
ExamOnline User Guide

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Quick Start Guide

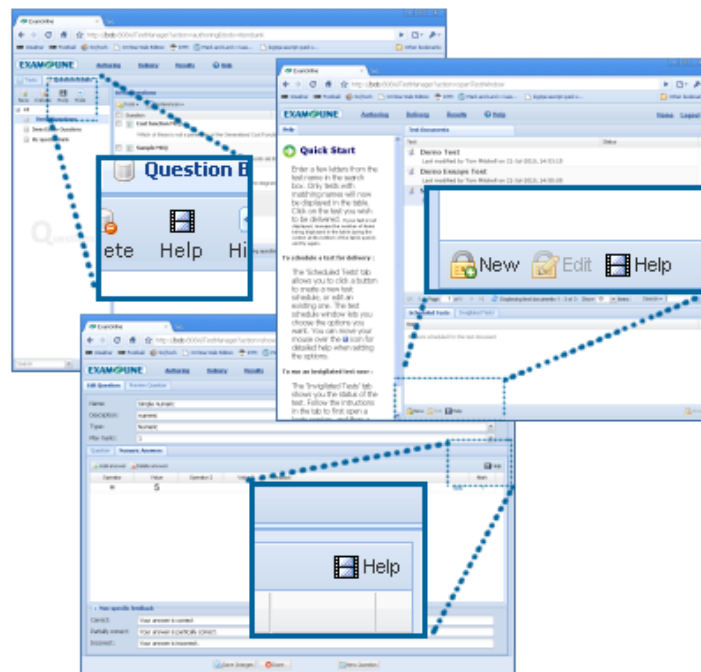
With ExamOnline you can create questions, assemble them into tests, deliver them securely, and analyse the results, all through a standard web browser.

Video Help Buttons

Whenever you see a button like this in ExamOnline :

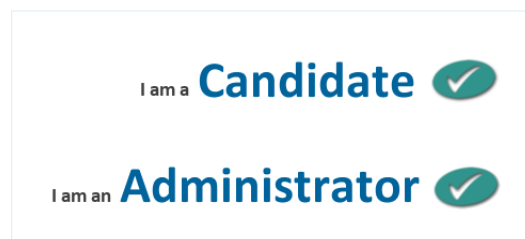


You can click and see a short Flash video demo of how to use that part of the software. These video help buttons are strategically placed throughout the software, and can really help you get up to speed quickly.



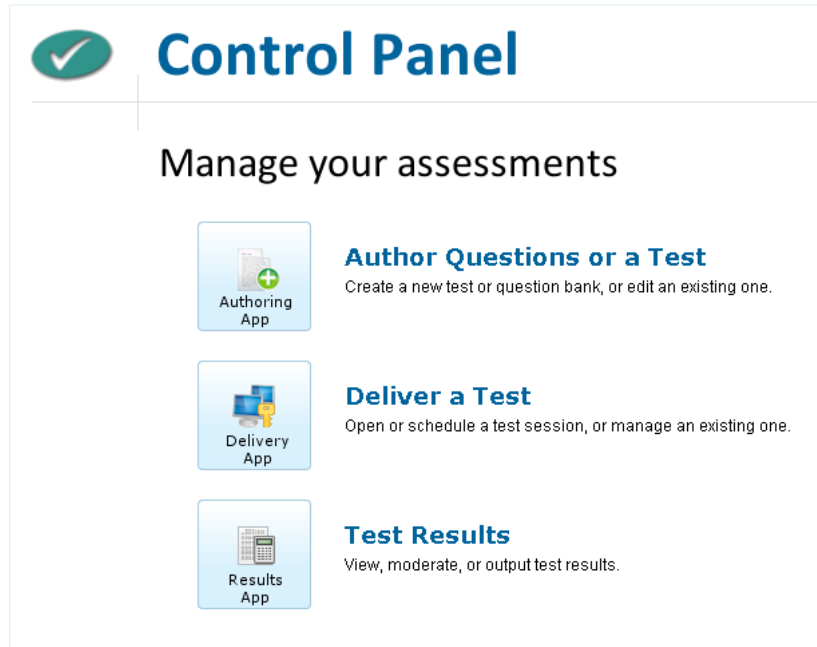
Logging In

To login to ExamOnline, open your web browser at the URL supplied by Intelligent Assessment Technologies for your organisation, and click on the **I am an Administrator** link.



The Control Panel

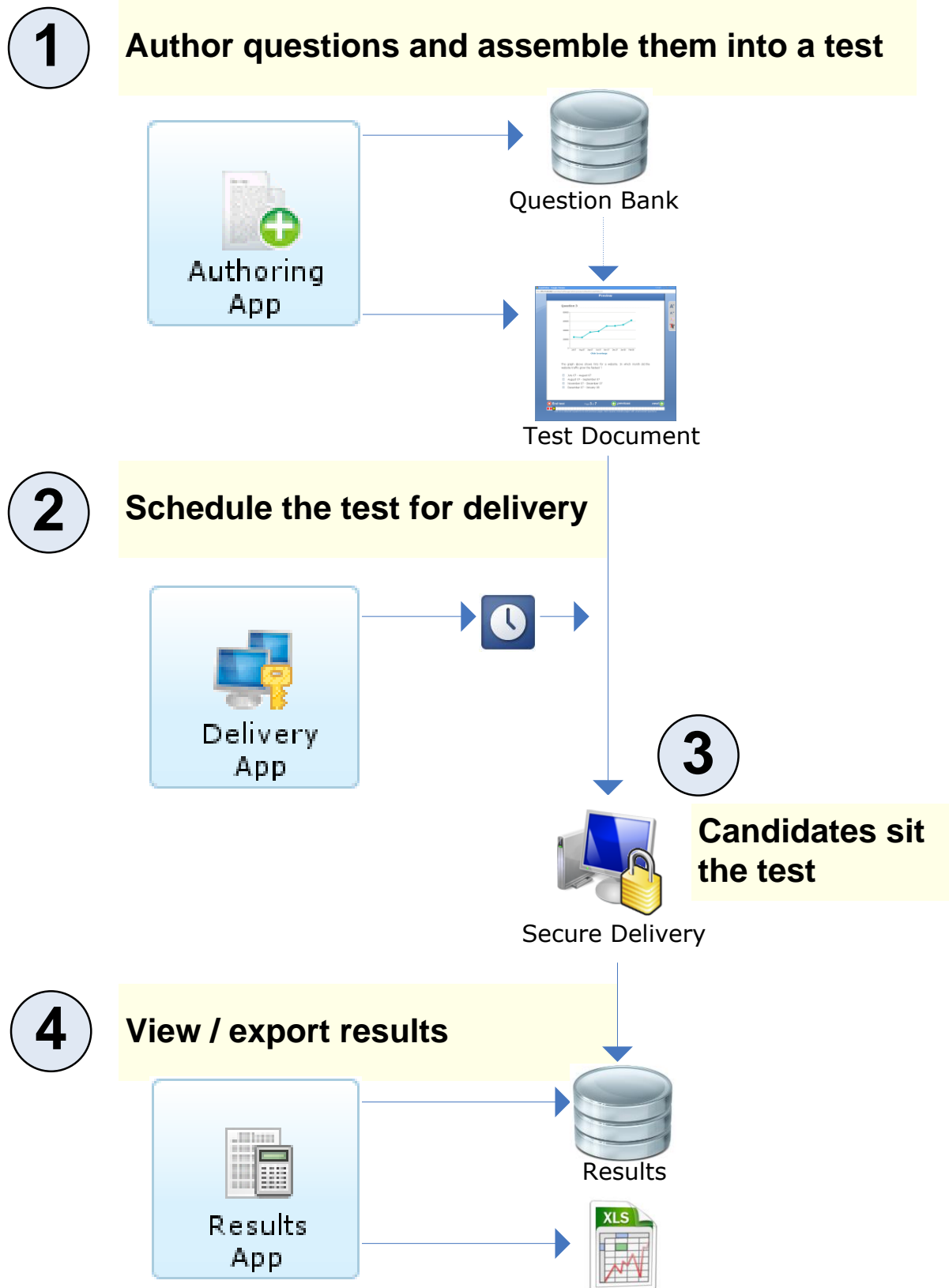
Once logged in, you will see that ExamOnline consists of 3 main apps: the **authoring app**, the **delivery app**, and the **results app**. You access each of these apps from the control panel.



How these apps work together is explained in the next section.

Understanding the E-Assessment Process

An overview of how to use ExamOnline is shown below.



Introduction to ExamOnline

Click to view a short [introduction to ExamOnline](#)

Introduction to the Apps

ExamOnline consists of 3 main apps. Click to view an overview of the [authoring app](#), and the [delivery app](#), and the [results app](#)

Quick Start to Authoring Questions

Questions are organised into **question banks**. Click to see a demo of : [creating a question bank](#) and [adding a multiple choice question to a question bank](#)

Quick Start to Authoring Tests

Tests are created by inserting questions from one or more question banks into a **test document**. Click to see a demo of : [creating a test document](#)

Quick Start to Scheduling Tests

Tests can be scheduled for future delivery to groups of candidates...

Click to see a demo of : [scheduling a test](#)

...or for invigilated tests (where you have the candidates in one location and under supervision) tests can be run immediately without prior scheduling.

Click to see a demo of : [running an invigilated test immediately](#)

Quick Start to Delivering Tests

Tests can be delivered in a standard web browser, or securely using the ExamOnline locked down browser launcher. Click to see a demo of : [the candidates view of a test](#)

Quick Start to Viewing and Exporting Results

Once the tests are finished, ExamOnline makes it easy to view and export the results for further analysis.

Click to see a demo of : [viewing and exporting results](#)

More...

ExamOnline is unique in providing [support for essay questions](#), and for [hand drawn sketches](#).

The User Guide

The Authoring App

The **Authoring App** is used to :

- create question banks;
- add questions to question banks;
- create test documents;
- insert questions from the question banks into test documents.

The following sections explain each of these processes.

Naming Question Banks and Questions

Before starting it is worth giving a little thought to the best way to name Question Banks, and the Questions associated with them. Suitably named Question Banks and Questions are more easily searched when selecting questions to add to tests.

Creating a New Question Bank

The first step in authoring is to create a question bank. In the authoring app, make sure the **Question Banks** tab is selected, as shown below.

Questions in selected Question Bank

Navigation

Question Banks tab selected

Question Banks

Pagination control for questions

Preview of selected question text

Question	Type	Marks	Modified	Marking
Cost function MCQ Which of these is not a parameter of the Generalised Cost Function ?	Multiple Choice	1	12-03-2010	Computer
Sample MCQ The graph above shows hits for a website. In which month did the website traffic grow the fastest ?	Multiple Choice	1	22-04-2010	Computer
Another sample MCQ Given the point $P=(2,2)$, and the vector u illustrated in the diagram, which point is obtained by displacing P by u	Multiple Choice	1	01-07-2010	Computer
Medical Multiple Selection Osteoporosis is associated with :	Multiple Selection	1	21-07-2010	Computer
Arabic ~de	Essay / Extend...	1	31-12-2011	Human
Symbols In the wave equation equation $v = \lambda \lambda$, explain what λ represents.	Essay / Extend...	5	22-09-2014	Human
Simple numeric What is $2 + 3$:	Numeric	1	22-04-2010	Computer

Page 1 of 1 | Displaying questions 1 - 9 of 9 | Show 25 | Items | Search

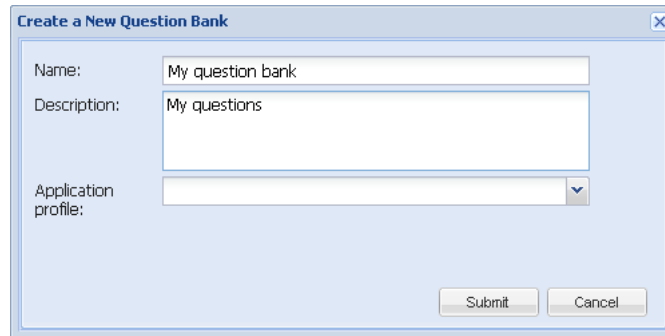
New Question | Edit Question | Copy Question | Delete Question

Author : Tom Mitchell | 22-04-2010

Given the point $P=(2,2)$, and the vector u illustrated in the diagram, which point is obtained by displacing P by u

Click on the **New** button in the question bank tab (underneath where it say **My** Intelligent Assessment Technologies Ltd. The Atrium Business Centre, North Caldeen Road, Coatbridge, ML5 4EF

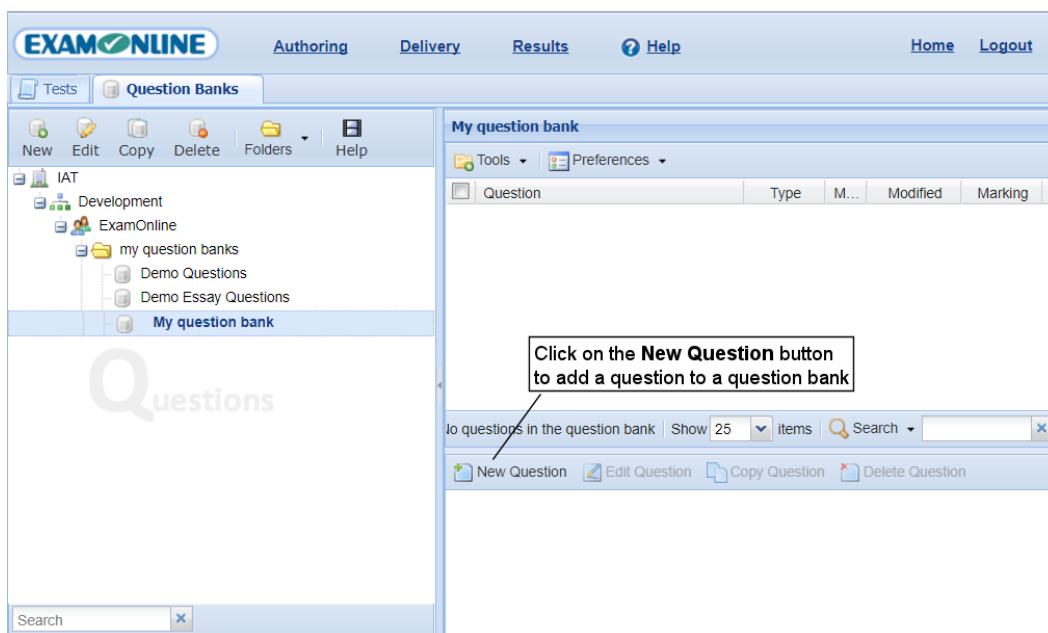
Question Banks), give your new question bank a name and description¹ in the dialog which appears (see image below), and click **Submit**.



Your new question bank is added to the list of question banks, and automatically selected. Initially of course it contains no questions.

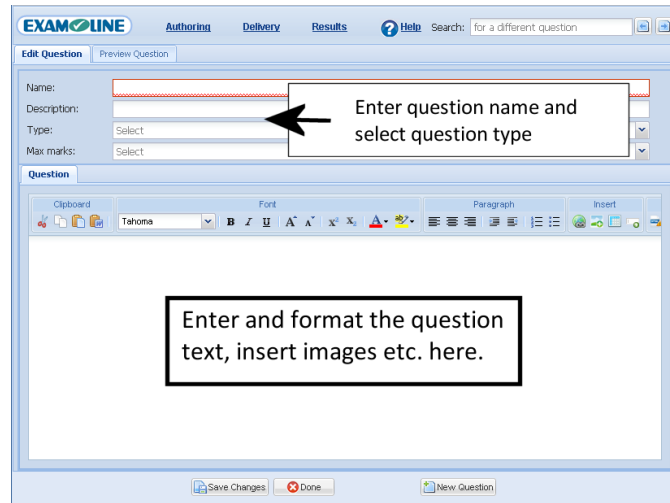
Creating Questions

To add a question to the bank, click on the **New Question** button.



This will open the question editor, shown below.

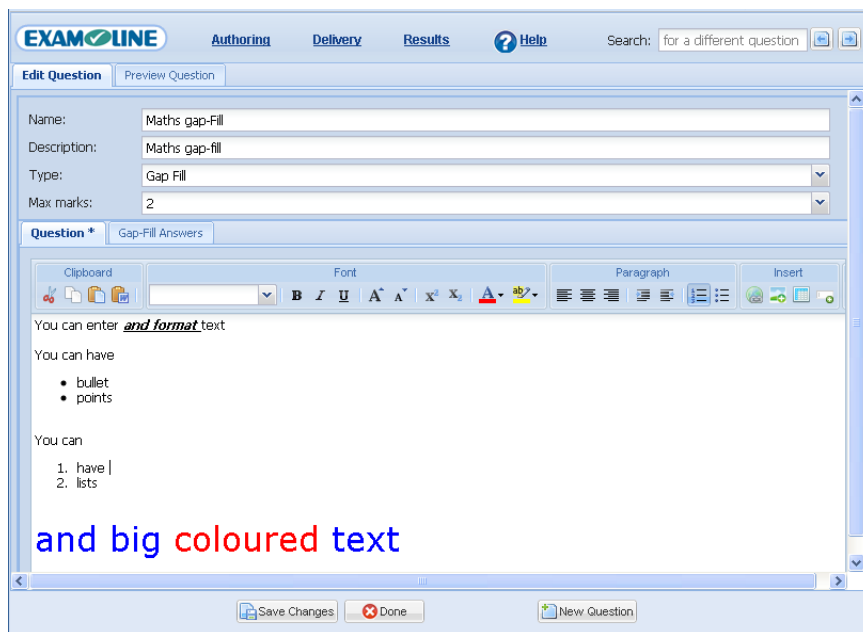
¹ Application profile is a specialist requirement, it is almost never used.



Enter a name for your question, and select a question type. Depending on the question type, you may also have to select a value for **Max marks** (if you select **Multiple Choice** you will not, since the value for Max marks is calculated automatically from the marks you set for the individual answers).

Entering the Question Text



No matter what question type you choose, you must enter the text of the question (and image(s) if required) in the HTML Editor in the **Question** tab. The HTML editor has a similar look and feel to a word processor.



Tip : Depending on the browser you use, you may find that when you create a new question, the HTML editor contains a leading space. Click in the HTML editor and then hit the backspace key to delete the space before you begin typing the text of your question. This may seem like an unnecessary 'feature' (it does to us)

but it's something we currently have to live with in order to provide broad cross browser compatibility for ExamOnline.

Adding Images to Questions

To add an image to a question, insert the cursor where you want the image to go in the question text, and click on the  **Insert Image** button on the HTML Editor toolbar. In the dialog which appears, click on the  icon next to the **Source** field, and the image browser will appear as shown below.

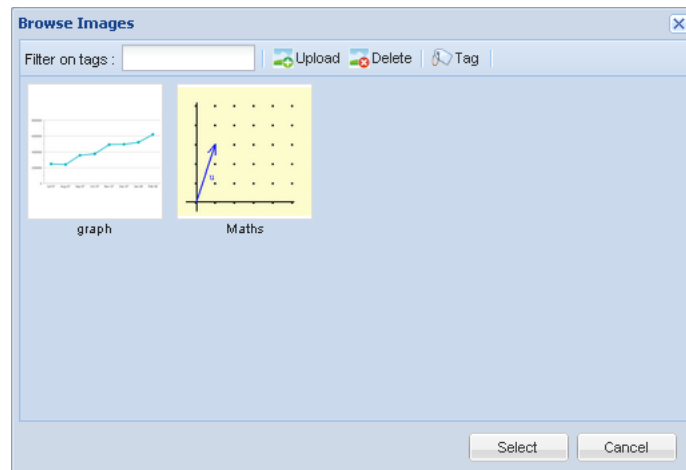
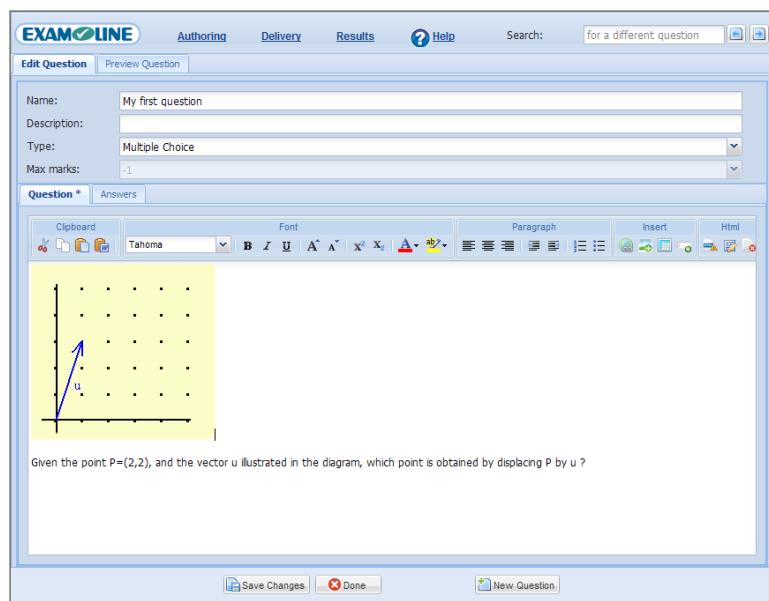




Image Browser

From here you may select any images you have previously used in ExamOnline, or **Upload** a new image from your computer to use. You may also tag images with keywords, which can make it easy to search your images (by entering text into the **Filter on tags** field). Once uploaded, click on the image you want to insert, and click on the **Select** button. You may then choose to enter a title or description for the image, or to change the size of the image. Click on the insert button when you are done.





