completed answer file(s) at any time.
- At the end of the exam time, save and close your answer file(s). **Do not open or modify your answer file after the exam time has ended. This includes changing the name of your file.**
- To upload your answer file(s), select the **'Exam Paper'** button on the exam platform. **We recommend keeping the upload area open on screen throughout your exam, so you do not have to log back in and re-authenticate.**
- You will have 30 minutes to upload your examination submission after the exam time has ended. Begin your upload as soon as your exam ends, as we cannot accept any submissions that have either not uploaded or only partially uploaded.
- During the 30 minutes allocated for uploading your exam documents, you are not permitted to continue working on your examination. This includes reviewing and formatting your examination file(s).
- You are responsible for the proper submission of all your exam materials within the 30 minutes upload period and we will not accept materials uploaded after this time.
- We cannot be held liable if an error occurs when uploading to the exam platform if you have not followed the guidance provided in this handbook, or if you suffer any issues with your equipment or network.
- The timestamp of your answer file will be validated by the exam system. This includes the time and date the files were last modified. Answer files that have been modified outside the exam time **will not be marked.**
- To upload your examination file(s), select the 'Browse' button within the upload section to find the file you would like to upload. The maximum file size is 100MB. If your file size is greater than 100MB, your submission cannot be marked.
- Step by step instruction on uploading files can be found in [Appendix 2](#).

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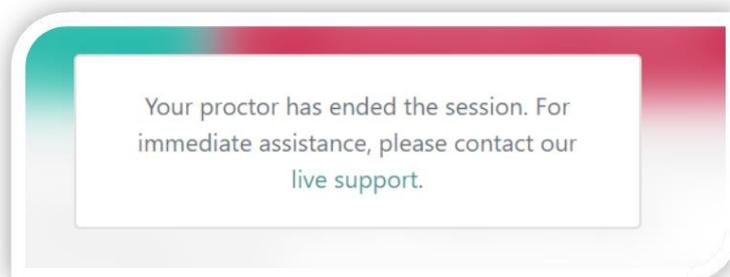
Ending your proctoring session

There are two ways to end the proctoring session once your exam is complete:

1. Closing Guardian Browser – be careful not to close the browser during your exam.
 - If you do accidentally close the browser during your exam, log back in via the exam platform immediately.
2. Uploading and submitting your exam answers.
 - On the upload confirmation page, you will see confirmation that the proctoring session is still in progress.
 - Once you have uploaded your submission, you should end your proctoring session. Note: once the proctoring session is ended, you will not be able to return to this page unless you log back into the exam platform.
 - Click on 'End proctoring' – the blue button.



- Your screen will be blurred out and you will see confirmation that the proctor has ended the session.

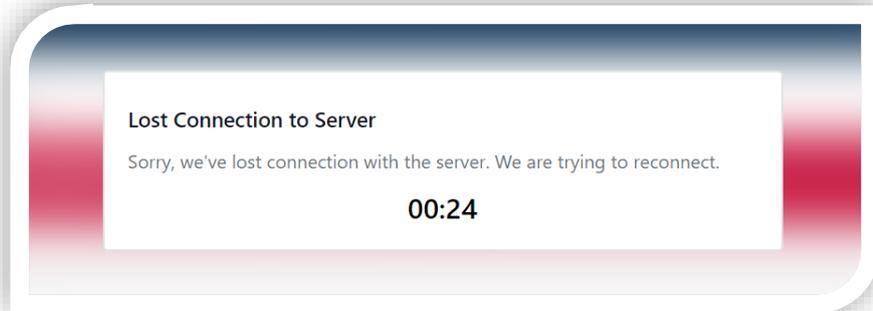


- You can now close Guardian Browser.

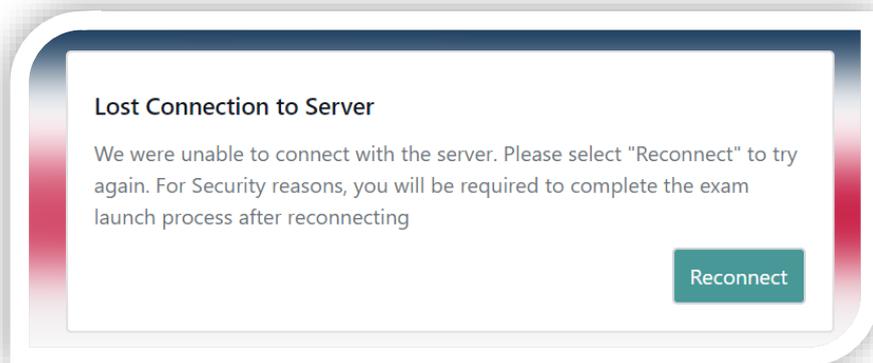
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Proctoring Disconnections

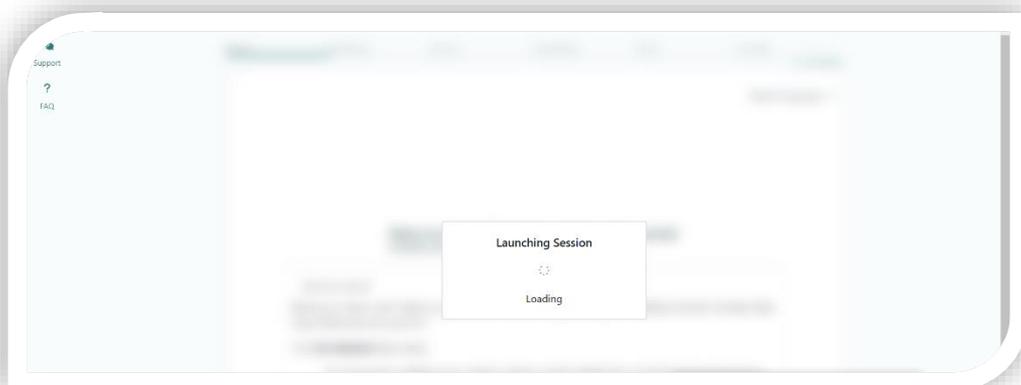
If you briefly lose connection (less than 30 seconds), you will automatically be reconnected to the proctoring session and can continue your exam.



If your disconnection lasts longer than 30 seconds, you will need to click on 'Reconnect' when your connection returns.



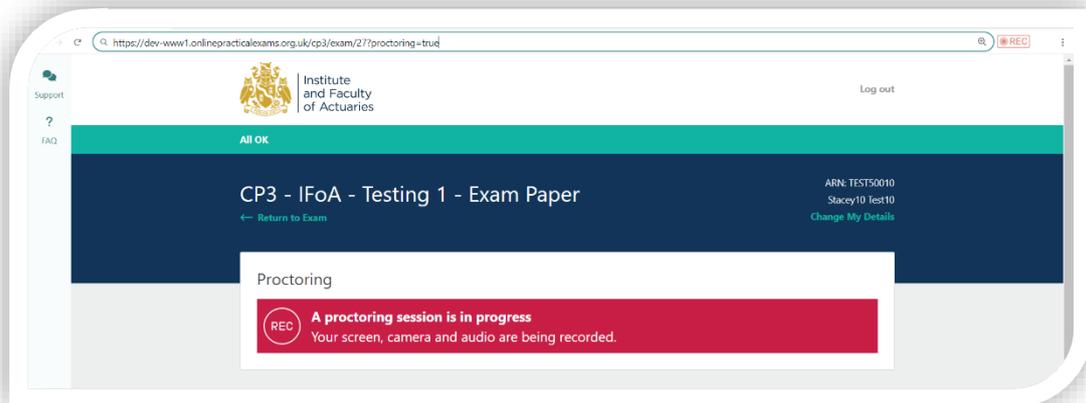
Re-launching the proctoring session may take a minute or two to load depending on the speed of your connection.