Tip : You can view and edit the HTML source for the question by clicking on the  **Source Edit** button on the HTML editor toolbar. However this is only recommended for the experienced HTML coder who wants to fine tune the formatting of a question. You can also completely clear the question text / images etc for a question by clicking on the  **Clear** button on the HTML editor toolbar.

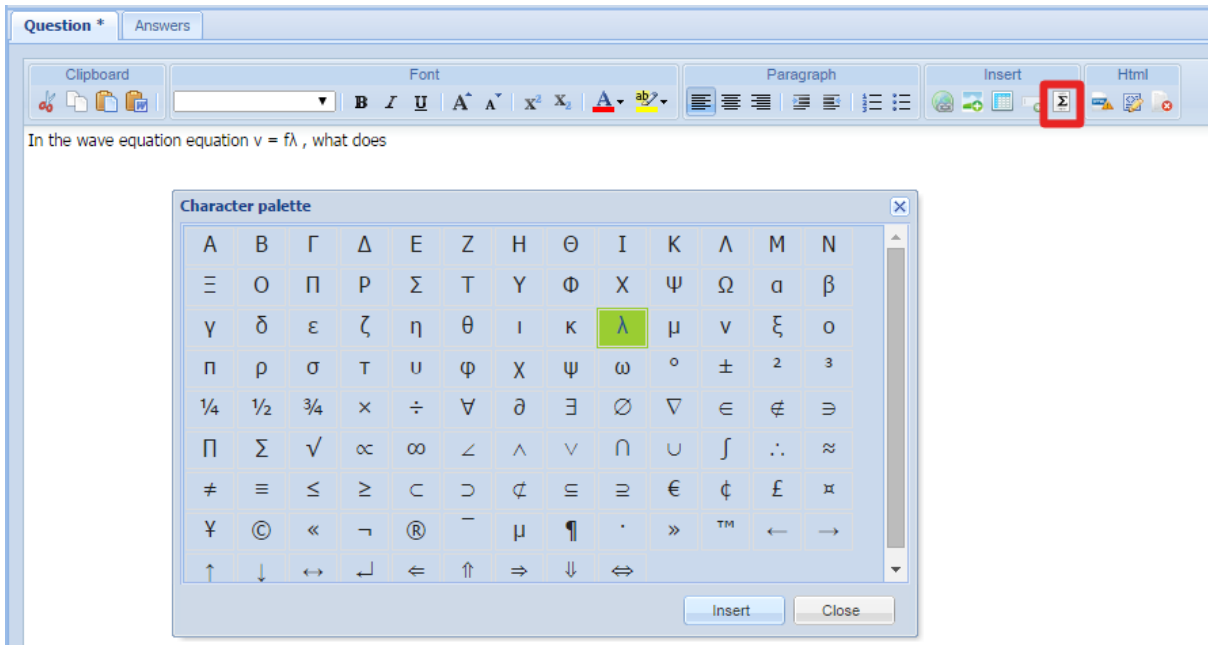
NB: To add a **background image** to a question which will have answer labels positioned on it, see **Creating a Matching Question**.

Using Symbols and Equations in Questions

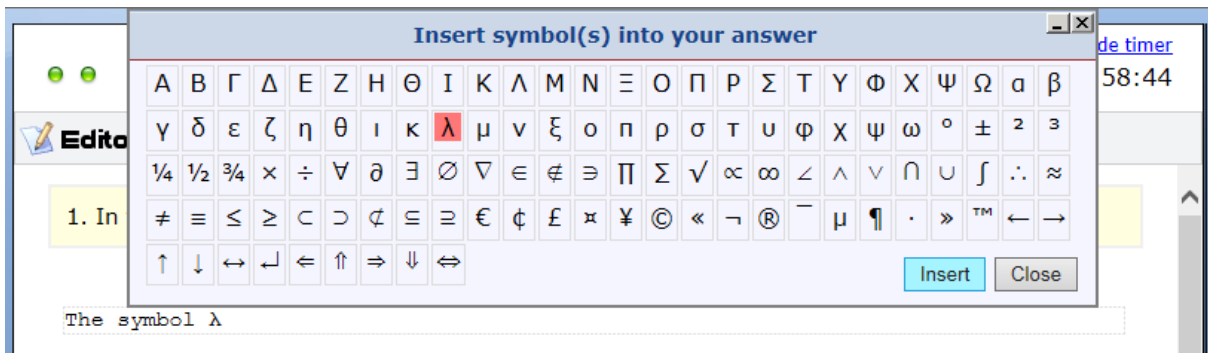
ExamOnline includes a character palette which you can use to insert Greek, mathematical and other notation into questions.

To access the character palette, click on the  button on the toolbar when creating or editing question text. The character palette will be shown, as illustrated below (the  button is highlighted in red in this image).

Once the character palette is showing, to insert a character, first click on the character and then click on the **Insert** button. The character will be inserted into the question text at the cursor.

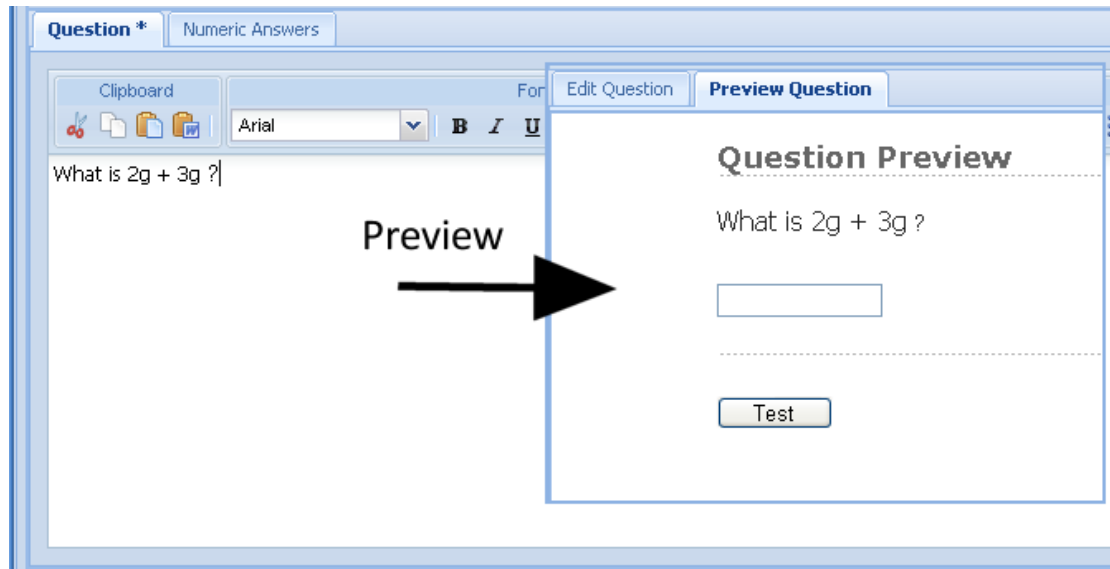



Candidates have the same character palette available to them when answering essay questions, again by clicking on the Σ button in the toolbar, as shown below.

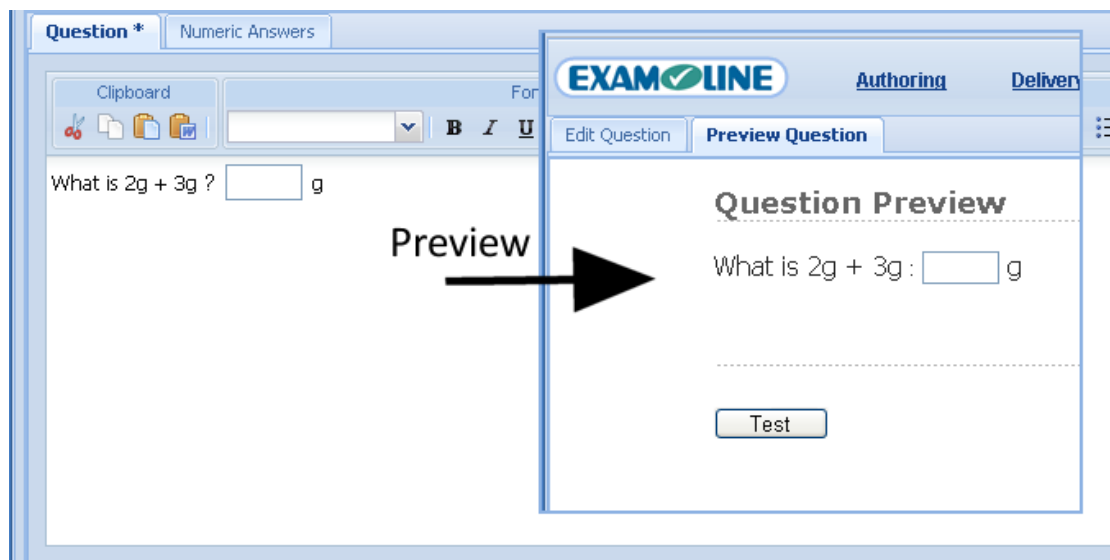


Positioning Answer Boxes in Questions

For some question types (e.g. gap-fill, numeric) an answer box will be displayed for the candidate to enter their answer. By default, ExamOnline will automatically add an answer box to the question and position it underneath the question text. For example :

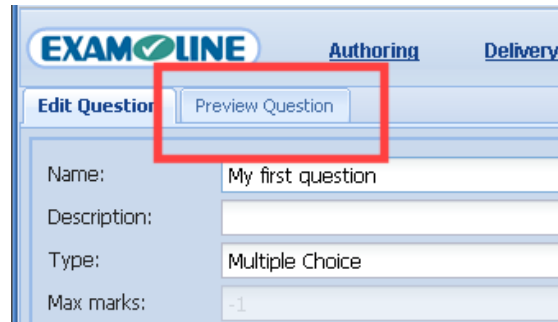


However you may also choose where to position the answer box by inserting the cursor at the appropriate position in the question text, and clicking on the  **Insert Answer Box** button in the HTML editor toolbar. You will need to specify the width of the box to insert (in characters), and the box will be inserted into the question text. The question will then be rendered with the box at the position and with the width you specified. For example :



Previewing a Question

When you are ready, you may preview your question by clicking on the **Preview Question** tab.



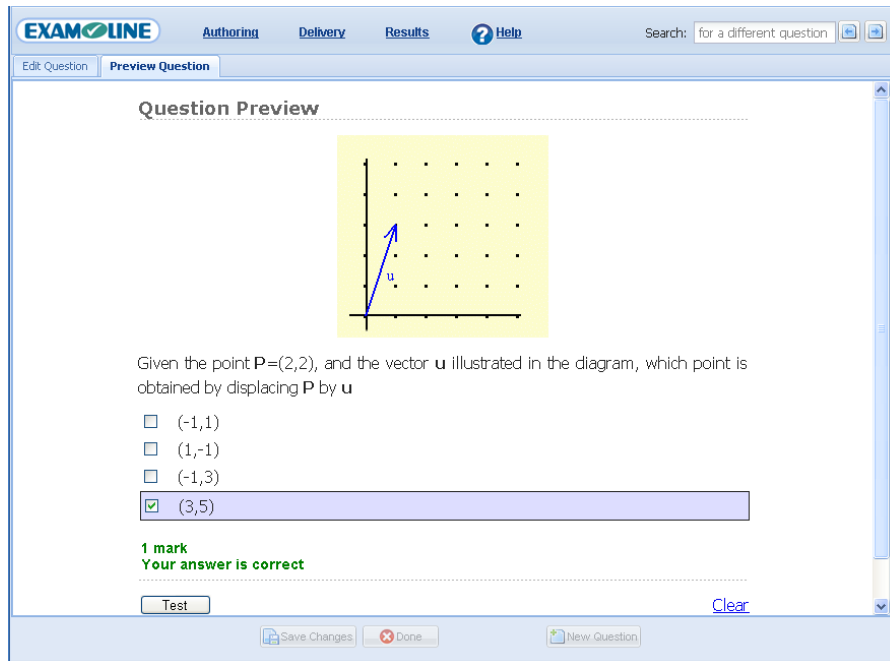
The screenshot shows the EXAMLINE interface. At the top, there is a logo for EXAMLINE and two tabs: 'Authoring' and 'Delivery'. Below the logo, there is a section titled 'Edit Question' with a 'Preview Question' button highlighted by a red box. Below this, there are four fields: 'Name:' with the value 'My first question', 'Description:', 'Type:' with the value 'Multiple Choice', and 'Max marks:' with the value '-1'.

This shows the question exactly as it will appear to the candidate during a test. If the question is an automatically marked question, you may also test the marking from the preview tab. However you will need to specify the answers before you can test the marking. How to do this for the different question types is covered in the following sections.

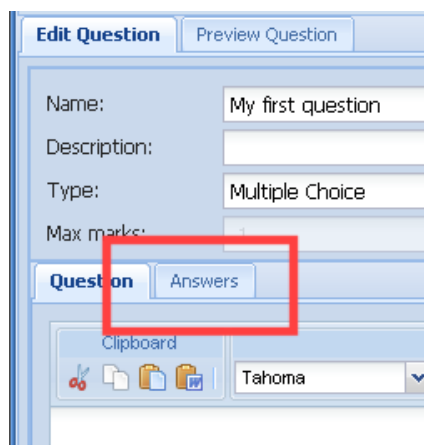
Specifying the Answers for the different Question Types

Creating a Multiple Choice Question

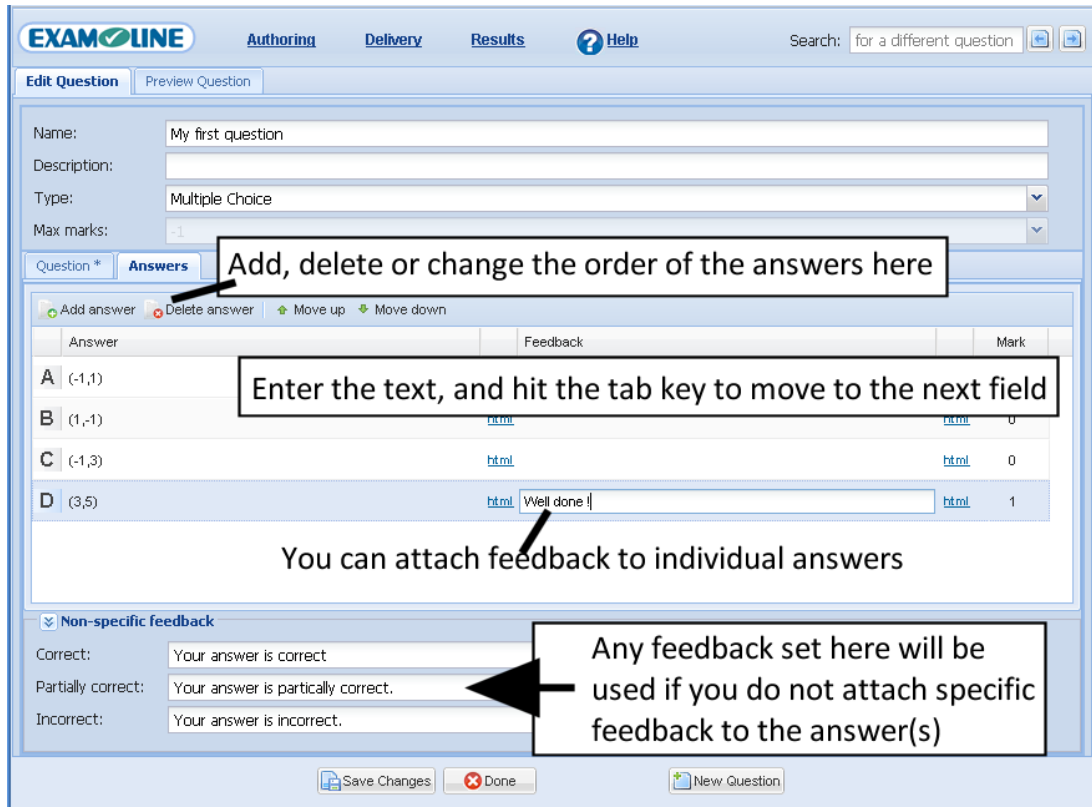
The previous section explained how to add the question text and images to a question. This section explains how to add the answers to a multiple choice type question, for example:



When you select the multiple choice question type, an **Answers** tab will automatically be added to the question editor interface.



Click on the **Answers** tab to enter the answers for the question, as shown below.



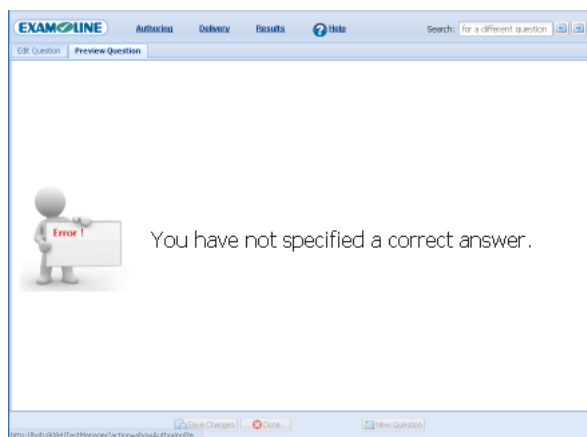
Authoring a Question

Click on the **Add answer** button in the toolbar, and enter the text for the answer. Hit the tab key to move on to the next field. To move answers up or down in the list, click on the answer to select it, then click the move up/move down button on the **Answers** tab.

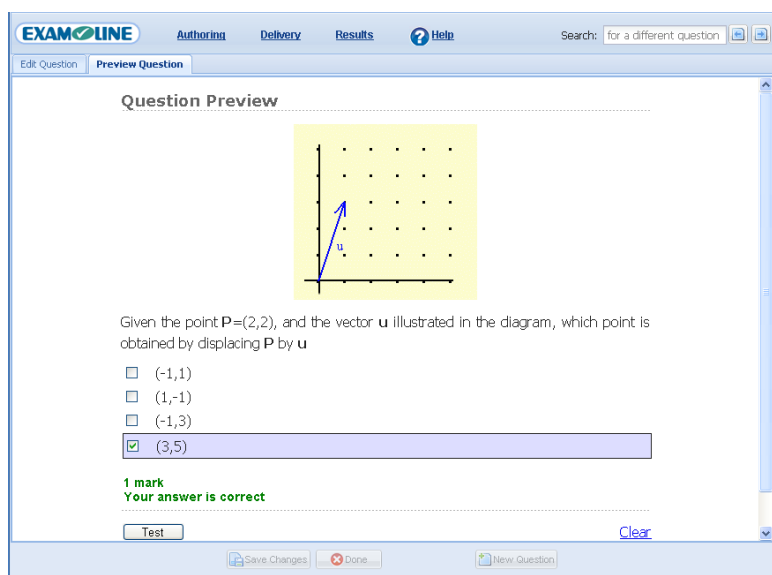
You may attach specific feedback to individual answers, and /or you may set **non-specific feedback** (i.e. feedback which will be used if no feedback has been attached to an individual answer). Feedback is only relevant when tests are delivered formatively, or when candidates are permitted to see their results at the end of a test.