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Once launched, you will need to re-authenticate and repeat the onscreen steps to connect to the proctoring session, including verifying your ID.

Ensure you check that the recording icon (in the top right of the Guardian browser) is shown and that the exam page confirms a proctoring session is in progress in the red banner.



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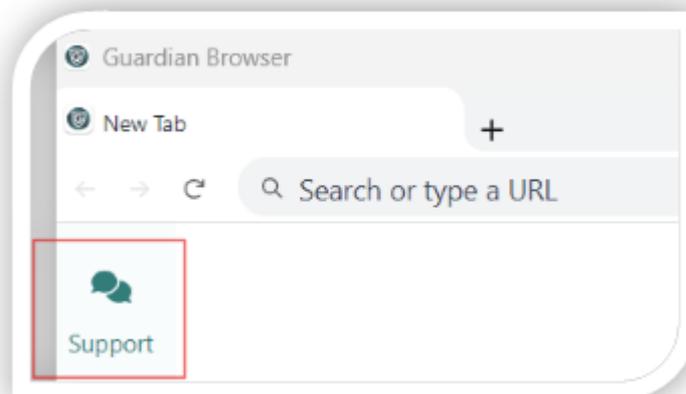
Troubleshooting issues

Downloading Guardian Browser/Accessing the exam platform:

- Check that anti-virus software or firewalls are not blocking access to the exam platform or upload/download of files. You may need your employer's help if using a company device.
- Restart your device.
- If possible, try connecting on a different device (e.g. spare laptop).

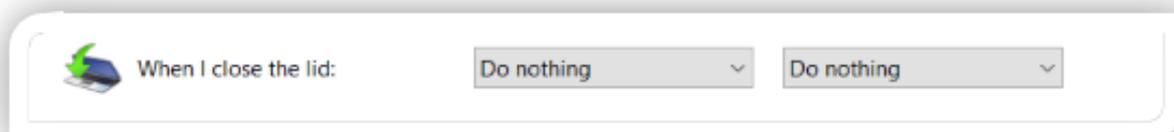
Connecting to your proctoring session

- If you cannot launch your proctoring session from the exam platform, please contact Assessment Delivery team on + 44 (0)1865 268 873, or email exams@actuaries.org.uk
- If you have launched the ProctorU system but are unable to complete any of the onscreen instructions, for example taking a photo of your ID or sharing your screen, please use the **'Support'** chat function within Guardian Browser.
- Type 'Agent' in the text box to speak to a support agent



Connecting a monitor to a laptop

- You will need to change your laptop settings to allow the computer to continue to run when the laptop lid is closed. You must close the laptop lid to ensure it does not register as an additional screen.



- If you have a closed laptop and a monitor connected, make sure the monitor is set to 'duplicate' instead of 'extend' or another similar option.
- If your monitor is connected to a dock, try connecting the monitor directly to your device.
- If these solutions don't solve the issue, please use the '**Support**' chat function within the Guardian Browser. Type 'Agent' in the text box to speak to a support agent.

Sharing your screen on MacOS

- MacOS defaults to disallowing screen recording of apps downloaded from the internet. If you are running MacOS Catalina version 10.15 or later, or any more recent MacOS versions, you must grant Guardian Browser access to the new screen recording permission in order to share your screen during a proctored session.
- You can update your MacOS screen recording settings by [following these instructions](#).
- If these solutions don't solve the issue please use the '**Support**' chat function within Guardian Browser. Type 'Agent' in the text box to speak to a support agent.

File upload issues:

- Ensure the file is in the correct format – .docx or .xlsx only
- Save the file to a local folder, e.g. 'Desktop' or 'My Documents'
- Ensure the file is saved in edit mode, e.g. is not in protected view/read only.

If you experience issues uploading your exam document(s) during the 30-minute upload period, you **must** call the Assessment Delivery team on +44 (0)1865 268 873.

Getting help

For issues with Guardian Browser, or connecting to or completing the onscreen steps within ProctorU, please use the '**Support**' chat function within Guardian Browser or click <https://auto.proctoru.com/chat/>. Enter 'Agent' into the message box to chat with a support staff member.

The Assessment Delivery team will provide support with issues regarding the exam platform, downloading or uploading your exam paper or general queries about your exam.

Please note – exam submissions sent by email cannot be accepted without prior Assessment Delivery authorisation.

Please note – we are unable to provide technical support for your equipment or internet connection.
+ 44 (0)1865 268 873, or exams@actuaries.org.uk

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Emergency situations

Should you experience any issues during your exam, please refer to the suggested actions below:

- Should you wish to submit a [mitigating circumstances](#) application, you must keep a log of the issues and the time you have been affected, and screenshots where relevant.
- Please refer to the [mitigating circumstances policy](#) for details.

Fire alarms and other distracting events

You are responsible for checking there are no scheduled fire alarms or other planned events that may affect your exam sitting in the building where you are sitting your exam.

If an unexpected fire alarm occurs during your exam, you should leave the building if required.

While evacuated from the building, you must not communicate with anyone about your exam.

Once you return to your exam, you must complete the paper to the best of your ability; you will not receive additional time but may apply for [mitigating circumstances](#).

IFoA exam platform issues

If the exam platform fails during your examination, the Assessment Delivery team will do their best to immediately put alternative arrangements in place where possible. If this proves impossible, the exam may be cancelled. In the unlikely event of cancellation, you will be contacted and advised of the next steps by email.

System Issues (internet/electric connectivity)

System issues could relate to internet connection or electricity failing. If you experience issues with your system, you must keep a log of the issues and the times you have been affected. You will need to take screenshots as evidence for errors or issues which have occurred. A loss of power will stop your proctoring session and therefore your exam attempt may be void if less than 85% of the exam is recorded. If a loss of power affected less than 15% of your total exam time and you want the issues to be considered under our [mitigating circumstances policy](#) please complete an application and submit to exams@actuaries.org.uk.

Appendix 1– Mathematical formulae and symbols

The following tables are a non-exhaustive list of suggested keystrokes to use in place of the mathematical formulae and symbols in Word.

These keystrokes are most likely to be of use in subjects CM1, CM2, CS1, CS2, SP6 and SP9 but all candidates are advised to be familiar with them as part of exam preparation.

You may use alternate sensible notation so long as it is recognisable to markers.

You are permitted to copy and paste the IFoA standard keyboard notation into your exam submission should that assist you in answering your exam paper.