You may include HTML (e.g. images) in either the answers or the feedback by clicking on the **html** links. This enables you to have formatted html in your answer options. In practice, it is rarely used.

You may preview and test your question by clicking on the **Preview** tab (next to the **Edit Question** tab near the top left of the screen). If there are errors in the way you have created the answers, you will receive an error message. For example :



If this happens, click the **Edit Question** tab, return to the **Answers** tab, correct the error, and then click on the **Preview** tab again. You may test that the question performs as you intended by selecting an answer, and clicking on the **Test** button when in the **preview** tab.



Question Preview

When you have finished the question, click on the **Save Changes** button at the bottom of the page. You may start on a new question by clicking the **New Question** button, or return to the question banks page by clicking on the **Done** button.

Creating a Multiple Selection Question

The process for creating a multiple selection question is the same as for creating a multiple choice question, except that you need to specify more than one correct answer, and additional options are available when setting up the answers. These options differ slightly depending on how you wish the question to function. This is demonstrated by example.

Example 1

To configure a question such as :

Which 3 are prime numbers :

1. 2
2. 11
3. 33
4. 47
5. 54

where the question is for 3 marks, and all 3 marks are awarded **if and only if** the candidate selects the 3 correct answers, set **Max marks** to 3 and configure the answers options as follows:

The screenshot shows a configuration window for a question with the following elements:

- Buttons: Add answer, Delete answer, Move up, Move down.
- Options: All parts must be correct to get mark(s), Limit attempts to number of correct.
- Table of answer options:

Answer	Feedback	Correct
A 2	html	<input checked="" type="checkbox"/>
B 11	html	<input checked="" type="checkbox"/>
C 33	html	<input type="checkbox"/>
D 47	html	<input checked="" type="checkbox"/>
E 54	html	<input type="checkbox"/>

Annotations in the image:

- "All parts ..." selected (points to the "All parts must be correct to get mark(s)" checkbox).
- Correct answers ticked (points to the checked checkboxes for options A, B, and D).

Example 2

To configure a question such as :

Which 3 of these are prime numbers :

1. 2
2. 11
3. 33
4. 47
5. 54

where the question is for a maximum of 3 marks, but candidates may get fewer marks if they only select 1 or 2 of the correct answers, **and you want to limit the candidate to selecting a maximum of three answers**, configure the answers options as follows :

Question *		Answers		"All parts..." not selected	"Limit attempts.." selected
				<input type="checkbox"/> All parts must be correct to get mark(s)	<input checked="" type="checkbox"/> Limit attempts to number of correct
Answer	Feedback		Mark		
A 2	html	html	1		
B 11	html	html	1		
C 33	html	html	0		
D 47	html	html	1		
E 54	html	html	0	1 mark for correct answers and 0 for incorrect	

Example 3

To configure a question such as :

Which of these are prime numbers :

1. 2
2. 11
3. 33
4. 47
5. 54

Where the question is for a maximum of 3 marks, but candidates may get fewer marks if they only select 1 or 2 of the correct answers, **and should be penalised if they choose an incorrect answer**, set **Max marks** to 3 and :

Question *		Answers		"All parts.." and "Limit attempts" NOT selected	
				<input type="checkbox"/> All parts must be correct to get mark(s)	<input type="checkbox"/> Limit attempts to number of correct
Answer	Feedback		Mark		
A 2	html	html	1	Positive mark specified for correct answers	
B 11	html	html	1		
C 33	html	html	-1		
D 47	html	html	1		
E 54	html	html	-1	Negative mark specified for incorrect answers	

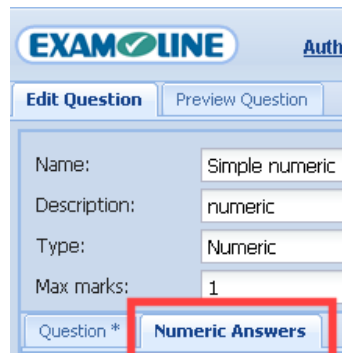
You may try out the effect of mixing the multiple selection options for your question by setting options and then testing the question in the **Preview Question** tab.

Creating a Numeric Question

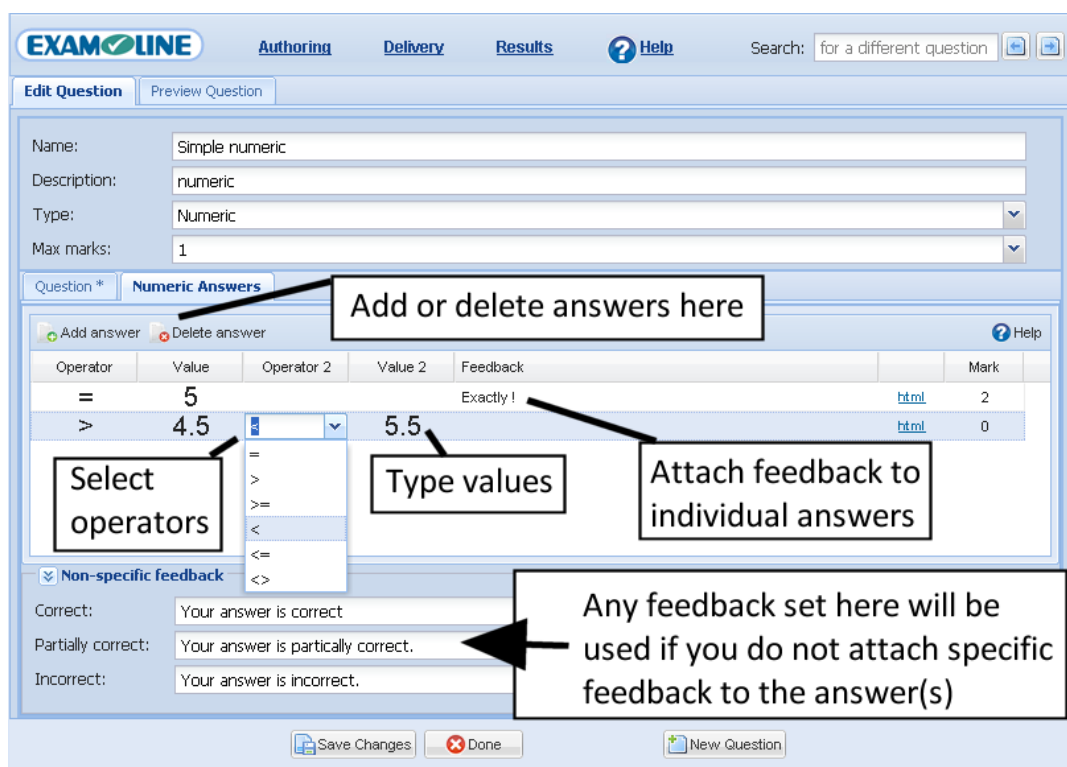
See also : **Positioning Answer Boxes in Questions**

A Numeric Question is one where there is a numeric answer. It may be a simple answer (e.g. **the answer must be 5**) or a more complex range (e.g. **the answer must be between 1 and 2**).

When you select the numeric question type, a **Numeric Answers** tab will automatically be added to the question editor interface.



Click on the **Answers** tab to enter the answers for the question, as shown below.



Click on the **Add answer** button in the toolbar, and select the operator(s) and values (see above) for the answer. Hit the tab key to move on to the next field.

You may attach specific feedback to individual answers, and /or you may set **non-specific feedback** (i.e. feedback which will be used if no feedback has been attached to an individual answer). Feedback is only relevant when tests are delivered formatively, or when candidates are permitted to see their results at the

end of a test. You may include HTML (e.g. images) in either the answers or the feedback by clicking on the **html** links.

With numeric answers, you can specify simple answers (e.g. **the answer must be 5**) or more complex ranges (e.g. **the answer must be between 1 and 2**). For each answer you must specify the marks to be awarded when a candidate response matches it. In this way, for example, you may set up a question to give 1 mark for answers between 4.5 and 5.5, but 2 marks if the answer is exactly equal to 5.

Note that the system will apply the answers in the order you list them, and will stop marking when an answer is matched. You should therefore specify the highest mark answers first (i.e. the 'exactly equal to 5' answer in the example just quoted).

Example 1

How to set up a question to give one mark to candidates who give the answer : **5**

Add answer Delete answer Help					
Operator	Value	Operator 2	Value 2	Feedback	Mark
=	5			html	1

Example 2

How to set up a question to give one mark to candidates who give a numeric answer **between 1 and 2 inclusive**.

Add answer Delete answer Help					
Operator	Value	Operator 2	Value 2	Feedback	Mark
>=	1	<=	2	html	1

Example 3

How to set up a question to give **two marks to candidates who answer 5**, but **only one mark** to candidates who give a numeric answer **between 4.5 and 5.5 exclusive**.

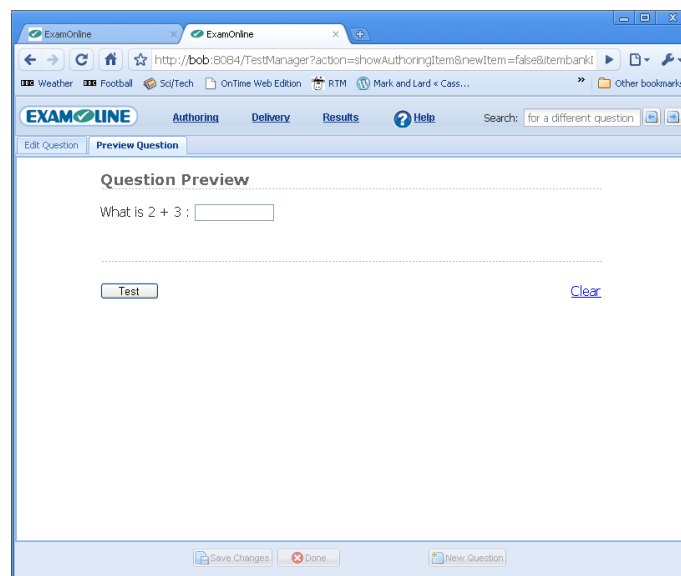
Add answer Delete answer Help					
Operator	Value	Operator 2	Value 2	Feedback	Mark
=	5			html	2
>	4.5	<	5.5	html	1

You may preview and test your question by clicking on the **Preview Question** tab (next to the **Edit Question** tab near the top left of the screen). If there are errors in the way you have created the answers, you will receive an error message.

For example :



If this happens, click the **Edit Question** tab, return to the **Answers** tab, correct the error, and then click on the **Preview Question** tab again. You may test that the question performs as you intended by entering an answer, and clicking on the **Test** button when in the **Preview** tab.

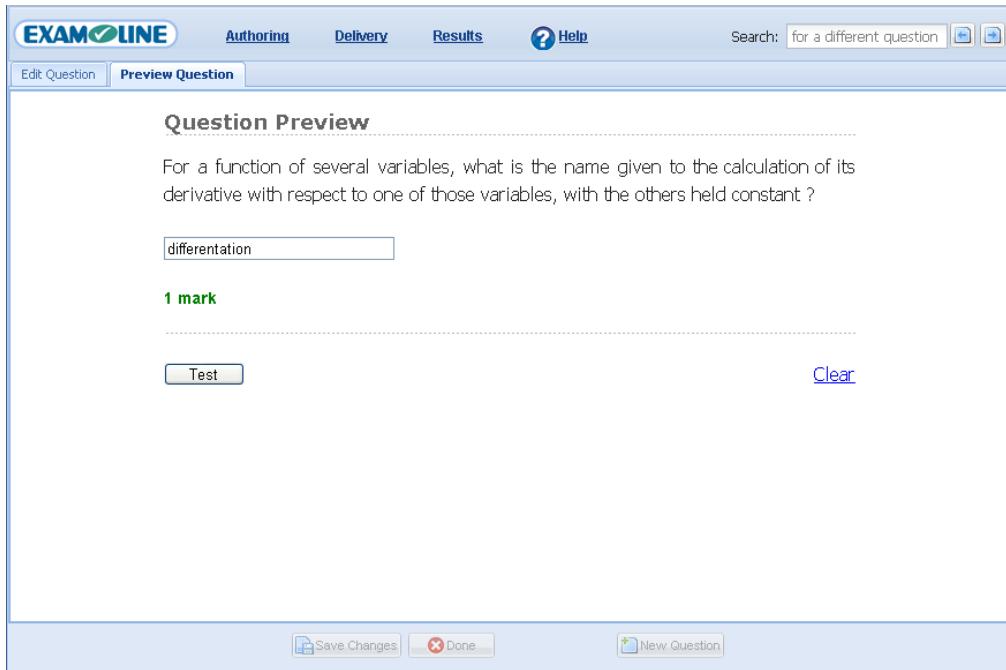


When you have finished the question, click on the **Save Changes** button at the bottom of the page. You may start on a new question by clicking the **New Question** button, or return to the question banks page by clicking on the **Done** button.

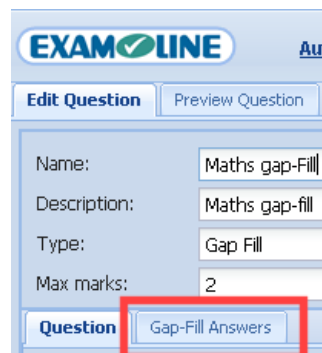
Creating a Gap-Fill Question

See also : **Positioning Answer Boxes in Questions**, and **Creating a Multiple Gap-Fill Question**

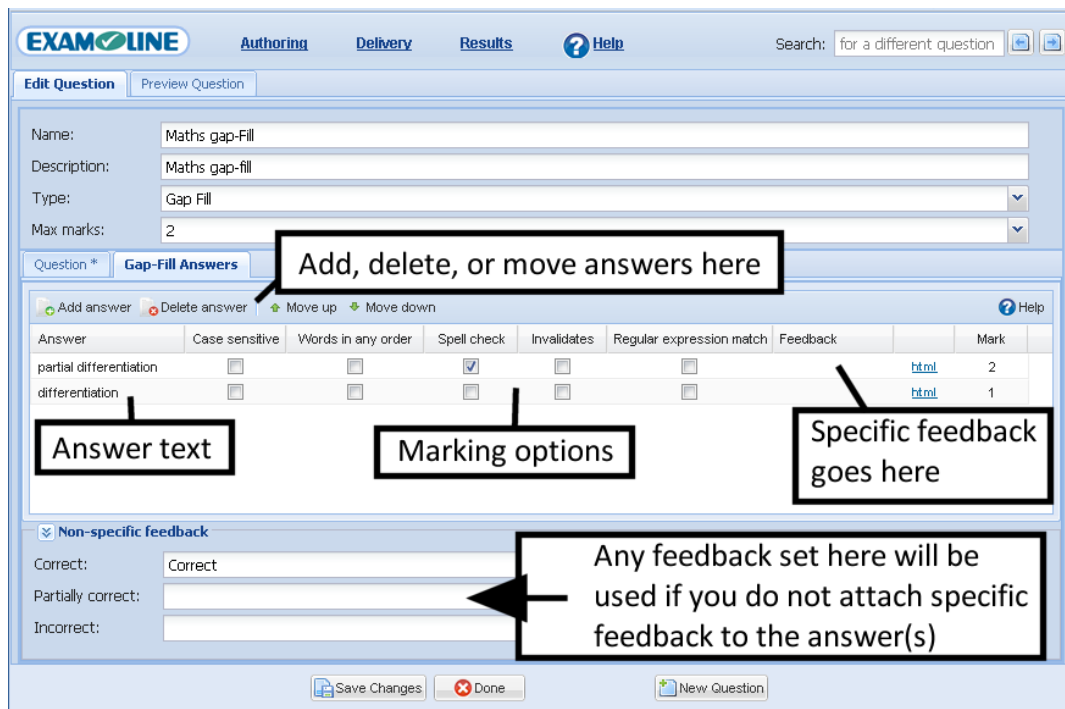
Gap-Fill questions have a gap for students to type their answer, for example



When you select the gap-fill type, a **Gap-Fill Answers** tab will automatically be added to the question editor interface.



Click on the **Gap-Fill Answers** tab to enter the answers for the question, as shown below.



Click on the **Add answer** button in the toolbar, and enter the answer text and marking options (see above) for the answer.

You may attach specific feedback to individual answers, and /or you may set **non-specific feedback** (i.e. feedback which will be used if no feedback has been attached to an individual answer). Feedback is only relevant when tests are delivered formatively, or when candidates are permitted to see their results at the end of a test. You may include HTML (e.g. images) in either the answers or the feedback by clicking on the **html** links.

With gap-fill answers, you basically list the answers (answers with highest marks first) you would accept for this question. ExamOnline provides powerful marking options that make marking considerably more robust (i.e. both accurate *and* flexible) than would otherwise be the case.

Marking Options for Gap-fill Questions

For ExamOnline gap-fill questions, you can specify that candidate answers should have any mis-spellings corrected before marking. You can also control whether the words in the answer(s) you specify should be accepted in any order, or just in the order you have specified. You can specify unacceptable answers, which invalidate otherwise correct answers. You can use regular expressions to specify complex marking rules. And you can specify answers where a candidate gets a mark for each matching word.

For each answer you must specify the marks to be awarded when a candidate response matches it. **Note** that the system will apply the answers in the order you list them, and will stop marking when an answer is matched (except where there are unacceptable answers listed, which will always be checked). You should therefore specify the highest mark answers first.

Examples of how to use the marking options for gap-fill questions are shown below.

Example 1

How to set up a question to give **2 marks** for answers which include the text '**partial differentiation**', but **1 mark** for answers that only mention '**differentiation**' :

Answer	Case sensitive	Words in any order	Spell check	Invalidates	Regex match	Mark per word	Feedback	Mark
partial differentiation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	html	2
differentiation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	html	1

Note that in this example, candidate answers will be spell checked before marking occurs.

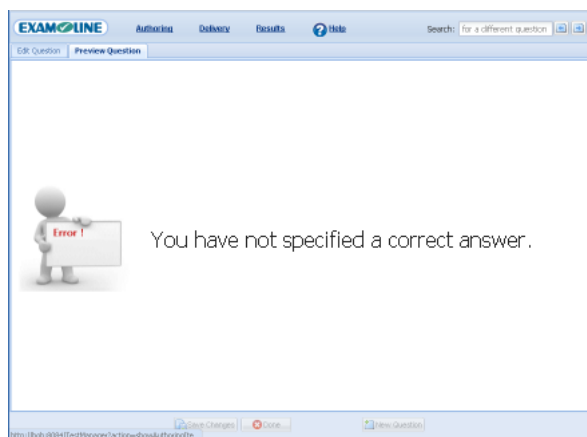
Example 2

How to set up a question to give 2 marks for '**right atrium**', 1 for just '**atrium**', but no marks for '**left atrium**' :

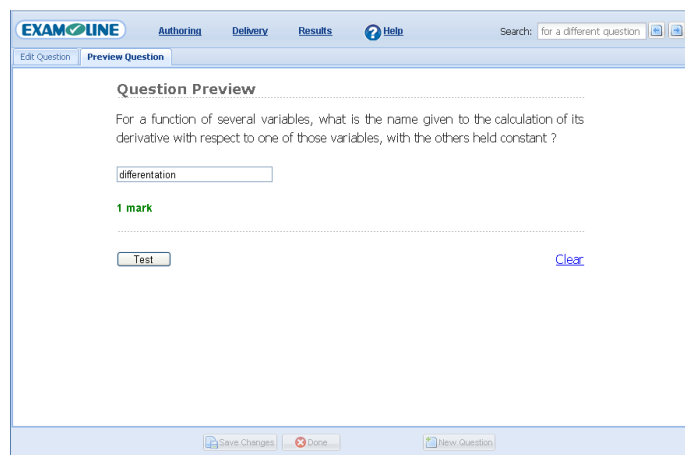
Answer	Case sensitive	Words in any order	Spell check	Invalidates	Regex match	Mark per word	Feedback	Mark
right atrium	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	html	2
RA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	html	2
atrium	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	html	1
left atrium	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	html	0

Note that in this example, the **RA** answer is case sensitive, i.e. **ra** is not an acceptable answer.

You may preview and test your question by clicking on the **Preview Question** tab (next to the **Edit Question** tab near the top left of the screen). If there are errors in the way you have created the answers, you will receive an error message. For example :



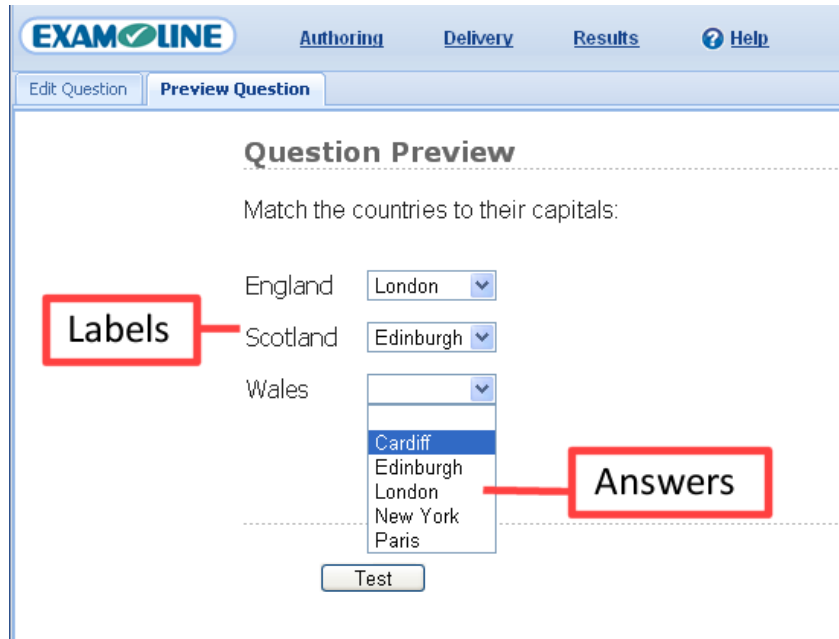
If this happens, click the **Edit Question** tab, return to the **Answers** tab, correct the error, and then click on the **Preview Question** tab again. You may test that the question performs as you intended by entering an answer, and clicking on the **Test** button when in the **Preview Question** tab.



When you have finished the question, click on the **Save Changes** button at the bottom of the page. You may start on a new question by clicking the **New Question** button, or return to the question banks by clicking on the **Done** button.

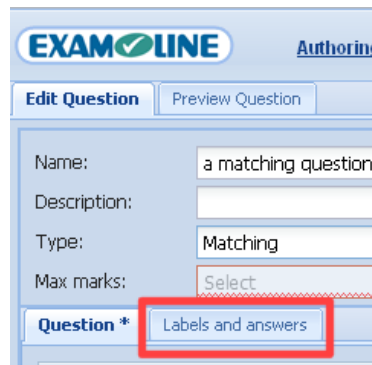
Creating a Matching Question

The screenshot below showing a simple matching question which illustrates the terminology (**labels** and **answers**) for matching questions.



In the example, the **labels** are England, Scotland, and Wales. For each label there are a number of possible **answers** which the candidate can select from. There can be fewer answers than labels, or the same number, or more.

When you select the **matching** question type, a **Labels and answers** tab will automatically be added to the question editor interface.



Click on the **Labels and answers** tab to create the labels and possible answers for the question.



In general, the process to create a matching question is to add in the labels, add in the list of potential answers, specify which is the correct answer for each label, and set any options for the question. These steps are explained below.

The first step will usually be to add the labels for the question (England, Scotland and Wales in the example above). Click on the **Add label** button in the toolbar, and enter the text for the label (hit the tab key to move on to the next field). You may also enter a number of marks for each label. This is the number of marks that a candidate will get if they select the correct answer for this label. In the example above all labels have 1 mark specified, which means that this will be a 3 mark question (3 labels, 1 mark per label). Using this configuration, if the candidate gets the correct answer for one label, they will get one mark, two marks if they get the answer correct for two labels, etc. As you are setting marks for each label, there is no need to (and the interface does not allow you to) enter a **Max marks** value for the question – the value will be calculated automatically from the marks set for each label.

An alternative version of the above question would be one that required the candidate to get the answer correct for **all** labels in order to get **any** marks. Using the above example, you might want to configure the question so that candidates had to get the correct capital city for England, Scotland and Wales in order to get one mark. To achieve this, click on the “**All parts must be correct to get mark(s)**” checkbox in the toolbar. You will then be able to set a value for **Max marks**. For example, if you set Max marks to 1, then the candidate must get all 3 parts correct to get a single mark.

Once you have entered all the labels, you enter the list of potential answers in the

right hand table using the **Add answer** button (again, hit the tab key to move on to the next field).

Once you have entered the list of answers, the next step is to indicate which is the correct answer for each label. To do this, follow these steps:

1. Select a label in the table of labels (by clicking on it), then
2. Click the checkbox in the table of answers to indicate which is the correct answer for this label.

For example, the screenshot below shows the **label** "England" selected in the table of labels, and that the **answer** "London" has been selected as the correct answer for this label.

Repeat this process to set the correct answer for each label.

The screenshot shows a software interface titled "Labels and answers". At the top, there is a "Background image" field with a "Delete" button and a checkbox for "All parts must be correct to get mark(s)". To the right of this checkbox is another checked checkbox labeled "Answers can be selected more than once" and a "Help" icon.

Below the toolbar are two main tables:

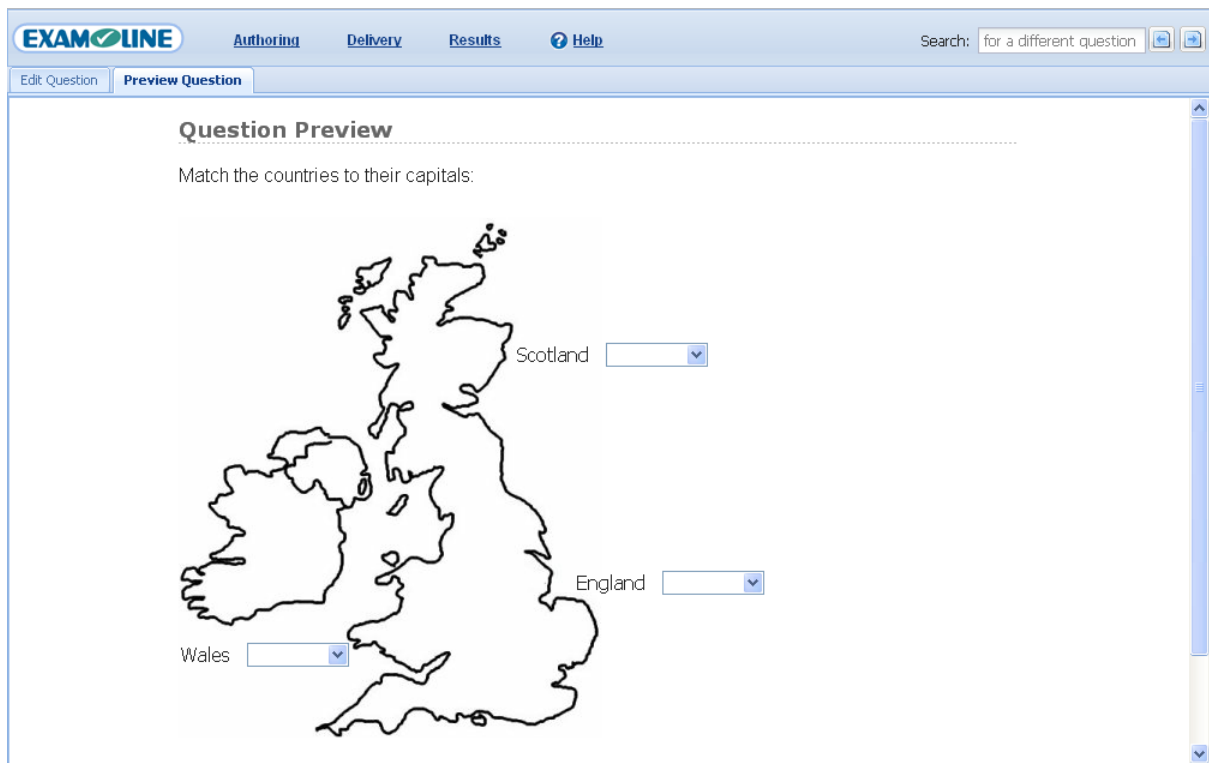
- Labels Table:** Has columns "Label" and "Mark". It contains three rows: "England" (Mark: 1), "Scotland" (Mark: 1), and "Wales" (Mark: 1). The "England" row is highlighted in blue. Above the table are buttons: "Add label", "Edit label", "Delete label", "Move up", and "Move down".
- Answers Table:** Has columns "Answer" and "Correct answer". It contains five rows: "Cardiff", "Edinburgh", "London", "New York", and "Paris". The "London" row is highlighted in blue and has a checked checkbox in the "Correct answer" column. Above the table are buttons: "Add answer", "Delete answer", "Move up", and "Move down".

Variations on matching questions

There are a number of variations on the simple matching question illustrated above.

You may choose whether or not candidates are allowed to choose the same answer for each label or not by selecting/de-selecting the **"Answers can be selected more than once"** checkbox on the toolbar. Generally speaking, you will usually leave this option unchecked, as otherwise candidates may simply choose the same answer for each label in the hope of getting at least one right. However for some questions you may wish to allow the same answer to be selected for more than one label.

You may also **add a background image to the question**. This allows you to position the labels at a suitable position on the image. An example is shown below.



Click on the **Background image** button in the toolbar on the **Labels and answers** tab to select the image to use as background to the question. Once an image has been added to a matching question, two extra fields are added to the tables of labels : **Image X** and **Image Y** for each label. These allow you to specify the x and y position of the label on the background image. Click on the preview tab to see how your question will be rendered to candidates. You will most likely need to switch back and forward between the preview tab and the **Labels and answers** tab until you are happy with the position of the labels on the background image.

For some questions you may also wish to leave each label blank but position them at an appropriate position on a background image. An example is shown below.



In this case the labels have been positioned over the countries, but no label text has been entered. Note however that you still need to create the labels, but you simply leave them blank. The **Labels and answers** tab for the example shown above looks like this:

The screenshot shows the 'Labels and answers' configuration interface. It has two main sections: 'Labels' and 'Answers'.

Labels Section: Contains a table with columns 'Label', 'Mark', 'Image X', and 'Image Y'. There are three rows of labels, each with a mark of 1 and specific X and Y coordinates.

Label	Mark	Image X	Image Y
	1	165	100
	1	200	250
	1	130	330

Answers Section: Contains a table with columns 'Answer' and 'Correct answer'. There are four rows of answers: Scotland, England, Ireland, and Wales. The 'Correct answer' column has a checked checkbox for Scotland and unchecked checkboxes for England, Ireland, and Wales.

Answer	Correct answer
Scotland	<input checked="" type="checkbox"/>
England	<input type="checkbox"/>
Ireland	<input type="checkbox"/>
Wales	<input type="checkbox"/>

Creating a Ranking Question

The process for creating a **ranking** question is the same as for creating a matching question, except that instead of answers for labels you specify a list of possible **rankings** for each possible **choice**. Typically ranks will be simple numbers, as shown in the example below.

EXAMLINE Authoring Delivery Results Help Search: for a diff

Edit Question Preview Question

Question Preview

Rank these countries by population (most populous first):

Scotland

Wales

England

1
2
3

Test Clear

In this example the choices are Scotland, Wales and England and the possible rankings for each choice are 1, 2, or 3. The **Choices and rankings** tab for this example is shown below.

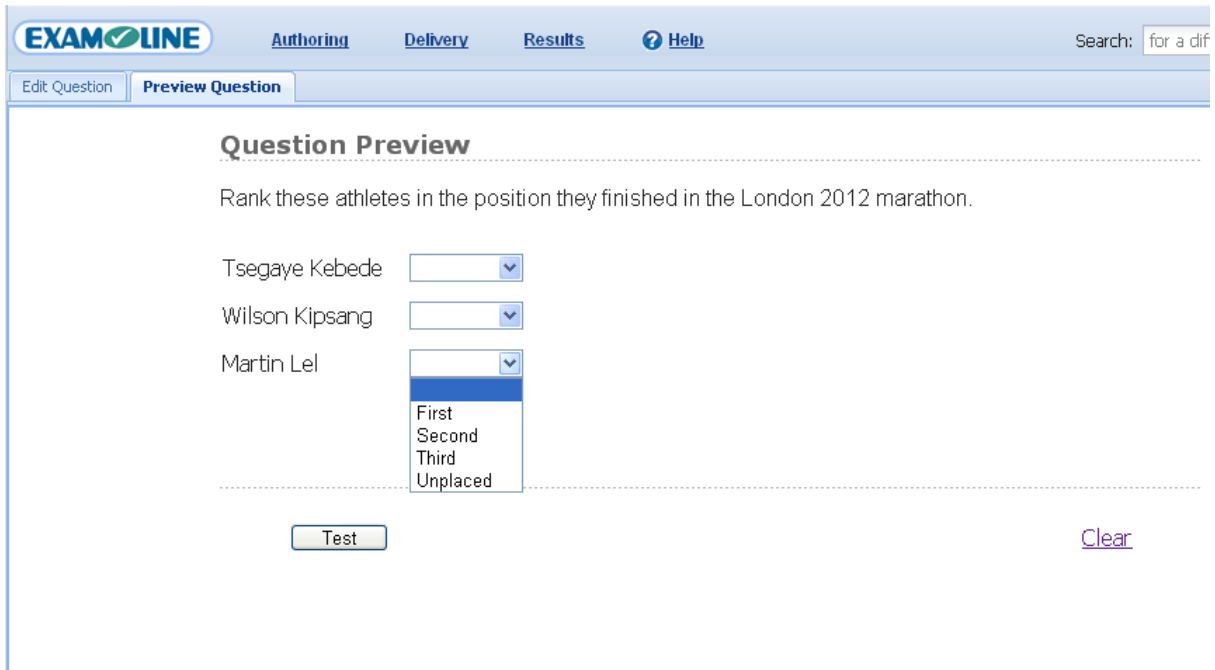
Question Choices and rankings

Background image Delete All parts must be correct to get mark(s) Help

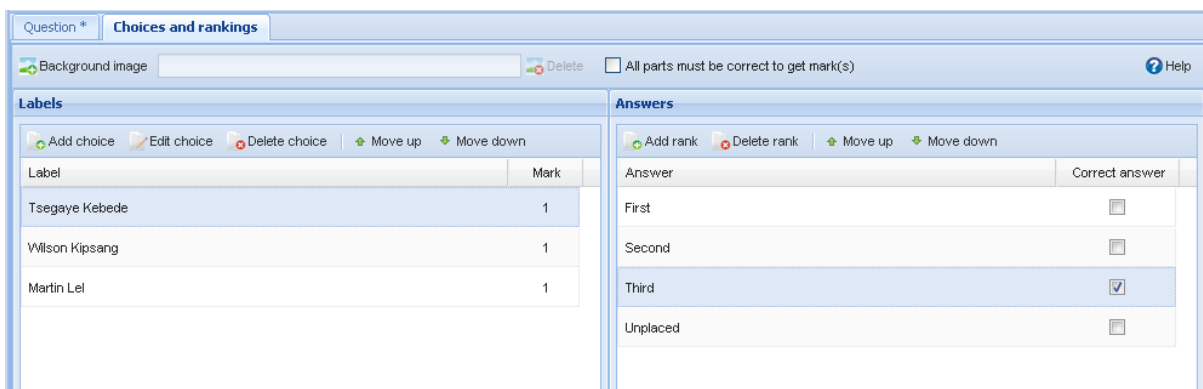
Labels		Answers	
Label	Mark	Answer	Correct answer
Scotland	1	1	<input type="checkbox"/>
Wales	1	2	<input checked="" type="checkbox"/>
England	1	3	<input type="checkbox"/>

Note that candidates can never select the same ranking more than once for ranking questions – i.e. they must choose a unique ranking for each choice.

You can in fact enter any text you wish for rankings, as shown in the example below.



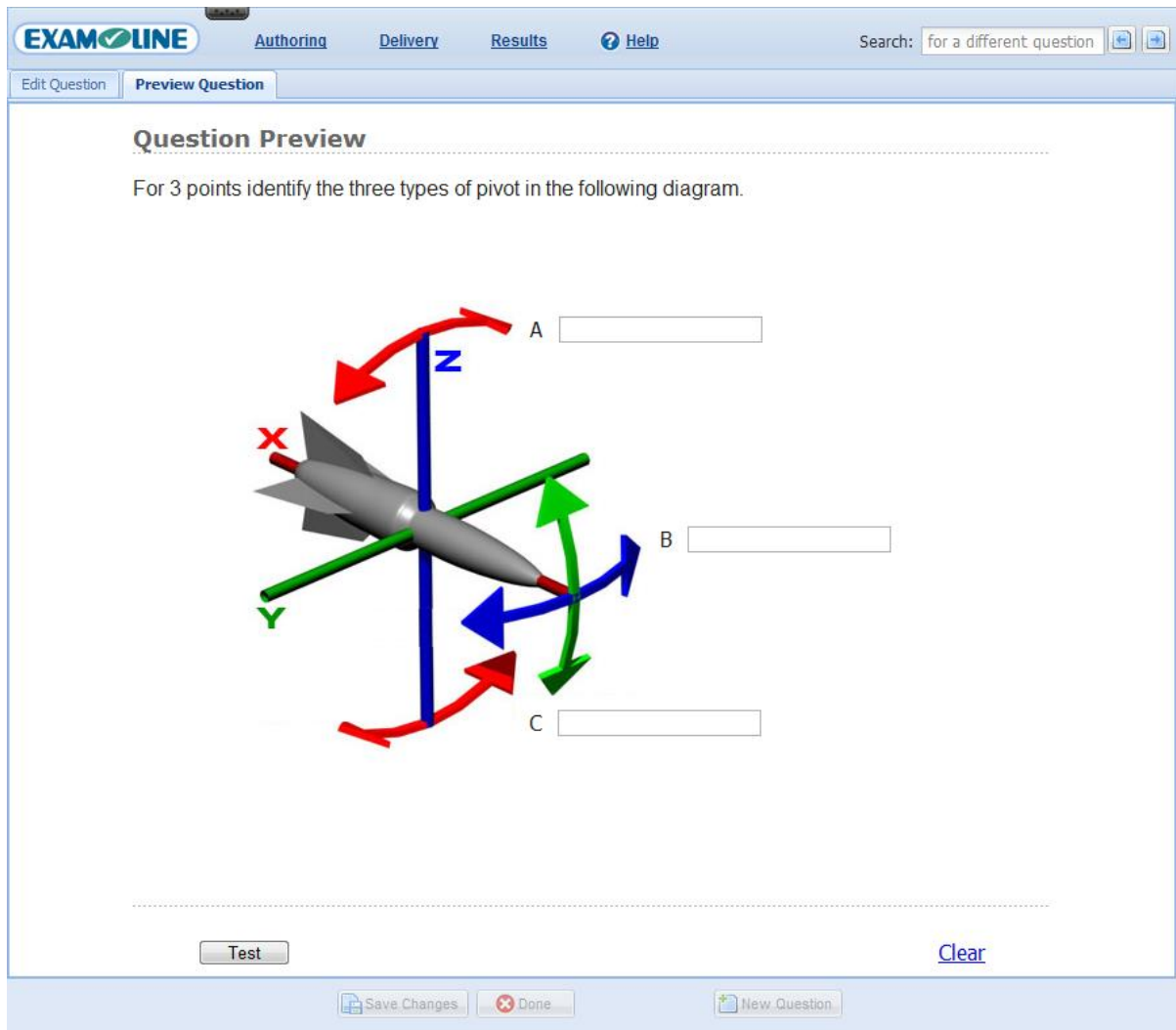
The answers and labels tab for this example is shown below.