You may also use the equation editor function within Word if you wish to do so. It is recommended you familiarise yourself with common keystrokes used by reviewing past papers and examiner reports for the relevant subject.

The list has been grouped into four key areas as follows:

- General mathematical notation.
- Statistical notation.
- Compound interest functions.
- Life table functions.

Notation or Meaning	Standard Keyboard Symbol / Notation that may be used
General mathematical notation	
Multiplication, \times	*
Division, \div	/
Approximately equal, \approx	~= OR; approx. = OR; c. =
Inequalities e.g. $a \geq b$ and $c \leq d$	$a >= b$ and $c <= d$
Proportionality, $a \propto b$	a is proportional to b
Square root $\sqrt{\dots}$	sqrt(...)

Notation or Meaning	Standard Keyboard Symbol / Notation that may be used
Superscripted letters, a^x	a^x
Subscripted letters, e.g. X_{ij}	X_ij OR; Xij
Exponential, e^x	exp(x) OR; e^x
Accented symbols, e.g. \hat{b} , \bar{X}	b^hat, X^bar OR; bhat, Xbar
Greek letters, e.g. $\mu, \sigma, \alpha, \beta, \theta, \varphi, \lambda, \eta, \rho, \delta$	Use the typed word for the letter e.g. mu, sigma, alpha, beta, theta, phi, lambda, eta, rho, delta. Match case of Greek letter, for example phi for φ and PHI for Φ . OR; an Arabic alternative where available e.g. a instead of alpha, b instead of beta, d for delta or D for DELTA.
Symbols, e.g. infinity symbol, ∞	Infinity OR; Inf
Derivatives, e.g. $f'(x), f''(x), \delta f / \delta s$	f'(x), f''(x), df/ds (stating partial, if necessary) OR; df/dx, d^2f/dx^2
Integral, e.g. $\int_a^b f'(t) dt$ and Solved Integral, e.g. $= [f(t)]_a^b$	INT(a,b):f'(t) dt OR; Integral over a to b (f'(t)) OR; int(a,b)[f'(t)] = [f(t)]:(a,b)
Summation, e.g.	sigma(a,b): mu(t)

Notation or Meaning	Standard Keyboard Symbol / Notation that may be used
$\sum_{t=a}^b \mu_t$	OR; sum(a,b): mu(t) OR; Sum over a to b (mu(t)) OR; Sum(a,b)[mu(t)]
Product, e.g. $\prod_a^b f(x)$	Product (a,b):f(x) OR; product over a to b(f(x))
Statistical notation	
Expected values e.g. $E(\dots)$	$E(\dots)$
Conditional expectation, e.g. $E(X Y)$	$E(X \text{ given } Y)$
Variance, $V(\dots)$	$V(\dots)$
Covariance, $Cov(\dots)$	$Cov(\dots)$
Distributions, e.g. χ_m^2	chi-squared_m OR; chi-squared with m degrees of freedom
Binomial Coefficient, e.g. $\binom{n}{r}$	n choose r OR; choose (n, r)

Notation or Meaning	Standard Keyboard Symbol / Notation that may be used
Compound interest functions	
$i^{(p)}$	$i(p)$
$d^{(p)}$	$d(p)$

Notation or Meaning	Standard Keyboard Symbol / Notation that may be used
δ	delta
v^n	v^n
$s_{\overline{n} }$	s:<n>
$\bar{a}_{\overline{n} }$	abar:<n>
$a_{\overline{n} }^{(p)}$	a(p):<n>
Life table functions	
$\frac{l_y}{l_x}$	Ly/Lx
$\frac{d_x}{l_y}$	dx/Ly
${}_k p_x$	kpx
${}_m q_x$	m qx
p_{xy}	px:y
$\ddot{a}_{x:\overline{n} }$	adue:x:<n>
$a_x^{(p)}$	a(p):x
$\ddot{a}_{x:y}$	adue:x:y

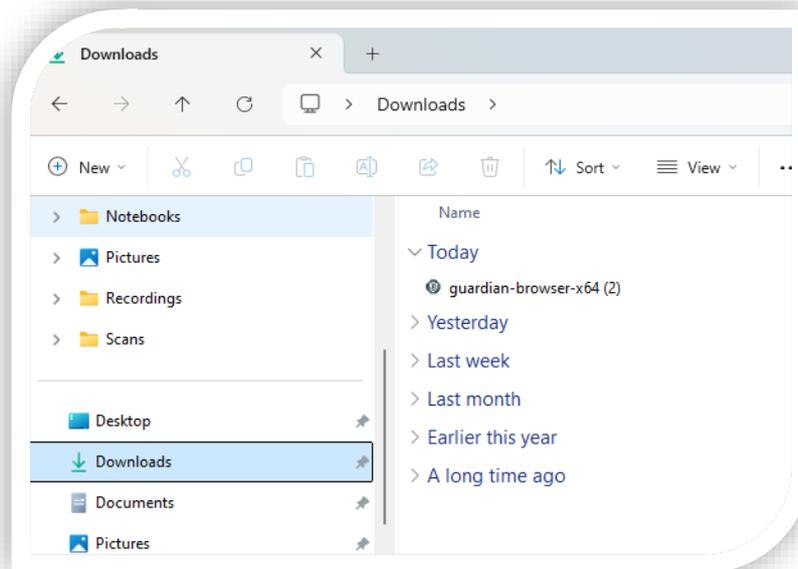
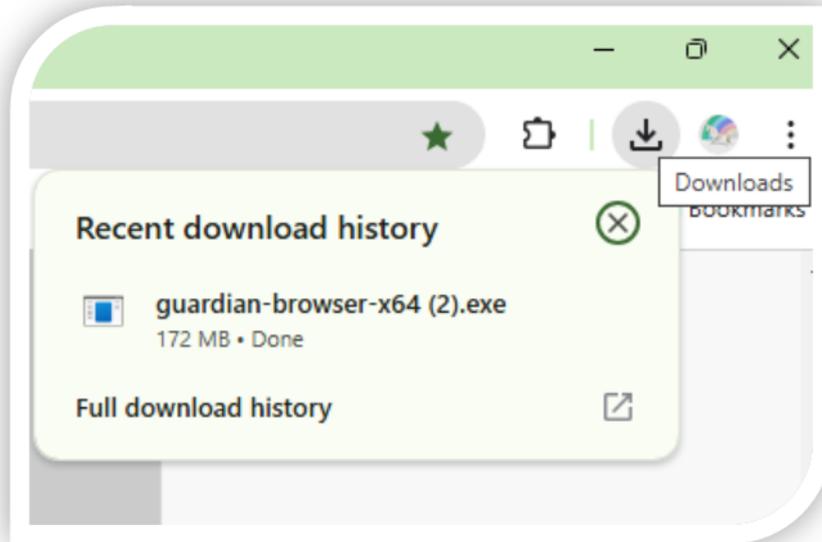
Notation or Meaning	Standard Keyboard Symbol / Notation that may be used
$\ddot{a}_{x:y:\overline{n}}$	adue:x:y:<n>
$\ddot{a}^{(\rho)}_{x:y:\overline{n}}$	adue(p):x:y:<n>
$\ddot{a}_{x y}$	adue:x y
$m \ddot{a}_x$	m adue:x
$A_{x:\overline{n}}$	EA:x:<n>
$\bar{A}_{x:\overline{n}}$	EAbar:x:<n>
$A_1_{x:\overline{n}}$	TA:x:<n>
$A_{[x]:\overline{n}}^1$	PE:[x]:<n>
$(IA)_1_{x:\overline{n}}$	I(TA):x:<n>

Appendix 2 – How to download Guardian Browser

Go to <https://guardian.meazurelearning.com/> and click on relevant operating system link to download Guardian Browser.