As with matching questions, you can set up the question such that the candidate gets one or more marks for each correct ranking, or you can set up the question to require the candidate to get the rankings correct for **all** choices in order to get **any** marks. To achieve the latter, click on the **"All parts must be correct to get mark(s)"** checkbox in the toolbar. You will then be able to set a value for **Max marks**. For example, if you set Max marks to 1, then the candidate must get all parts correct to get a single mark.

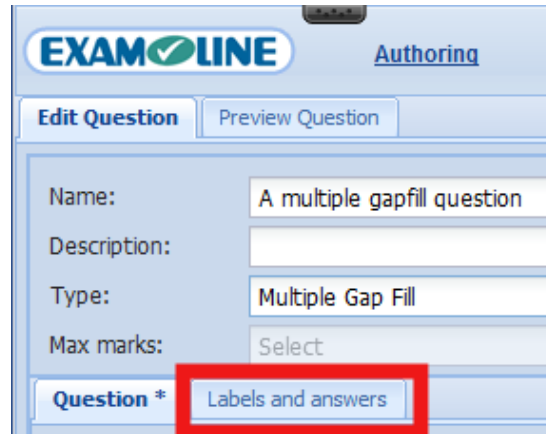
Creating a Multiple Gap-Fill Question

As the name suggests, a multiple gap-fill question allows you to include multiple gap-fill text boxes in a single question. As with matching questions, multiple gap-fill questions have **labels** and **answers**, and may optionally include a background image. In the example shown below, the labels are **A**, **B**, and **C**, and for each label the candidate must type in an answer.

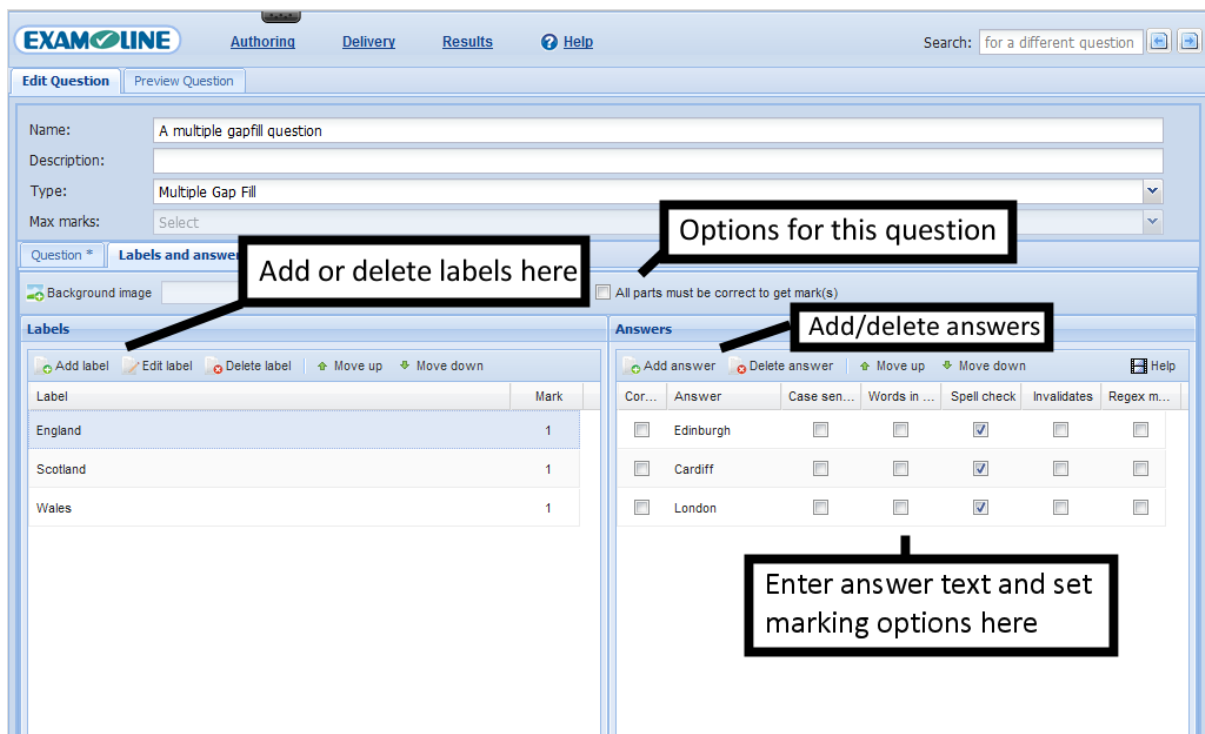


The screenshot shows the EXAMLINE software interface. At the top, there are navigation tabs: 'Authoring', 'Delivery', 'Results', and 'Help'. A search bar is on the right. Below the tabs, there are 'Edit Question' and 'Preview Question' buttons. The main content area is titled 'Question Preview' and contains the text: 'For 3 points identify the three types of pivot in the following diagram.' Below the text is a 3D diagram of an aircraft with three axes: a red X-axis, a green Y-axis, and a blue Z-axis. Three curved arrows represent different types of pivots: a red arrow labeled 'A' (roll), a green arrow labeled 'B' (pitch), and a blue arrow labeled 'C' (yaw). To the right of each arrow is a text input box. At the bottom of the question preview area, there are 'Test' and 'Clear' buttons. The footer of the interface includes 'Save Changes', 'Done', and 'New Question' buttons.

When you select the **multiple gap-fill** question type, a **Labels and answers** tab will automatically be added to the question editor interface.



Click on the **Labels and answers** tab to create the labels and correct answers for the question.



In general, the process to create a multiple gap-fill question is to add in the labels, add in the list of potential answers, specify which are the correct answer(s) for each label, and set any options for the question. These steps are explained below.

The first step will usually be to add the labels for the question (England, Scotland and Wales in the example above). Click on the **Add label** button in the toolbar, and enter the text for the label (hit the tab key to move on to the next field). You may also enter a number of marks for each label. This is the number of marks that a candidate will get if they enter the correct answer for this label. In the example above all labels have 1 mark specified, which means that this will be a 3 mark question (3 labels, 1 mark per label). Using this configuration, if the candidate gets the correct answer for one label, they will get one mark, two marks

if they get the answer correct for two labels, etc. As you are setting marks for each label, there is no need to (and the interface does not allow you to) enter a **Max marks** value for the question – the value will be calculated automatically from the marks set for each label.

An alternative version of the above question would be one that required the candidate to get the answer correct for **all** labels in order to get **any** marks. Using the above example, you might want to configure the question so that candidates had to get the correct capital city for England, Scotland and Wales in order to get one mark. To achieve this, click on the “**All parts must be correct to get mark(s)**” checkbox in the toolbar. You will then be able to set a value for **Max marks**. For example, if you set Max marks to 1, then the candidate must get all 3 parts correct to get a single mark.

Once you have entered all the labels, you enter the list of potential answers in the right hand table using the **Add answer** button (again, hit the tab key to move on to the next field).

Answers for multiple gap-fill questions are very similar to answers for gap-fill questions - for details of this, see the section on **Creating a Gap-Fill Question**.

Once you have entered the list of answers, the next step is to indicate which is the correct answer for each label. To do this, follow these steps:

1. Select a label in the table of labels (by clicking on it), then
2. Click the **Correct answer** checkbox in the table of answers to indicate which are the correct answers for this label.

Repeat this process to set the correct answer for each label.

Note that the **Correct answer** checkbox is in the first column of the answers table. If your browser window is not wide enough, the text may be contracted (see example below).

As an example of setting the correct answers for the labels, the screenshot below shows the **label** “England” selected in the table of labels, and that the **answer** “London” has been selected as the correct answer for this label. Note that as **Case sensitive** has been selected for the answers in this example, candidate answers must have exactly the same case as the answer text (i.e. **london** is an incorrect answer, but **London** is a correct answer).

The screenshot shows the 'Labels and answers' interface. At the top, there is a toolbar with a 'Background image' field, a 'Delete' button, and a checkbox labeled 'All parts must be correct to get mark(s)'. Below this are two main tables.

The 'Labels' table has columns for 'Label' and 'Mark'. It contains three rows: 'England' with a mark of 1, 'Scotland' with a mark of 1, and 'Wales' with a mark of 1. The 'England' row is highlighted.

The 'Answers' table has columns for 'Correct ...', 'Answer', 'Case se...', 'Words i...', 'Spell ch...', 'Invalidates', and 'Regex m...'. It contains three rows of answers: 'Edinburgh', 'Cardiff', and 'London'. The 'London' row is highlighted. In the 'Correct ...' column, the checkbox is checked for 'London'. In the 'Case se...' column, the checkbox is checked for all three answers.

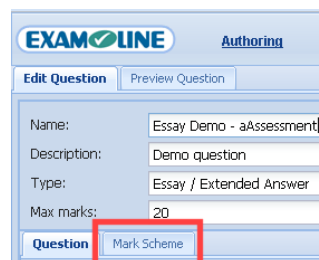
You may also **add a background image to the question**. This allows you to position the labels at a suitable position on the image. The process here is exactly the same as for matching and ranking questions. Please see the **Creating a Matching Question** section.

Creating an Essay / Extended Answer Question

This question type cannot be marked automatically, it requires human marking. See also the documentation for the Human Marking Interface.

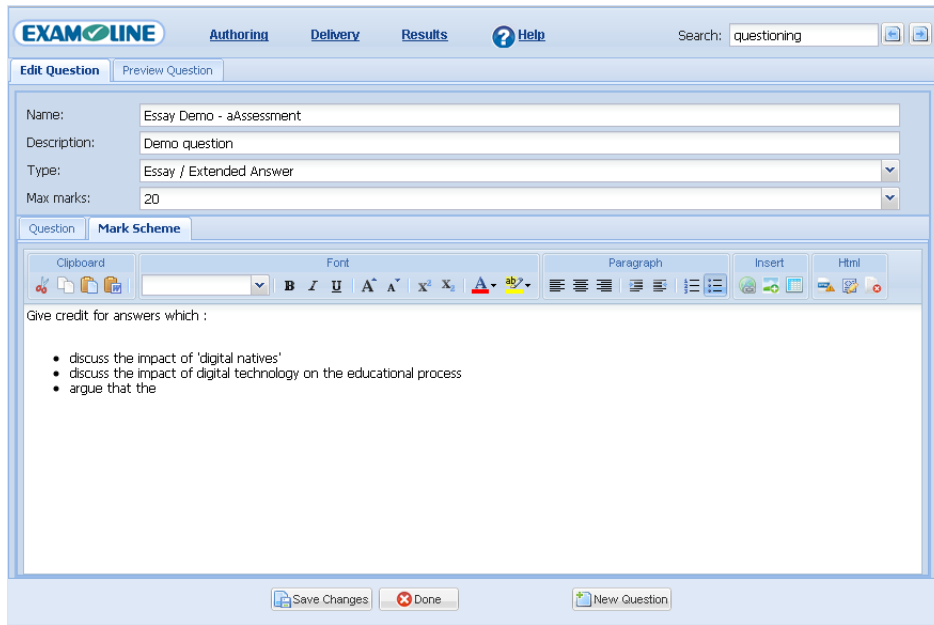
ExamOnline has unique support for essay type questions. Candidates enter their essay using an intuitive and familiar word processor interface, which supports formatting and cut and paste. Candidate answers are automatically saved every 20 seconds or so. The system is tolerant to network and server failures, automatically re-synchronising when the network / server are restored, without the candidate being aware of any problem. And ExamOnline includes an efficient human marking interface, allowing markers to annotate candidate answers with comments / feedback, and providing significant efficiency savings over paper based marking. Alternately, candidate essays can be printed out for marking on paper.

When you select the **Essay / Extended Answer** question type, a **Mark Scheme** tab will automatically be added to the question editor interface.



The screenshot shows the 'EXAMLINE Authoring' interface. It features a top navigation bar with the 'EXAMLINE' logo and the word 'Authoring'. Below this are two tabs: 'Edit Question' (active) and 'Preview Question'. The main content area contains several input fields: 'Name' with the value 'Essay Demo - aAssessment', 'Description' with 'Demo question', 'Type' with 'Essay / Extended Answer', and 'Max marks' with '20'. At the bottom of the form, there are two tabs: 'Question' and 'Mark Scheme', with the 'Mark Scheme' tab highlighted by a red rectangular box.

The mark scheme tab can be used to enter the marking guidelines (sometimes called the rubric) which markers should apply when marking answers to this question. Click on the **Mark Scheme** tab to enter the text and / or images for the marking guidelines.



Creating a Computer Marked Short-Answer Question

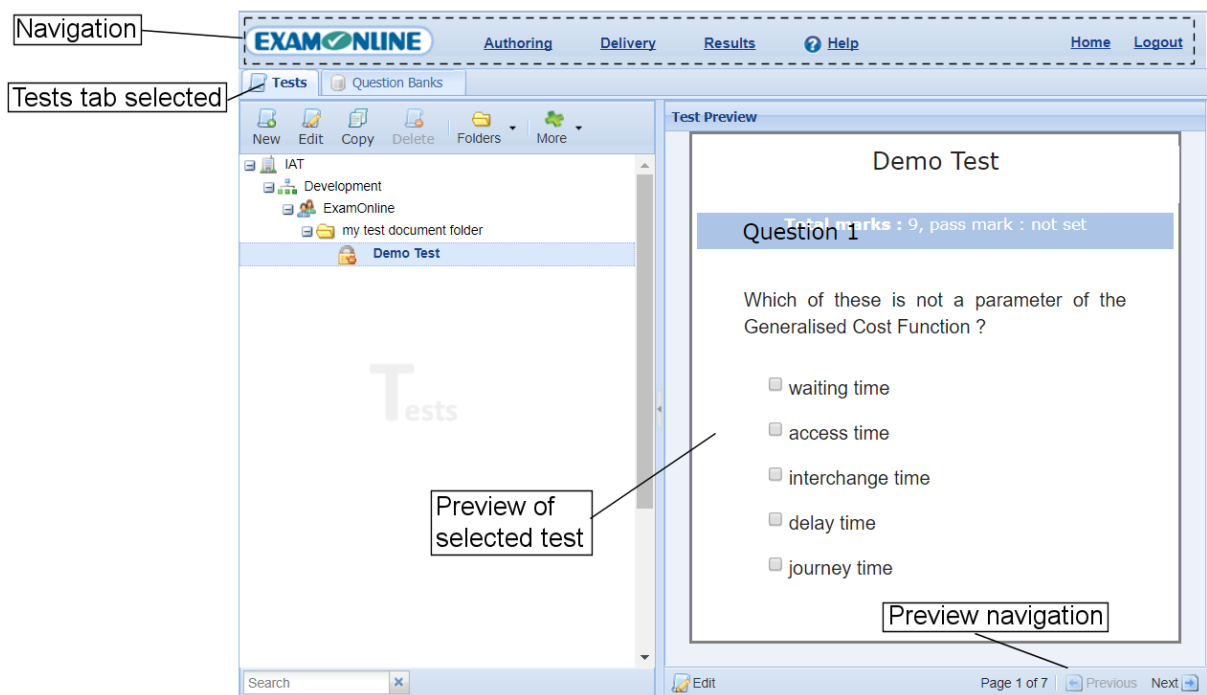
Uniquely, ExamOnline supports robust computerised marking of short answer questions. This is achieved by integration with IAT's [FreeText Author technology](#), and requires a separate license. If you are interested in licensing FreeText Author for use with ExamOnline, contact sales@intelligentassessment.com

Creating a Test Document

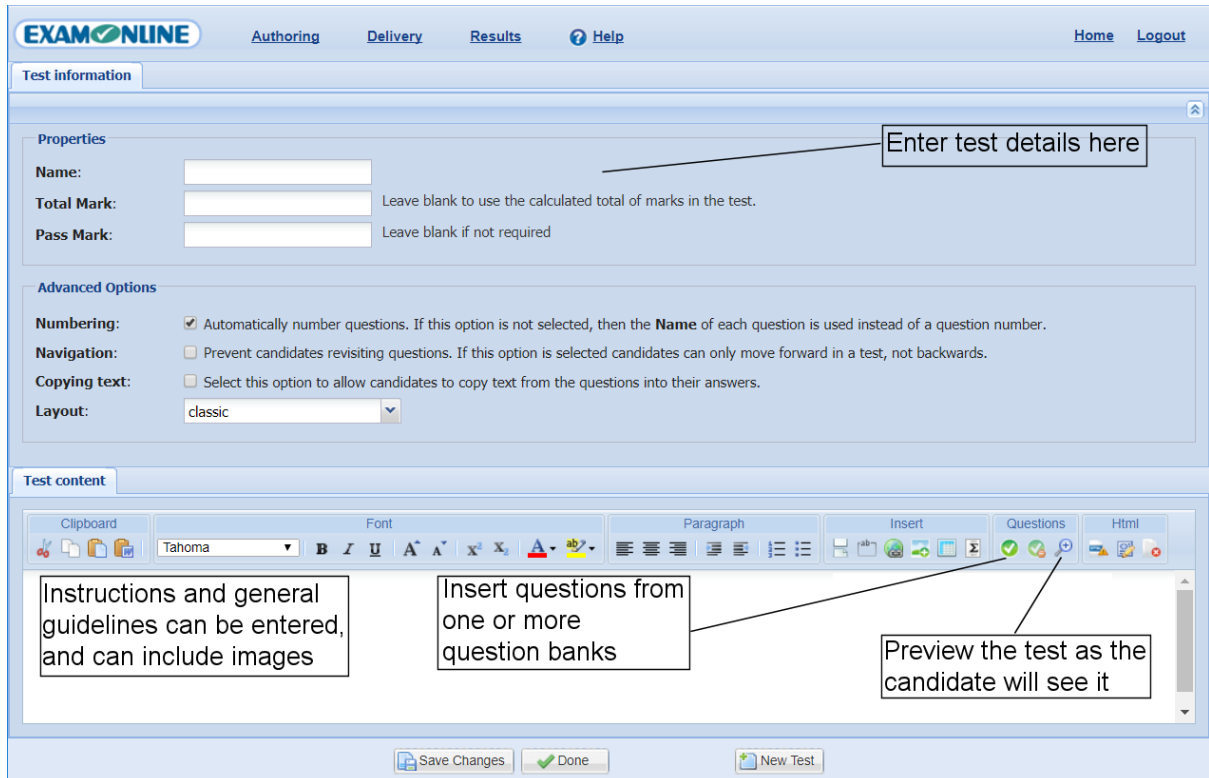
In traditional paper-based assessment, candidates are presented with a **test paper** which contains the questions to be answered and any associated instructions. In ExamOnline, the term **test document** is used, but the concept is the same.

Test documents are created using an HTML editor, with questions being imported from one or more of the question banks you have created.

To create a test document, open the **Authoring App**, and make sure the **Tests** tab is selected, as shown below.




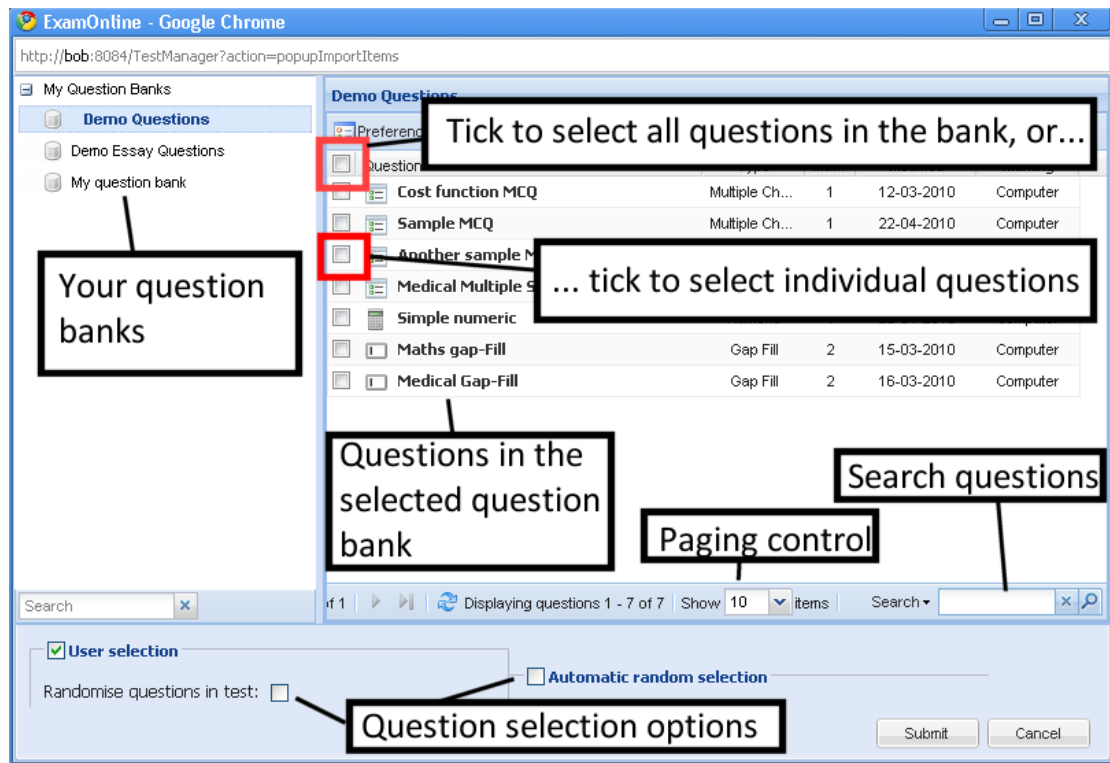
Click on the **New** button in the test tab, and the **Test Editor** interface opens, as shown below.