On Windows

Locate the downloaded installer file and double click to run.

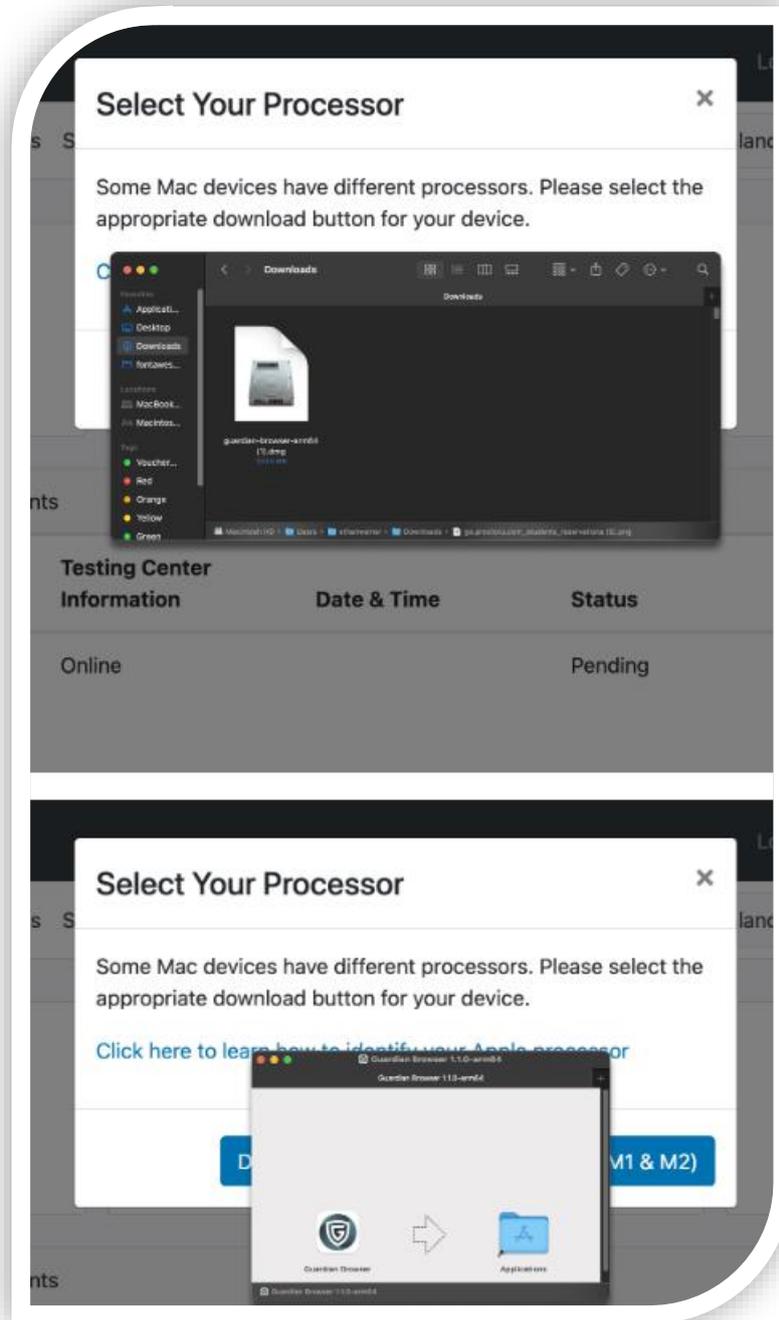


Follow any onscreen prompts.

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On MacOS

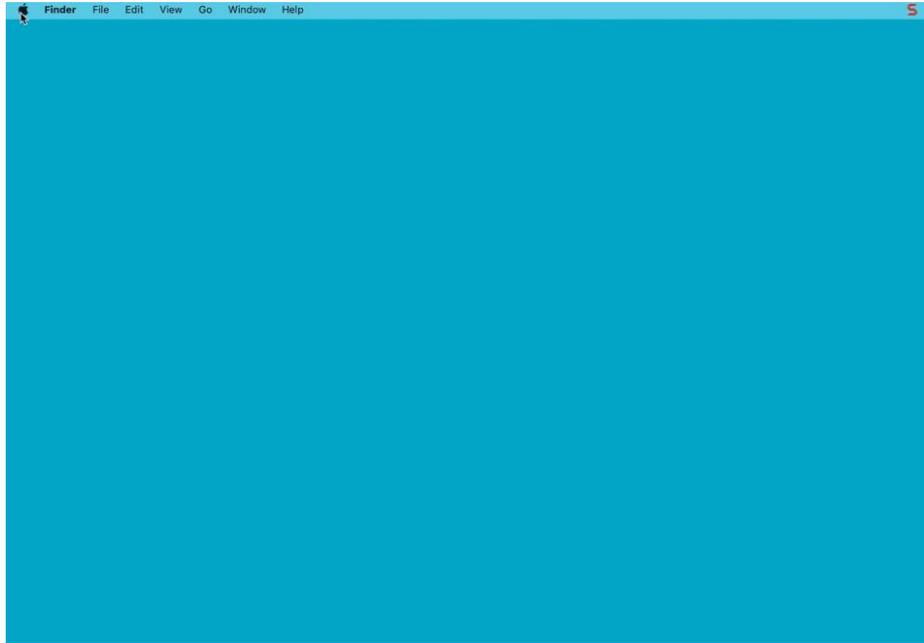
- Open the Guardian-Browser.DMG file. This will prompt you to move Guardian Browser into your applications folder.
- Move it to the applications folder.



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To identify your Apple Processor:

When using MacOS, you will need to identify the correct version of Guardian Browser to download.



To identify the correct version, select the Apple icon in the top menu bar of your screen and select 'About This Mac'.

If you see Chip: Apple M1 as shown in the image below, download the Apple M1 version of Guardian Browser.



If you see Processor: Intel as shown in the image below, download the Apple Intel version of Guardian Browser.