Examples of creating and previewing test are shown below.

A Simple Test – Questions Only

The simplest test document contains only questions. To import questions from a question bank into a test document, click on the  **Insert Questions** button on the HTML editor toolbar. A new window will open, as shown below.




Select the question bank you want to use. You now need to select the questions. This can be either by :

- **User selection** – you choose the questions (either individually or by selecting all in the bank). ***In this case, all candidates get the same questions.***
- **Automatic random selection** – you specify how many questions to select, and the system selects them automatically from the question bank when the test is delivered. ***In this case, candidates may get different questions.***

Once you have made your selection, click on the **Submit** button, and a placeholder for the questions will be inserted into the test document, as shown below.

The screenshot shows the EXAMONLINE interface. At the top, there are navigation tabs for 'Authoring', 'Delivery', 'Results', and 'Help', along with 'Home' and 'Logout' links. The main content area is divided into two sections: 'Test information' and 'Test content'.
Test information:
- **Properties:** Name: 'Demo Test 2', Total Mark: '9', Pass Mark: (empty). It notes the test was created and modified on 10-Oct-2017 by Nicky Aldridge.
- **Advanced Options:** Includes checkboxes for 'Automatically number questions', 'Prevent candidates revisiting questions', and 'Select this option to allow candidates to copy text from the questions into their answers'. The 'Layout' is set to 'classic'.
Test content:
- Features a rich text editor toolbar with options for Clipboard, Font (Tahoma), Paragraph, Insert, Questions, and HTML.
- A central message box states: '7 questions (9 marks) from the 'Demo Questions' question bank will be inserted here.'
- At the bottom, there are buttons for 'Save Changes', 'Done', and 'New Test'.

Previewing a Test

To see the test as the candidate will see it, click on the  **Preview Test** button in the HTML editor toolbar, **but note you must have saved the test document before you can preview it.**

The test preview is shown in a new window :

ExamOnline - Google Chrome
 http://bob:8084/TestManager?action=previewTest&testDocumentDbKey=15

Preview

Question 2

Given the point $P=(2,2)$, and the vector u illustrated in the diagram, which point is obtained by displacing P by u


- (-1,1)
- (1,-1)
- (-1,3)
- (3,5)
- (4,4)

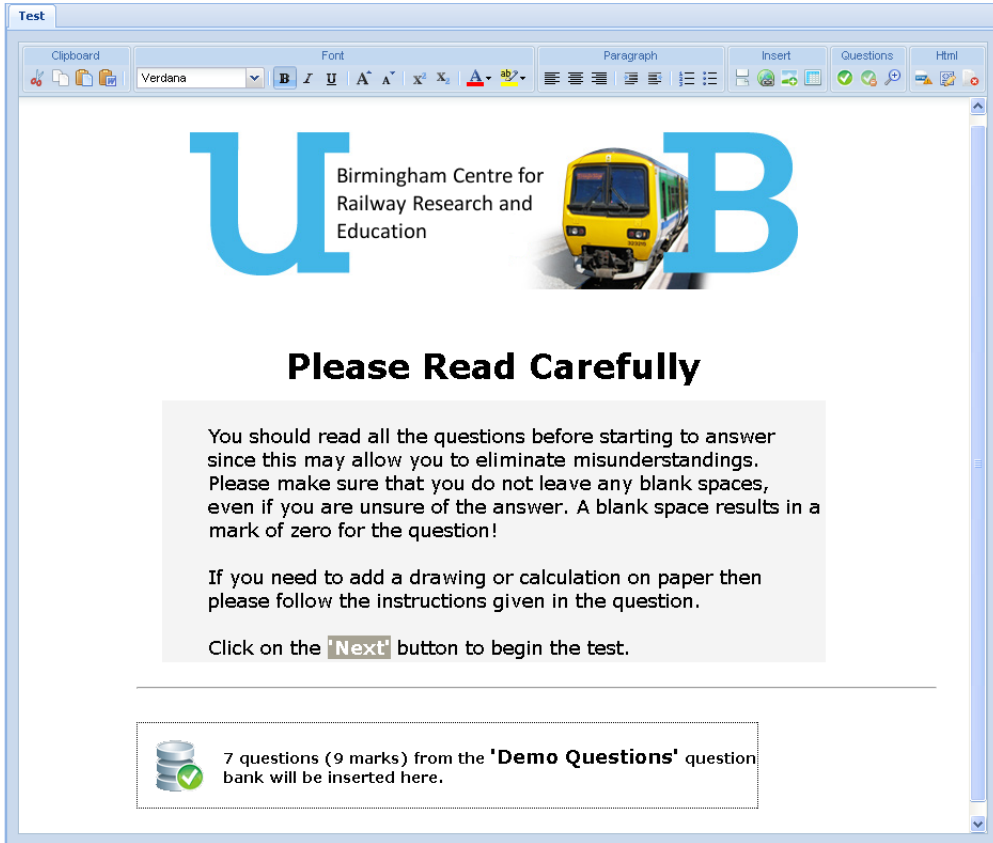
Page 2 of 7

Click on a coloured square to re-visit previous pages. Red squares indicate pages with unanswered questions.

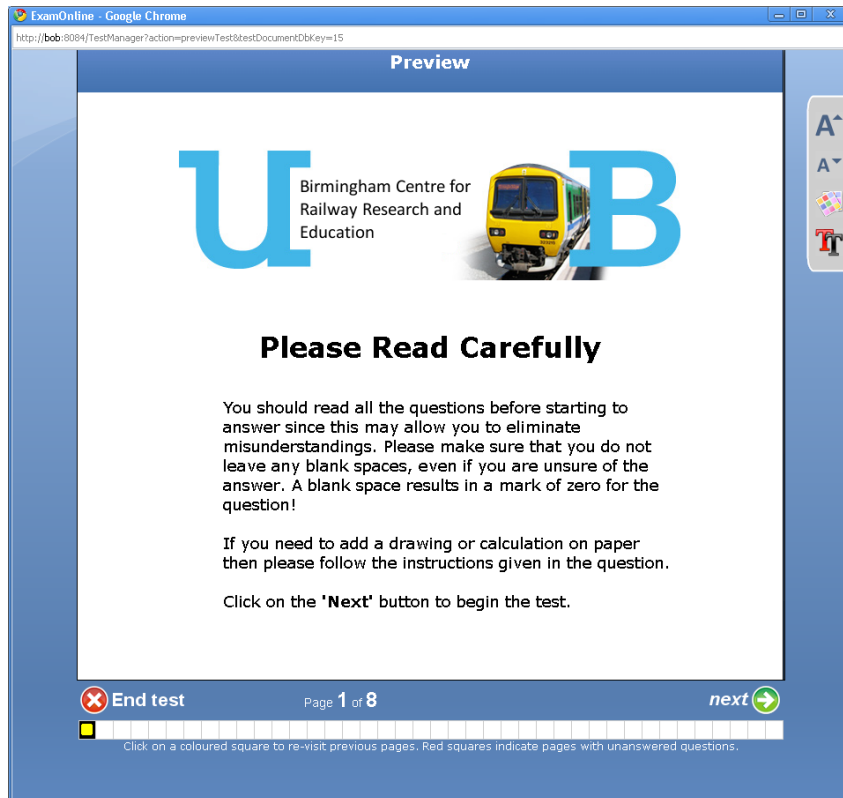
You can click on the **Next** and **Previous** buttons to navigate through the questions in the test, and you can preview how the test will look with different accessibility settings (click on the icons on the panel on the right hand side of the screen). See the section on **The Candidate Interface** for a more complete description of the test interface.

A Test With Candidate Instructions

You may use the formatting capabilities of the HTML editor in the test editor to include and format instructions in your online test, just as you might for a paper-based test. The example below shows a test being edited which has a page of instructions (including an image) inserted before the questions. The grey box is actually a table (with no border) which is being used to format the position of the text. Note that a page break has been inserted after the instructions. This is done using the  **Page Break** button on the HTML editor toolbar.



When this test is previewed, the first page shown is :

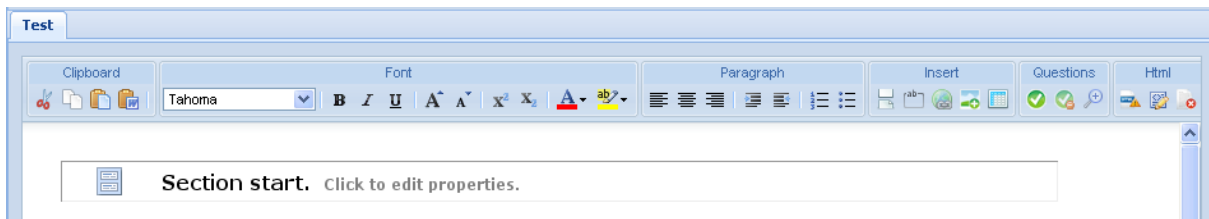


Tests With Sections

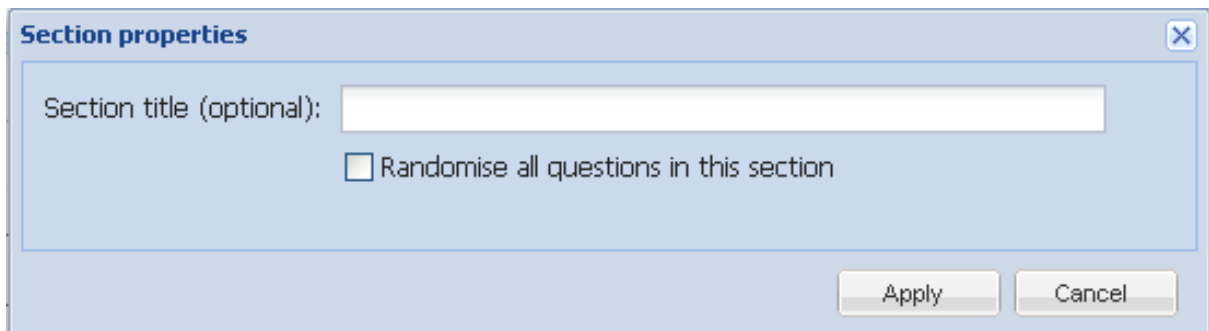
You can split your test into different sections. There are two main reasons you may wish to do this:

- To organise your test into topics areas, and provide a navigational aid to candidates to jump quickly between these topic areas;
- To randomise questions across a number of different question banks.

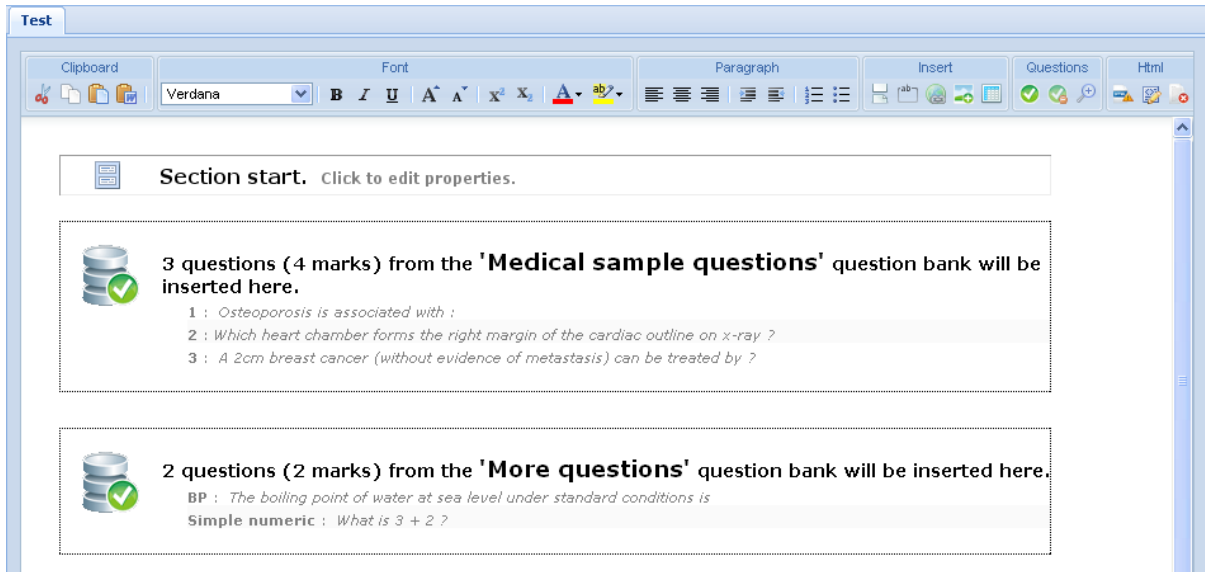
To add a section to a test, click on the  **Sections** button on the HTML editor toolbar. A section marker will be inserted into the test as shown below.



To set the properties for a section, click on the section marker. The following window will appear.

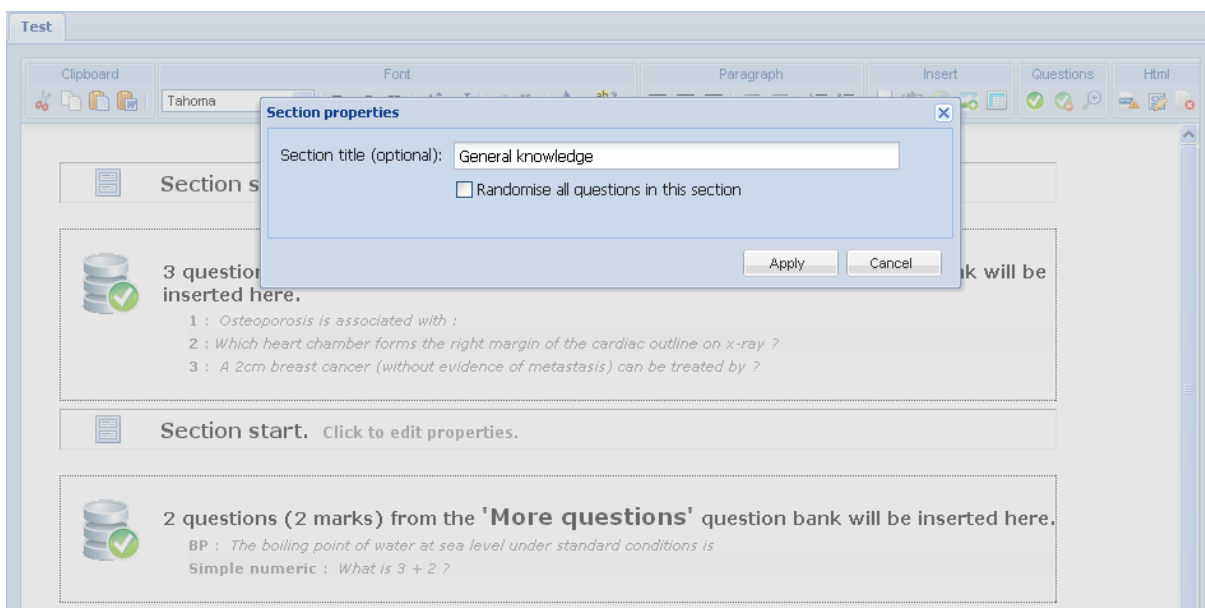


You may optionally set a title for the section (see below), and/or you may choose to randomise all the questions in this section (the default is not to randomise questions). If you select to randomise the questions, then the questions from all the questions banks in this section (i.e. those that follow the section marker, until the end of the test or another section marker is encountered) will be treated as if they are part of a single question bank, and all randomised together. So in the following example:



the questions from the “Medical sample questions” question bank and the questions from the “More questions” question bank will all be randomised together, meaning that candidates may get a question from the “More questions” question bank followed by a question from the “Medical sample questions” question bank, followed by another question from the “More questions” question bank, etc. Note that there is no need to specify random selection when selecting the questions from the question bank, the fact that you have selected randomise for the section ensures that the questions will be randomised.

The second reason you may wish to add sections to your test is to organise it by topic or some other characteristic. In this case if you add titles to your sections then an additional navigation aid is shown to candidates. Looking at the following example, there are two sections, the first has been given a title “Medical” and the second “General knowledge”.



When the test is delivered to candidates, the titles of the section are shown at the bottom of the page (highlighted with a red box in the screenshot below), and are hyperlinked, so that a candidate can jump between sections by clicking on the section name. Note however that candidates cannot jump forward to a section until they have viewed all the questions in preceding sections (by clicking on the **Next** button as normal).

The screenshot shows a web browser window titled 'ExamOnline - Google Chrome'. The address bar contains 'bob:8084/TestManager?action=previewTest&testDocumentDbKey=24'. The main content area is titled 'Preview' and displays 'Question 4' with the text 'The boiling point of water at sea level under standard conditions is'. Below this are four multiple-choice options: '100 degrees Fahrenheit', '100 degrees Celsius', '100 degrees Kelvin', and '273 degrees Celsius'. The text 'General knowledge' is visible on the right side of the question area. At the bottom of the page, there is a navigation bar with 'End test', 'Page 4 of 5', 'previous', and 'next' buttons. A red box highlights the text 'Section: Medical - General knowledge' in the navigation bar. Below the navigation bar is a progress indicator with colored squares and a note: 'Click on a coloured square to re-visit previous pages. Red squares indicate pages with unanswered questions.'

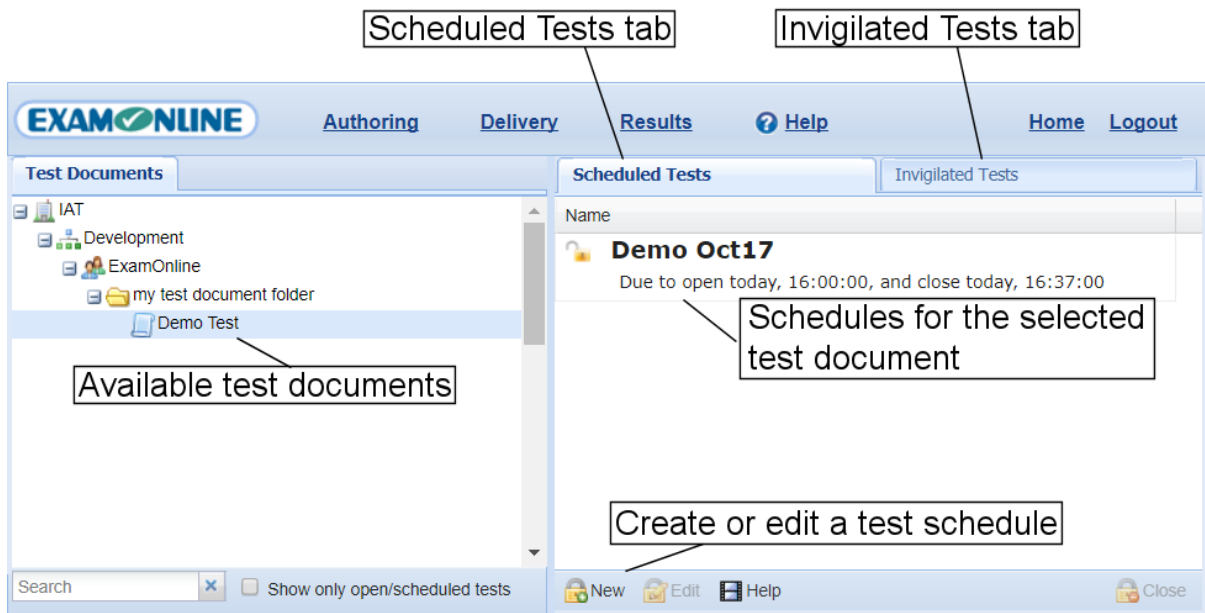
When you are happy with your test, you are ready to deliver it. For this you use the delivery app

The Delivery App

There are two ways to deliver a test in ExamOnline : you can **schedule a test** for delivery, or you can run an **invigilated test** immediately. As the name suggests, scheduling a test means specifying a future time window when the test will be available to a particular group of candidates. This is the conventional way to deliver e-assessments.

However ExamOnline also supports a unique model to support immediate delivery of a test where a supervised group of candidates are assembled in one place (i.e.

the test is invigilated, or proctored). This is referred to as running an **invigilated test**.



Examples of delivering both types are shown below.


Scheduling a Test for Delivery

The **Scheduled Tests** tab allows you to schedule a test for delivery at a future time, or edit an existing schedule.

Begin by clicking on the Scheduled Tests tab. Select the test document you want to deliver, and then click the **New** button at the bottom of the screen. The **Test Schedule Window** pops up, as shown below.

The window is split into 4 sections :

- **Schedule:** this is where you set the time period during which the test will be available, and the maximum duration of the test itself. Candidates will see the schedule name;
- **Candidates:** This is where you specify which candidates can take the test;
- **Results:** This is where you indicate whether candidates should be shown their results or not at the end of the test;
- **Advanced Options:** additional settings, such as whether or not to show a page of instructions before the test begins, and whether candidates can log back in once they have logged out.

You can move your mouse over the  help icon for detailed help when setting the options. See also the section below on how to select / upload candidate groups.

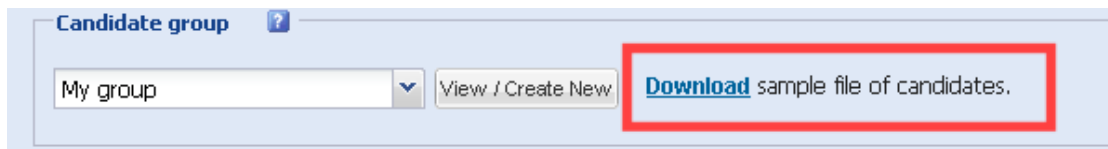
Selecting and Uploading Candidate Groups for Scheduled Tests

When you schedule a test for delivery, you must specify the group of candidates who can access the test. Initially of course, you will not have added this information to the system, so below we will walk through the process.

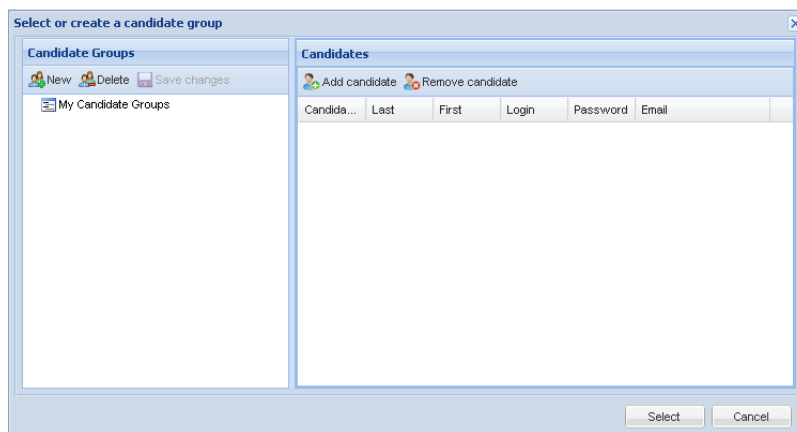
Candidate details are added to ExamOnline in groups, and each group must be uploaded as a separate csv file in the format shown below.

	A	B	C	D	E	F	G	H
1	Candidate ID	Last Name	First Name	Login	Password	Email		
2	123456	Jones	Peter	tom	examonline001	tom@dummy.com		
3	654321	Smith	Tom	pete	examonline002	pete@dummy.com		
4	123654	Black	John	john	examonline003	john@dummy.com		
5								
6								

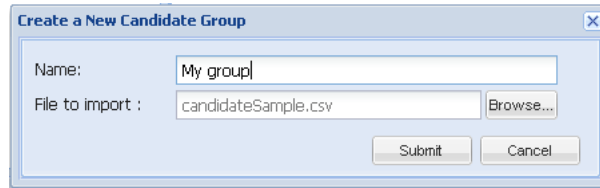
Note that you can download the file shown above and use it as a template for your own uploads by clicking on the **Download sample file of candidates** link in the **Test Schedule Window** (accessed from the **Delivery App**), as shown below.



So the first step is to download this file, and populate it with your own data. Then, from the **Test Schedule Window** popup, click on the button which says **View / Create New** in the candidate group section (see image above). The **Candidate Group Window** pops up, as shown below, and is initially empty (i.e. contains no candidate groups).

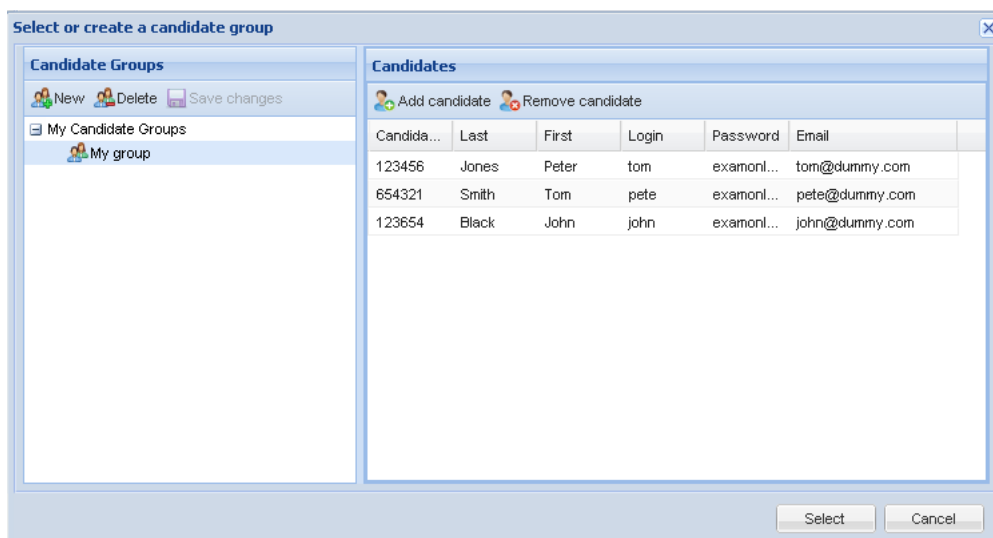


To add your group, click on the **New** button on the toolbar, and in the dialog which appears, give your group a name and click on the **Browse** button to navigate to the csv file you have created.



If the file you upload does not match the required format, you will see an error message and the upload will fail. In this case check the file you are uploading and compare the format to that shown previously in this section.

Once your upload has been successful, your new group will be added to the list on the left, and you will see the candidate details for the group in the right hand panel, as shown below.



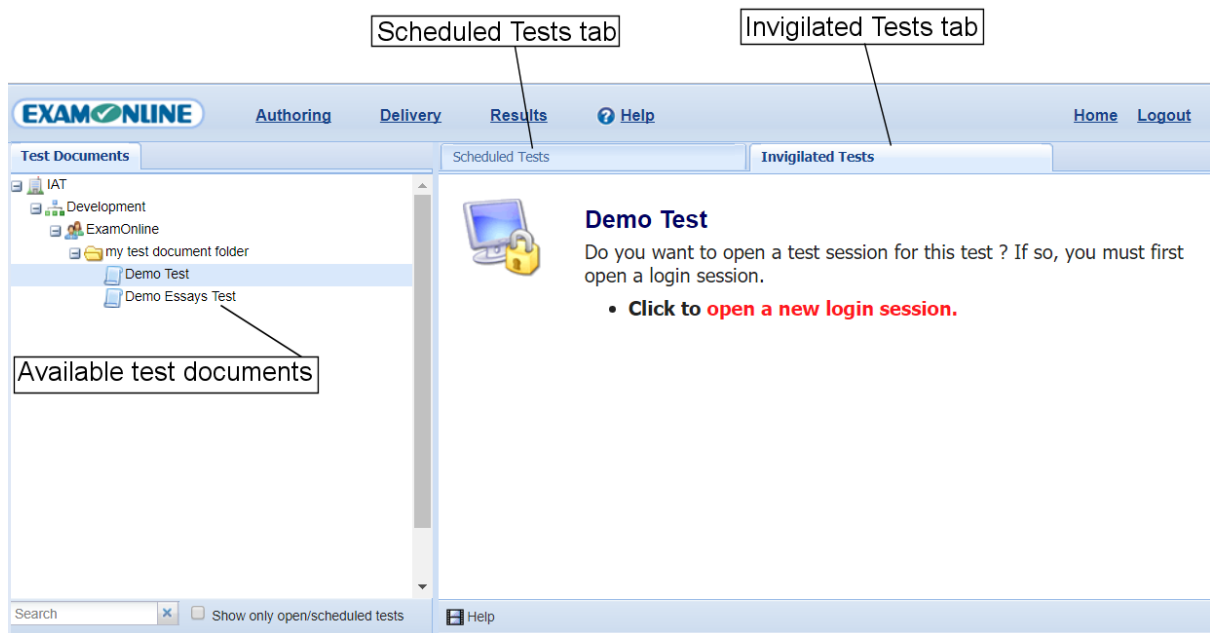
This group will now stay in the system (until deleted) and can be used when scheduling tests.

To allow individuals within a candidate group additional time, please see section **Setting extra time for individual candidates** in the Results App section.

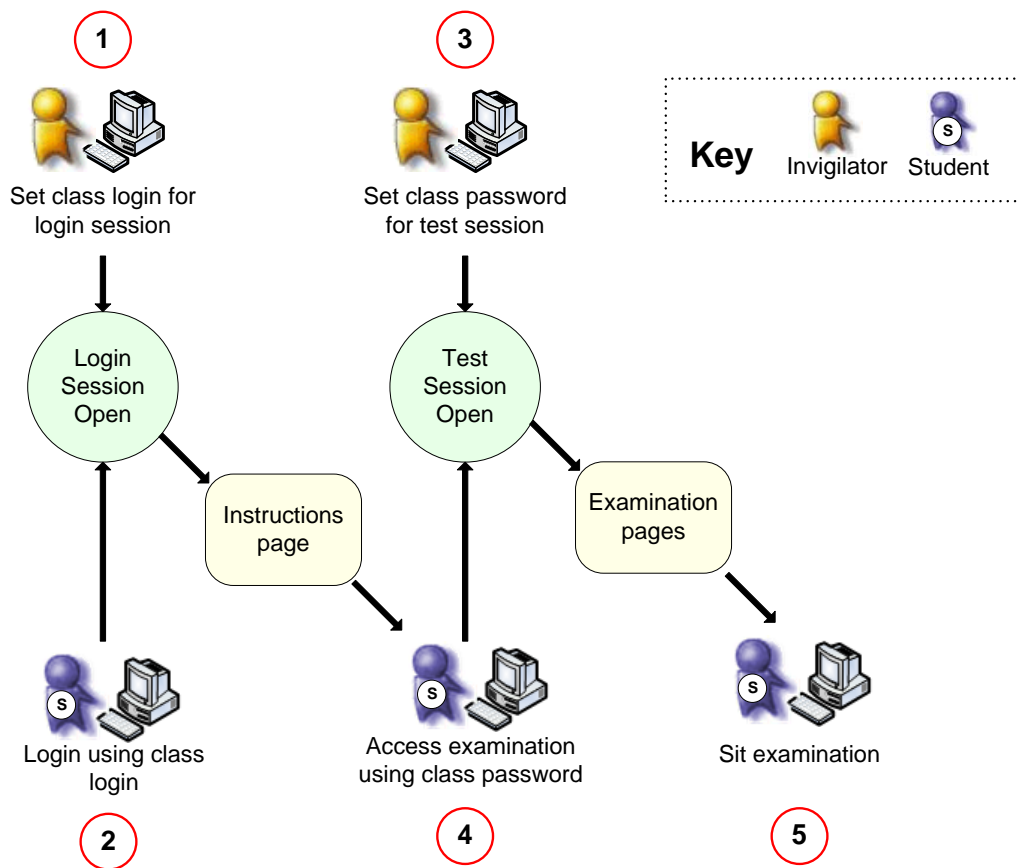
Delivering an Invigilated Test Immediately

ExamOnline is unique in offering a different way to deliver an e-assessment, one that is very useful when you have all the candidates together in one location and are ready to start a test.

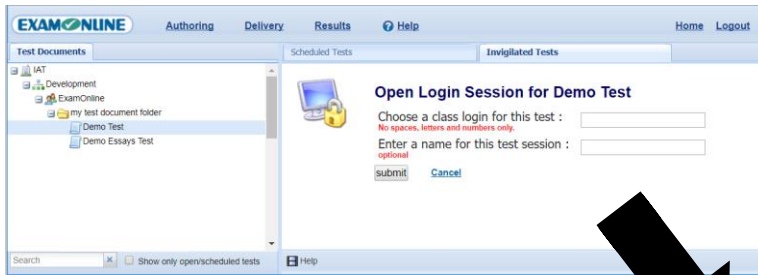
The approach is based on the well-known model of an **invigilated examination**, with the invigilator in the same room as the candidates sitting the examination. The invigilator logs in to ExamOnline using a PC in the exam room itself, and accesses the **Delivery App** to select the examination paper. The next step is to click on the **Invigilated Test** tab, as shown below.



The process to follow to start an invigilated test is simple, but secure. The process is illustrated and described below.

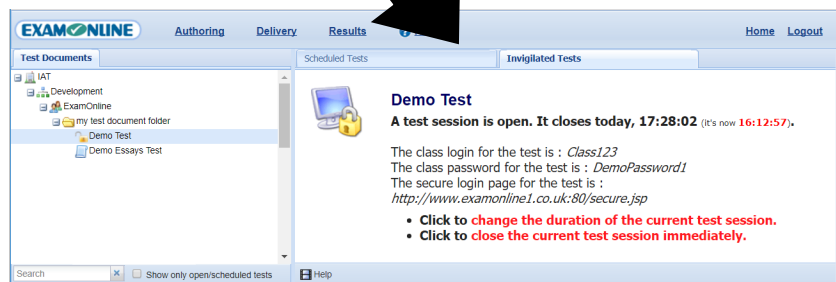
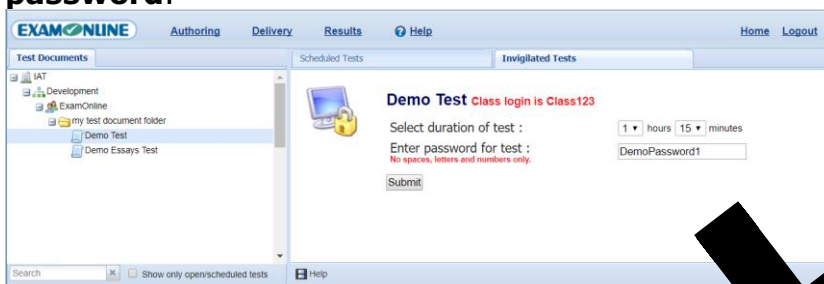


Step (1) : The invigilator opens a login session, and specifies a **class login**.



Step (2) : The class login is communicated to the candidates. The candidates are then able to login to the system and to proceed as far as a holding page, which gives instructions on the test.

Step (3) : When ready, the invigilator will open the test session proper, specifying the duration of the session and, at the same time, specifying a **class password**.



Step (4) : The class password is communicated to the candidates, they enter this and are able to access the test.

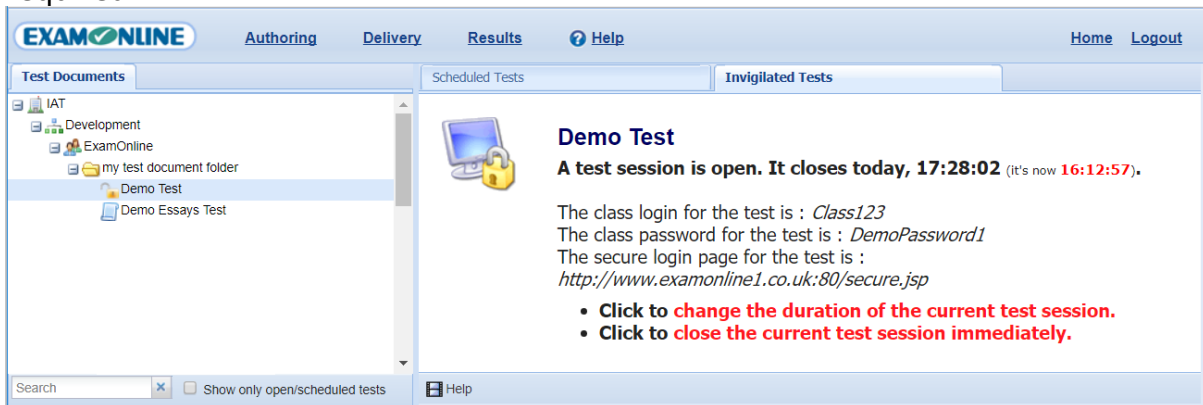
Note that :

- There is no need to upload a candidate group before running an invigilated test. Rather, the system simply creates a unique test session for each candidate who logs in to take the test. As with a normal examination,

verification of candidate identity (e.g., by means of a matriculation card) is the duty of the invigilator;

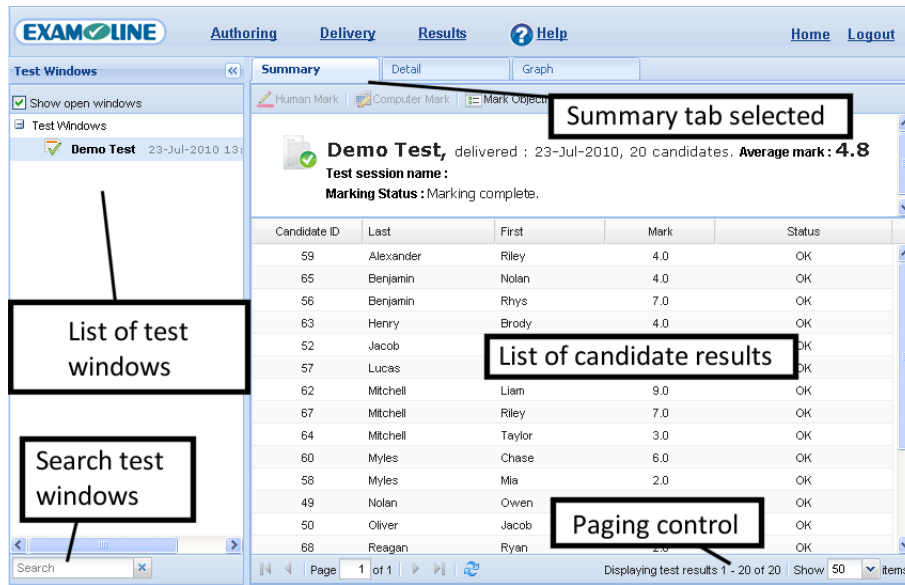
- Candidates leaving the examination room and subsequently trying to re-login to the test will not be able to access their test – an administrator password is required for re-logins.

The screenshot below shows the invigilator's view of an open test session. The screen displays the login details that the candidates need to access the examination and enables the invigilator to change the duration of the session, if required.