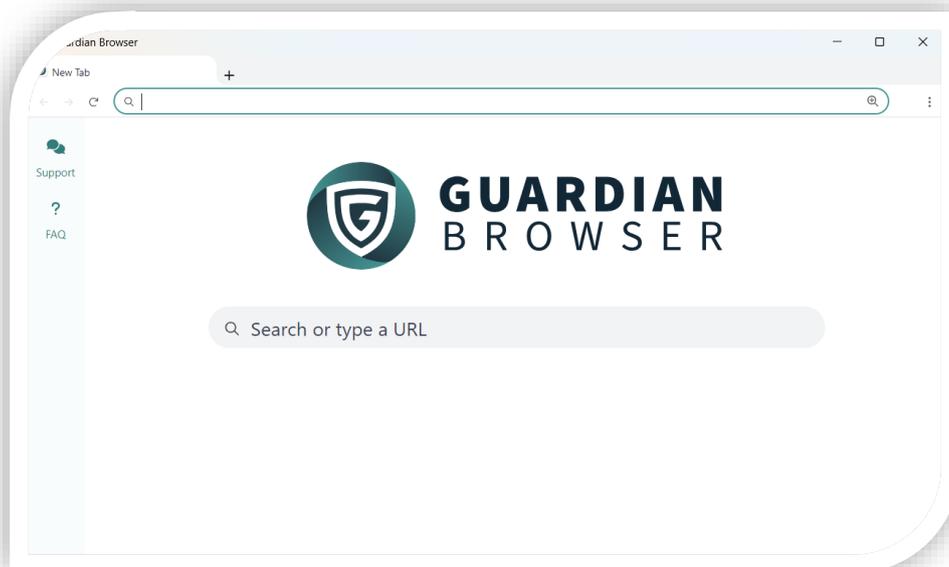
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If you see an error saying the app can't be opened because it was not downloaded from the Mac App Store:

- You can make an exception to this macOS security setting for the guardian browser by following these instructions.
- You can permanently change your macOS security settings by following these instructions.

Guardian browser will open automatically once installed.



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Appendix 3 – Using the exam platform

Exam platform URL - www.onlinepracticalexams.org.uk

Forgotten Password

If you forget your password, go to the login screen and enter your ARN, then click **'Next'**.

Click **'Forgotten Password?'** Enter your ARN again, then click reset password.

You will receive an email with a reset password link allowing you to set a new password.

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Setting up an account (first time exam sitters)

You will receive an email prompting you to set up an account on the exam platform.

If account not yet activated

Subject Line: Welcome to Online Practical Exams

Dear [NAME]

This email is sent on the behalf of the Institute and Faculty of Actuaries.

Setup your Online Practical Exams account for **CM1A – 11 September 2023 – Cohort 1 08:00**.

To gain access to the Online Exams Platform, you must first set up and verify your details. You must have your mobile phone available. Screenshots and guidance are available on the [IFoA website](#).

To verify your details and set up your account you must do the following:

1. Open this webpage to verify your details: [Setup my account](#).
2. Once the webpage has loaded, you will then be able to create a password and save those details.

1. Select '[Set up my account](#)'
2. Create a password

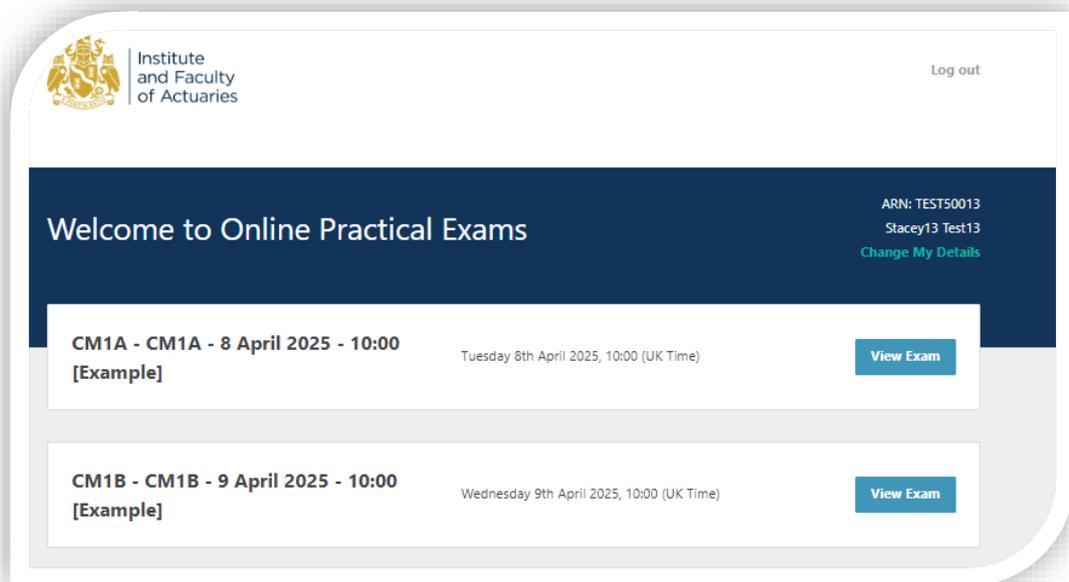


The screenshot shows a web browser window with the URL <http://dev-www1.onlinepracticalsams.org.uk/actuary/0823/>. The page title is "Create a password - Online Practical Exams". The IFoA logo is displayed at the top, followed by the text "Institute and Faculty of Actuaries". Below this, the heading "Create a password" is centered. The form contains two input fields: "Password" and "Confirm Password", both with placeholder text. A blue "Save Password" button is positioned below the second field.

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Downloading your exam paper

1. Once logged in, select your exam from the welcome screen.



2. Confirm you have read and understood the assessment regulations.
3. The **'Exam Material'** box (if applicable) and the **'Exam Paper'** box will turn blue when files are available to download.



4. The **'Exam Paper'** box will turn blue when:
 - The **exam time starts.**
 - You have completed your proctoring and equipment checks.

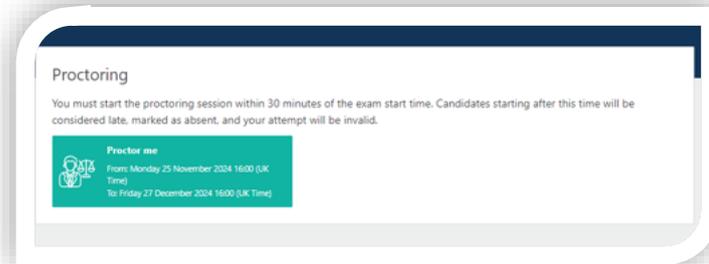
Remember, you can start your exam proctoring session 20 minutes before the exam start time.

5. When available, click on **'Exam Paper'**.

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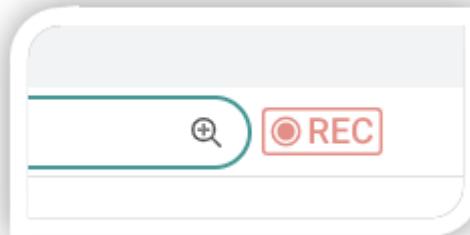
6. Click on **'Proctor Me'** and complete the onscreen steps to [connect to your proctoring session](#).

Note: Launching your proctoring session will close any email applications and browsers you have open.



7. Once connected to your proctoring session you will be automatically navigated back to the exam platform. You can download your exam paper at the scheduled start time.

Note: You can confirm if you are being recorded by looking for the recording icon on the right-hand side of the address bar in Guardian Browser.



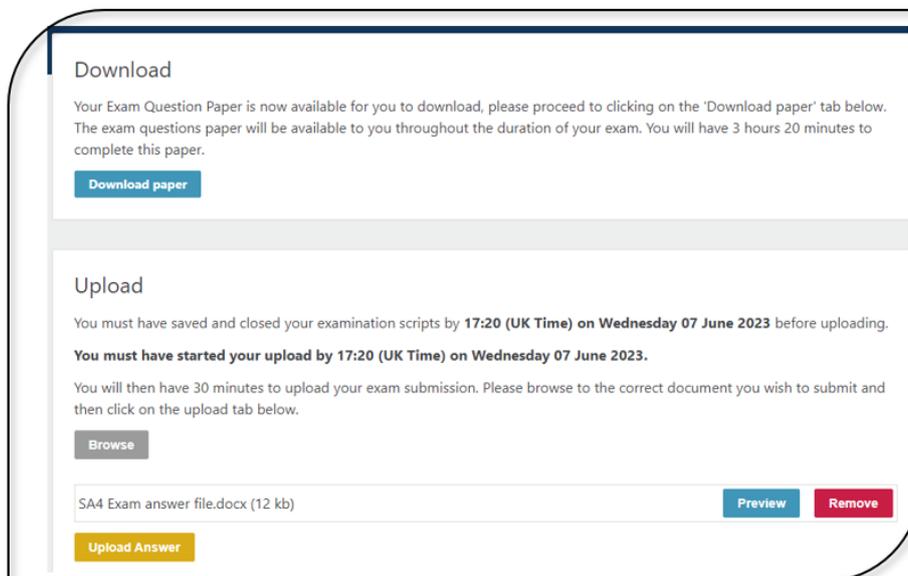
If you connect to your proctoring session before the exam start time, remember your audio, video and screen is being recorded.

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Uploading your answer script

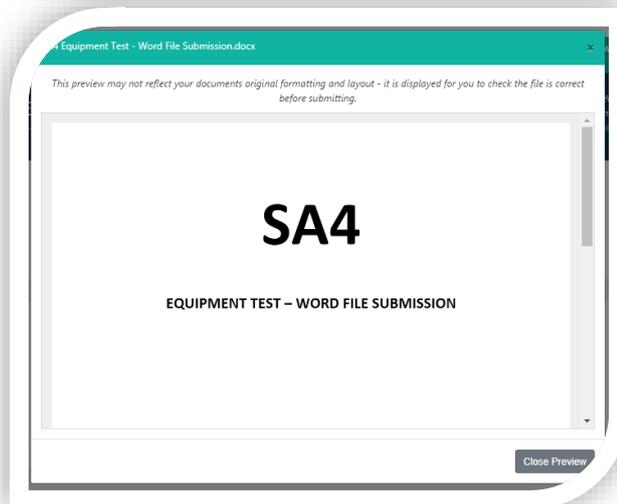
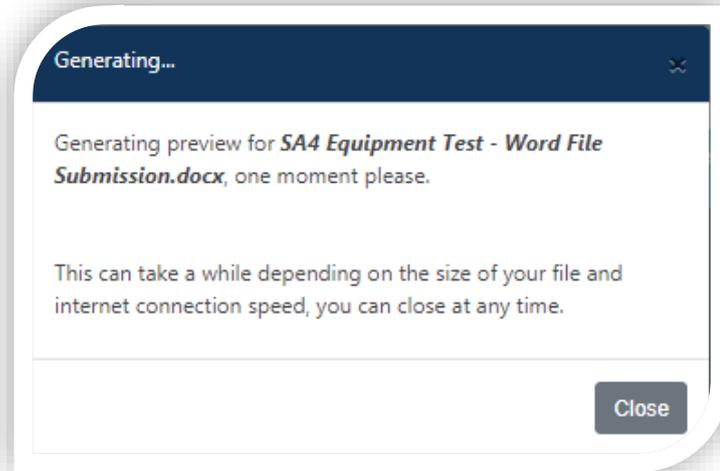
When you are ready, upload your answer script.

1. In the **'Exam Paper'** area, click on **'Upload'**



The screenshot shows a user interface with two main sections: 'Download' and 'Upload'. The 'Download' section has a heading, a paragraph of instructions, and a blue 'Download paper' button. The 'Upload' section has a heading, a paragraph of instructions, a 'Browse' button, a file input field containing 'SA4 Exam answer file.docx (12 kb)', a blue 'Preview' button, a red 'Remove' button, and a yellow 'Upload Answer' button.

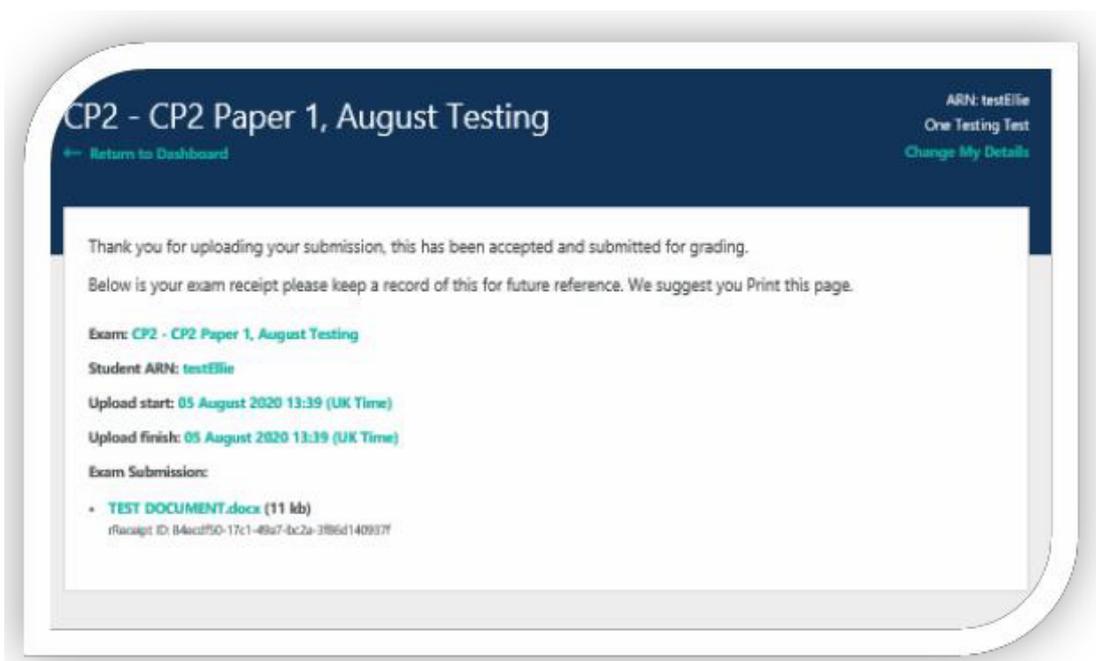
2. Browse and select the file(s) you wish to submit.
 - If submitting multiple files (only needed for subject CP2), you **MUST** do this at the same time. You cannot add further files once you have completed this step.
 - To select two documents, click on the first file you wish to upload, then press and hold the Ctrl button on your keyboard and click on the second file.
3. Click **'Preview'** if you wish to check you have uploaded the right file.
 - If you have selected the wrong file, click **'Remove'** and the file will be removed.
 - Please note that the preview function may not be compatible with certain browsers, workplace networks or devices.
 - If you are uploading a particularly large file (such as an Excel file), the preview function may take longer to generate or not load all tabs in the exact format/layout you are expecting. This is an automated conversion tool, which may not exactly replicate the layout as per your saved file. On your exam day, whilst fully operational, this feature may run slower than usual, as all candidates will be attempting to use this feature at similar times.
 - If the function does not work for you, you can still check the title of the file you're trying to upload to ensure you are selecting the correct file(s).



- Please note that the size of your uploaded document may vary once it has been uploaded. Do not use file size comparison to validate you have uploaded the correct file.
- Please also note that when previewing Excel files that have multiple tabs/sheets within the file, these may appear as separate pages in the preview. Please check that all your intended work appears on the screen.
- It may take up to 60 seconds for the preview to appear. This will depend on factors like the size of the document uploaded and your internet connection.

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4. If you are happy with the file(s) and you would like to upload, select '**Upload Answer**'.
5. Once your file(s) is uploaded, a confirmation pop up box will appear. Tick the box to confirm that this is the file that you wish to submit. When you click the confirm button this will submit your file(s).
6. You cannot make changes to your submission once you have completed the uploaded process. We cannot accept alternative or additional documents sent by email.
7. Once your file(s) has been successfully uploaded, the exam platform will show an onscreen confirmation receipt detailing the exam, your candidate details, upload details and the file name. In addition to the confirmation receipt on screen, an email with your upload details will be sent to the email address which you have entered on the exam platform.



Appendix 4 – Launching Your Proctor session steps

Page 1 of 6: Welcome page

The things you are allowed to access or bring to your exam, for example formula and tables book, scrap paper and calculators, are outlined in the 'Allowed Resources' drop down.

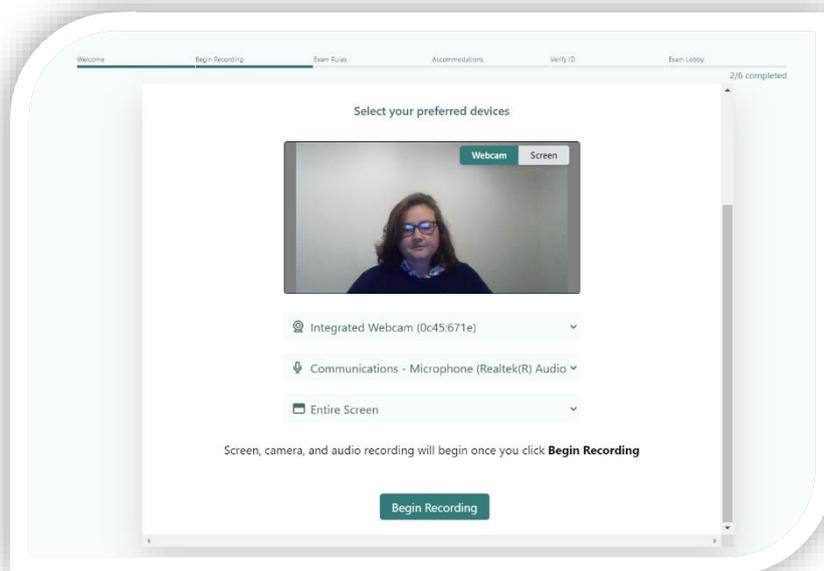
Candidate-specific access arrangements are displayed in the 'Accommodations' drop down.

Page 2 of 6: Begin recording

Select your preferred devices. They will automatically set to the default devices on your system.

Click on '**Begin Recording**'.

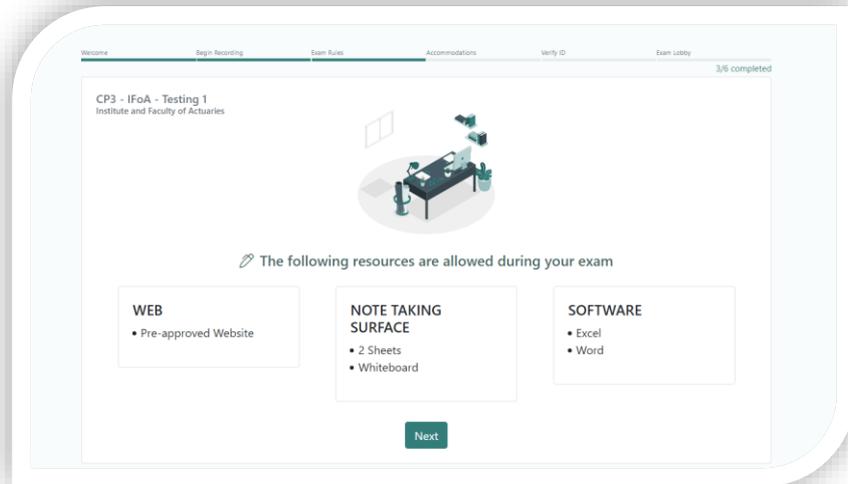
NOTE: From this point on you are being recorded. Ensure you have read and understood the exam rules.



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Page 3 of 6: Exam rules

This page repeats the instructions given in the allowed resources on the welcome page.



The screenshot shows a web interface for 'CP3 - IFoA - Testing 1' at the 'Institute and Faculty of Actuaries'. The page is titled 'Exam Rules' and is the third of six steps completed. It features a navigation bar with links for 'Welcome', 'Begin Recording', 'Exam Rules', 'Accommodations', 'Verify ID', and 'Exam Lobby'. The main content area includes an illustration of a person at a desk with a computer and a whiteboard. Below the illustration, the text reads: 'The following resources are allowed during your exam'. This is followed by three boxes: 'WEB' (Pre-approved Website), 'NOTE TAKING SURFACE' (2 Sheets, Whiteboard), and 'SOFTWARE' (Excel, Word). A 'Next' button is located at the bottom center.

Welcome Begin Recording **Exam Rules** Accommodations Verify ID Exam Lobby 3/6 completed

CP3 - IFoA - Testing 1
Institute and Faculty of Actuaries

The following resources are allowed during your exam

WEB

- Pre-approved Website

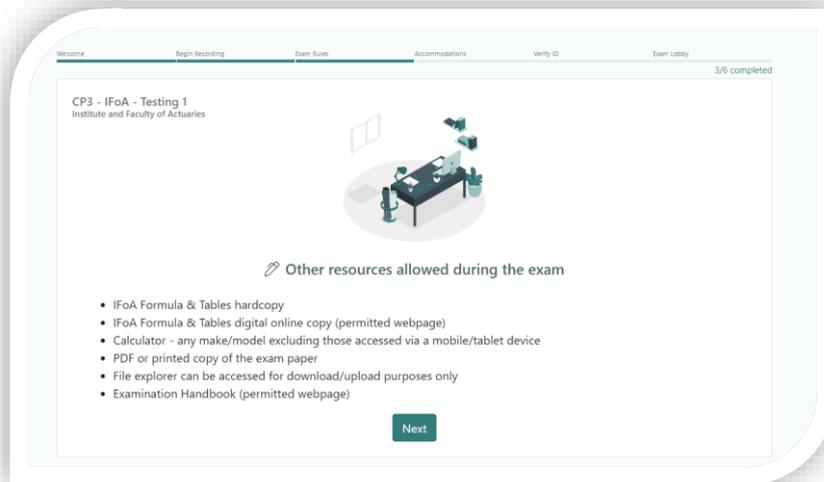
NOTE TAKING SURFACE

- 2 Sheets
- Whiteboard

SOFTWARE

- Excel
- Word

Next



The screenshot shows the same web interface as above, but with a different list of allowed resources. The navigation bar and header information are identical. The main content area includes the same illustration of a person at a desk. Below the illustration, the text reads: 'Other resources allowed during the exam'. This is followed by a list of resources: IFoA Formula & Tables hardcopy, IFoA Formula & Tables digital online copy (permitted webpage), Calculator - any make/model excluding those accessed via a mobile/tablet device, PDF or printed copy of the exam paper, File explorer can be accessed for download/upload purposes only, and Examination Handbook (permitted webpage). A 'Next' button is located at the bottom center.

Welcome Begin Recording Exam Rules Accommodations Verify ID Exam Lobby 3/6 completed

CP3 - IFoA - Testing 1
Institute and Faculty of Actuaries

Other resources allowed during the exam

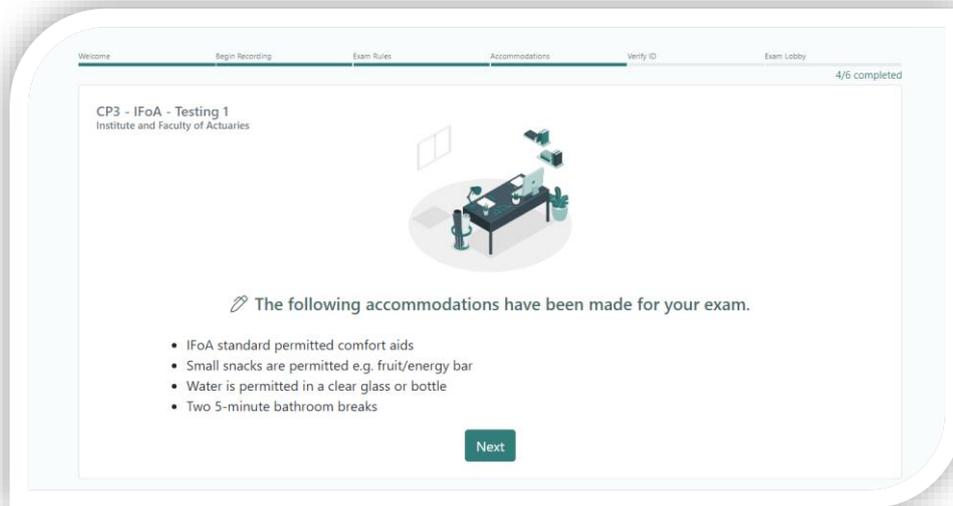
- IFoA Formula & Tables hardcopy
- IFoA Formula & Tables digital online copy (permitted webpage)
- Calculator - any make/model excluding those accessed via a mobile/tablet device
- PDF or printed copy of the exam paper
- File explorer can be accessed for download/upload purposes only
- Examination Handbook (permitted webpage)

Next

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Page 4 of 6: Accommodations

Candidate-specific access arrangements are displayed on this page – this is also a repeat of those listed on the welcome page.



Page 5 of 6: Verify ID

You will be asked to take a photo of yourself – ensure your face is clearly visible and click on **'Take Photo'**.

Next you will be asked to show and photograph a valid form of photo ID.

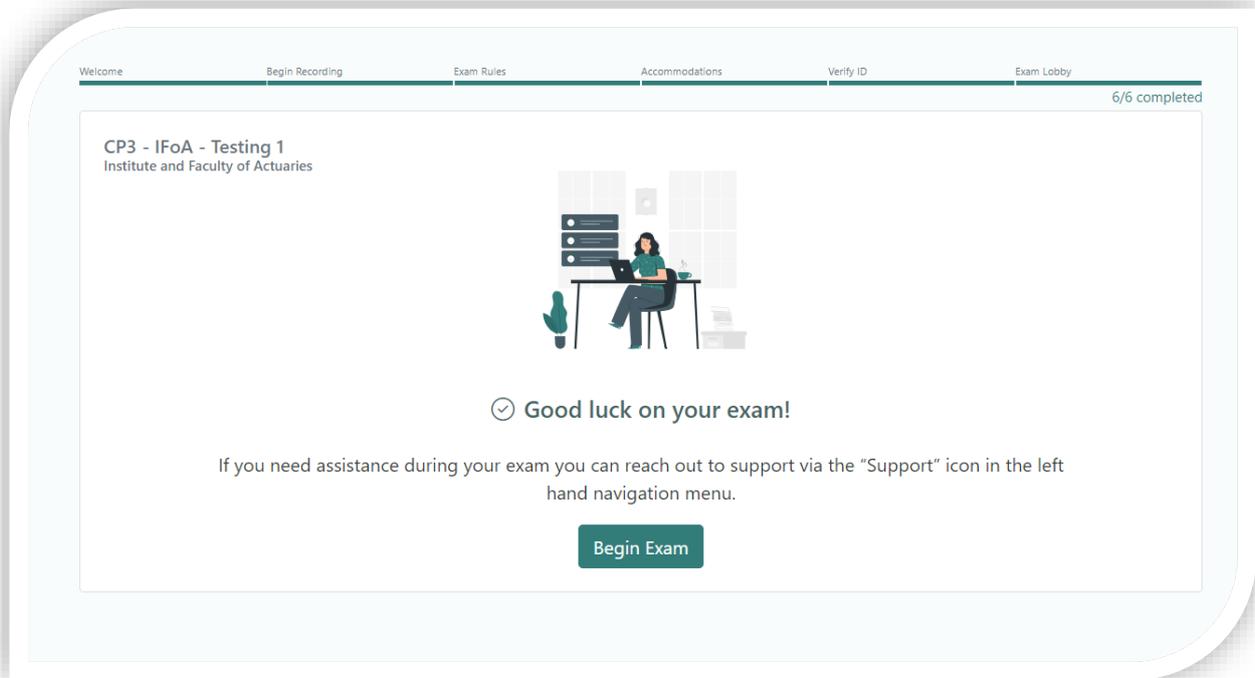
You can retake images before moving to the next step.



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Page 6 of 6: Exam lobby

Click on **'Begin Exam'**. You will be returned to the exam platform. If the exam has not started, you will need to wait for the exam paper to become available to download.





Institute and Faculty of Actuaries

Document control Controller: Karen Brocklesby, Head of Professional Qualifications Approving Committee: Education Committee Date approved: January 2025; Reviewed: July 2024; Next review: October 2025

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