The Results App

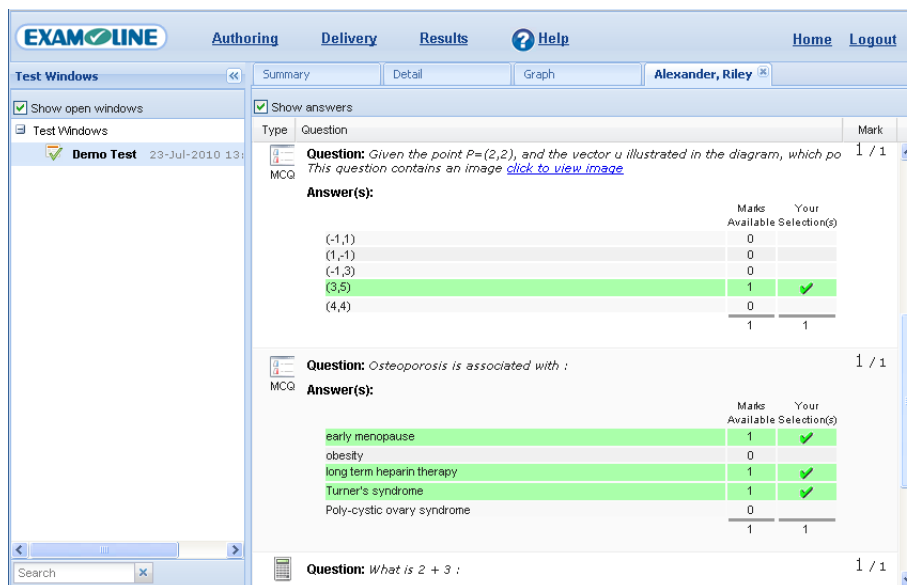
The **Results App** allows you to view test results and export them for further analysis.



There are 3 tabs in the results app :

The Summary Tab

The summary tab shows summary results for the test session selected in the left hand panel, as shown in the image above. Clicking on an individual candidate result open up a further tab showing the actual answers the candidate gave, as shown below.



Detail Tab

The detail tab shows the mark awarded for individual questions for each candidate, and some simple question statistics, as shown below. From this tab you can also download the data as a Microsoft Excel spreadsheet (using the button highlighted in red in the image below).

The screenshot shows the EXAMLINE interface with the 'Detail' tab selected. The 'Open in Excel' button is highlighted with a red box. The table below shows student results for 10 items.

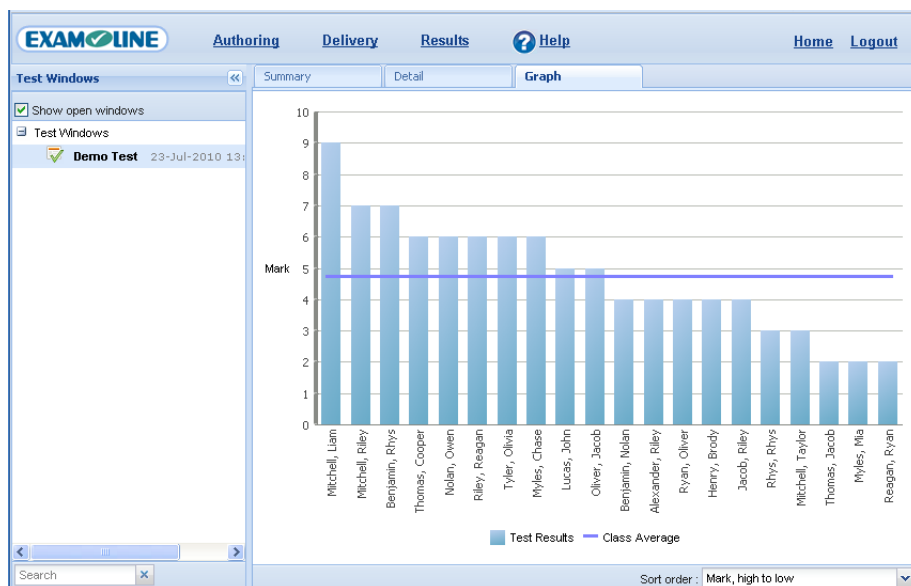
Candidate ID	Last	First	Mark	%	Co...	Sa...	An...	Me...	Sim	Mat	Me
59	Alexander	Riley	4	44			1	1	1		1
65	Benjamin	Nolan	4	44	1	0	0	0	1	2	
56	Benjamin	Rhys	7	78	1	0		1	1	2	2
63	Henry	Brody	4	44	0	0		1	1	2	
52	Jacob	Riley	4	44	1	1			1	1	0
57	Lucas	John	5	56		1		1	1		2
62	Mitchell	Liam	9	100	1	1	1	1	1	2	2
67	Mitchell	Riley	7	78	1	1	1	1	1		2
64	Mitchell	Taylor	3	33	0	0	0	0	1	2	0
60	Myles	Chase	6	67	0	0	1		1	2	2

Below the table, there are cohort statistics for 2 items:

	mean	std									
	-	-	5	59	0.5	0.4	0.4	0.6	1.0	1.3	1.1
	-	-	2	21	0.5	0.5	0.5	0.5	0.0	0.9	1.0

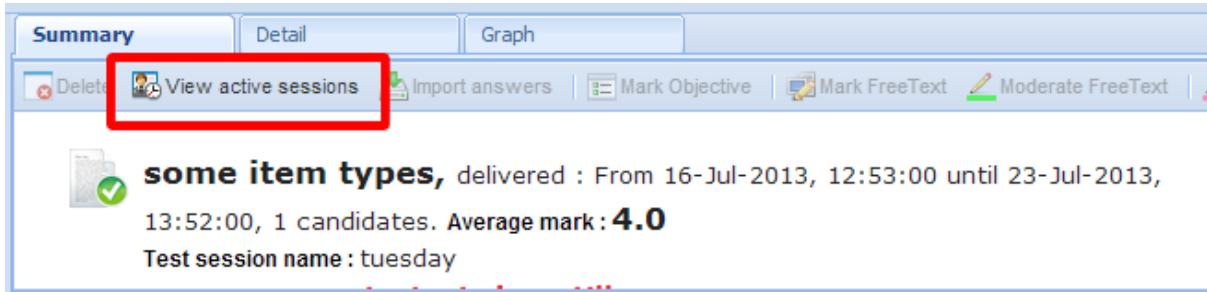
Graph Tab

The graph tab shows a graph of candidate results, as shown below. The graph can be viewed using different sort orders.



Viewing Active Test Sessions

System administrators can view active sessions for a test window (i.e. they can view a list of those candidates currently doing a test) by clicking on the **View active sessions** button on the summary tab toolbar, as shown below.



There are two main panels in the test session interface:

- The left hand panel shows a list of test windows which currently have active test sessions.
- The right hand panel shows active test sessions for the test window which is selected in the left hand panel. **The data in this panel is refreshed automatically every 60 seconds.**

The interface also shows how long ago it is since a candidate was active (i.e. saved an answer to the server). Where there has been no activity for more than 5 minutes, this is highlighted in red (see screenshot below). This may be useful in identifying individual candidates where there is a communication problem with the server.

A screenshot of the 'EXAMONLINE' interface showing two panels. The left panel is titled 'Active test windows' and contains a table with columns 'Name', 'Start', and 'End'. The right panel is titled 'Active test sessions (refreshes every 60 seconds)' and contains a table with columns: 'StudentID', 'First Name', 'Last Name', 'IP Address', 'Last activity', 'ReLogin', 'Current Page', 'Highest Page', and 'Extra minutes'. The 'Last activity' for student 103 is highlighted in red as '7 minutes'.

Active test windows			Active test sessions (refreshes every 60 seconds)								
Name	Start	End	StudentID	First Name	Last Name	IP Address	Last activity	ReLogin	Current Page	Highest Page	Extra minutes
tuesday	16-Jul-2013, 12...	23-Jul-2013, 13...	102	Exam2	Student	fe80:0:0:c9e...	< 1 minute		3	3	0
			103	Exam3	Student	fe80:0:0:c9e...	7 minutes		5	5	0

Setting extra time for individual candidates

The test session interface also allows system administrators to allocate extra time to individual candidates. To do this, simply click within the **Extra Minutes** field for the candidate in question, and select a value from the drop down list which will appear, as shown below.

Active test sessions (refreshes every 60 seconds)								
StudentID	First Name	Last Name	IP Address	Last activity	ReLogin	Current Page	Highest Page	Extra minutes
102	Exam2	Student	fe80:0:0:c9e...	2 minutes		3	3	0
103	Exam3	Student	fe80:0:0:c9e...	10 minutes		5	5	0

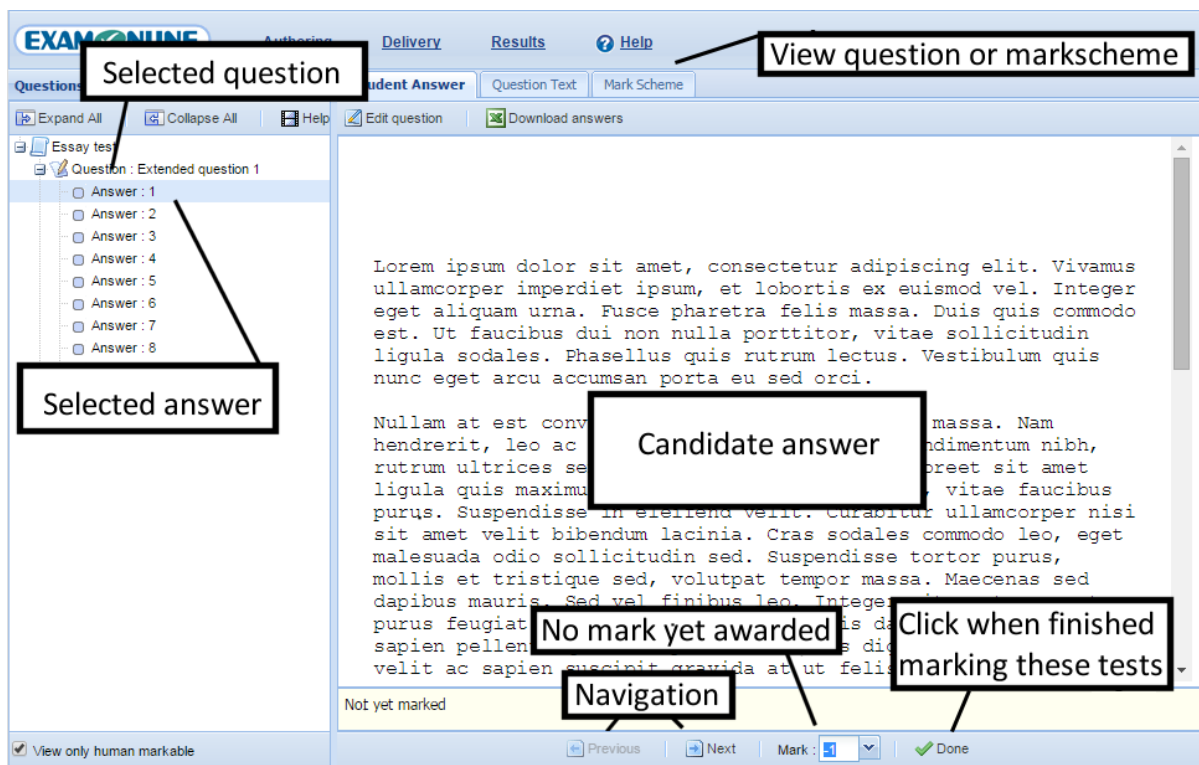
Human Marking Essay Answers


Essay / extended answer question types require human marking. When viewing student results which include unmarked questions of this type, prominent warnings will be displayed, and the **Human Mark** button will be enabled, as shown below.

The screenshot shows the EXAMLINE Results page for a 'Demo Essays Test'. A 'Human Mark' button is highlighted with a red box and labeled 'Human Mark' button enabled. A warning icon and message 'Marking Status : 13 unmarked tests' is highlighted with a black box and labeled 'Warning icon + message'. The table below shows candidate results with '1 questions unmarked' for each.

Candidate ID	Last	First	Mark	Status
88-7777	Black	Sally	0.0	1 questions unmarked
999-999-01	Oliven	Sue	0.0	1 questions unmarked
000-000-1	Gold	Fiona	0.0	1 questions unmarked
0-99-001	Green	Will	0.0	1 questions unmarked
654321	Grey	Tom	0.0	1 questions unmarked
777-888	Jones	Fred	0.0	1 questions unmarked
66-666-01	Small	Frank	0.0	1 questions unmarked
1-999-001	Smith	Bob	0.0	1 questions unmarked
123-456	Smith	John	0.0	1 questions unmarked
01-001	Watson	Will	0.0	1 questions unmarked
77-8888	White	Alan	0.0	1 questions unmarked
1-123456	Williamson	Morgan	0.0	1 questions unmarked
101-101-101	Wood	Fr	0.0	1 questions unmarked

Click on the **Human Mark** button to open the human marking interface, shown below.



The left hand panel of the human marking interface contains a list of questions in the test document which require human marking (optionally you can display the machine marked questions too by de-selecting the **View only human markable** checkbox at the bottom of the left hand panel). Click on the  icon next to the question name to view the candidate answers for that question, and on an individual candidate answer to begin marking. You can enter marks and navigate between student answers either by using the mouse or using the keyboard or by using a combination of both.

Using the Mouse to Award Marks and Navigate Between Answers

Marks can be awarded to a candidate answer by selecting a mark from the **Marks** drop down list using the mouse. You can navigate to the next candidate answer by clicking on the **Next** button on the bottom toolbar (and back again by clicking on the **Previous** button).

Using the Keyboard to Award Marks and Navigate Between Answers

The human marking interface has been designed to make it easy to award marks and navigate between answers using just the keyboard. For relatively short answers where no comments are inserted, this is typically the quickest way to mark.

When a candidate answer is selected, the **Marks** drop down is automatically selected. To enter a mark just type the number using the keyboard. Hit the **<return>** or **<tab>** key to move to the next candidate answer. The full list of navigation keys which is supported is :

- **<return>** or **<tab>** or **<right arrow>** : go to next candidate answer

- **<shift-tab>** or **<left arrow>** : go to previous candidate answer

Inserting Comments

To insert a comment into a candidate answer, use the mouse to select text in the candidate answer; an icon will appear above the selected text, as shown below.

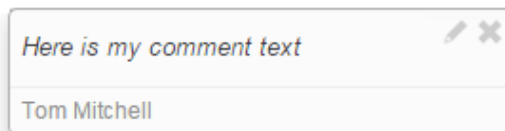


Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vivamus ullamcorper imperdiet ipsum, et lobortis ex euismod vel. Integer

Left click the icon with the mouse to add a comment to the selected text.



Once you have entered your comment, click **Save**. The comment will automatically be saved to the server. The commented text will be highlighted. Moving the mouse over the highlighted text shows the comment and the name of the marker who made the comment. You can delete the comment by clicking on the cross at the top right hand of the comment (see below) or edit it by clicking on the pencil icon at the top right hand of the comment.



Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vivamus ullamcorper imperdiet ipsum, et lobortis ex euismod vel. Integer

Note that only you can edit or delete the comments you created, although they will be visible to all markers and administrators.

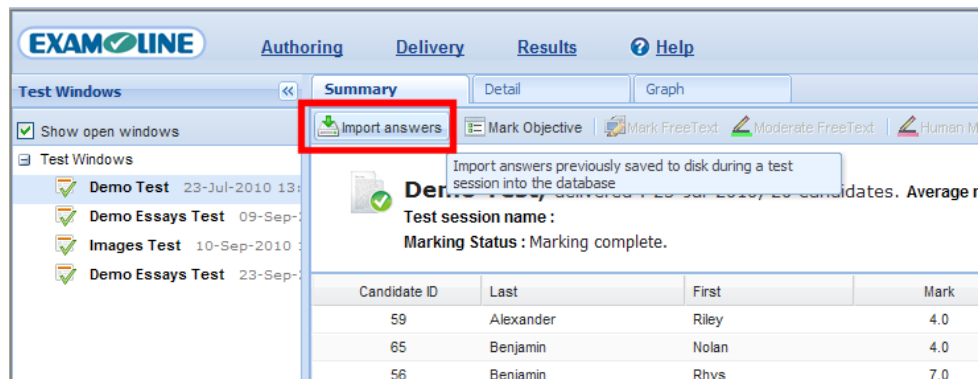
When You Have Finished Marking

To finish marking candidate answers, click on the **Done** button on the bottom toolbar.

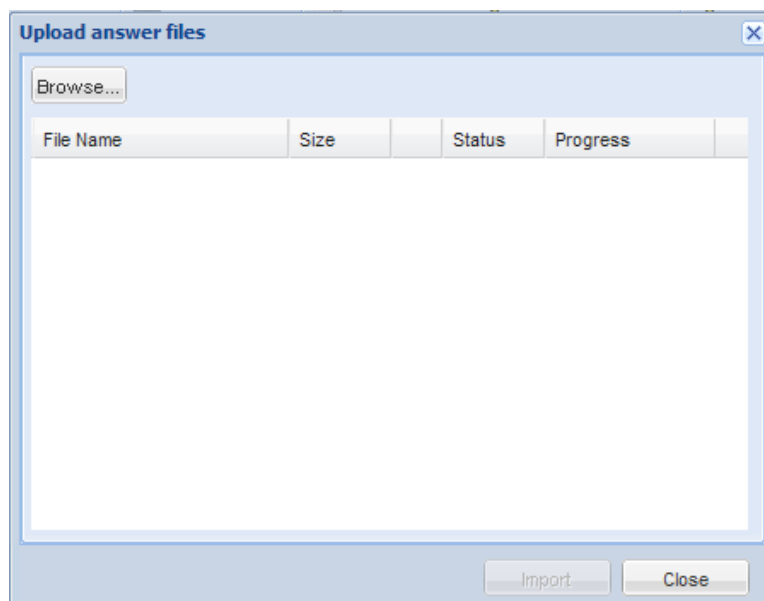
Importing Answer Files After a Network or Server Failure

In the event that there is a network or server failure which is not likely to be fixed in a reasonable time frame, ExamOnline provides the option of saving candidate answers to disk (most usefully USB) files. This section explains how these can be imported to the ExamOnline database.

From the **Results App**, select the test window which was affected by the network / server problem. Click on the **Import Answers** button as shown below.

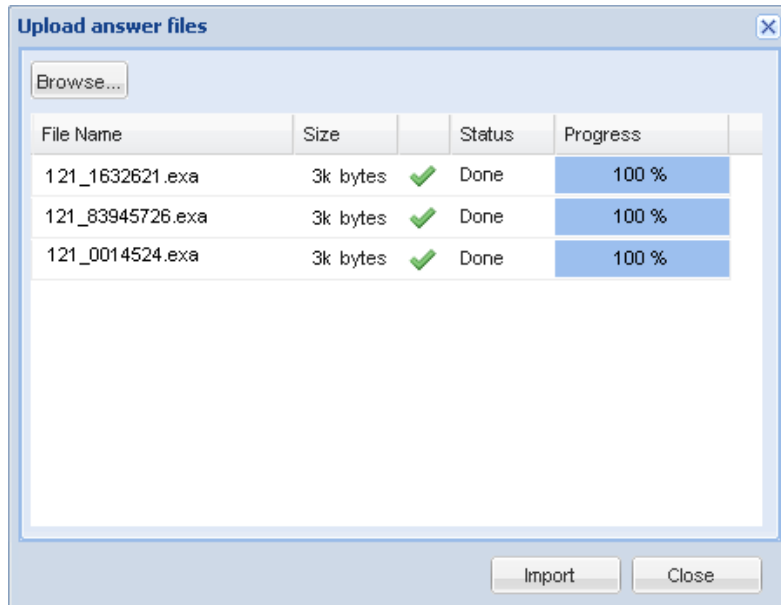


You will then be prompted to ask if you want to import answers from disk files, click **Yes** to continue. The following window will then appear.



Click on the **Browse** button and a file system dialog will open. Navigate to the files to be uploaded, and select all the files you want to upload (typically these will have been saved to a folder on a USB drive at the end of the test session), then click on the **Open** button in the dialog.

The files will then be uploaded to ExamOnline, and you will see the upload progress for each file (illustrated below for just 3 files).

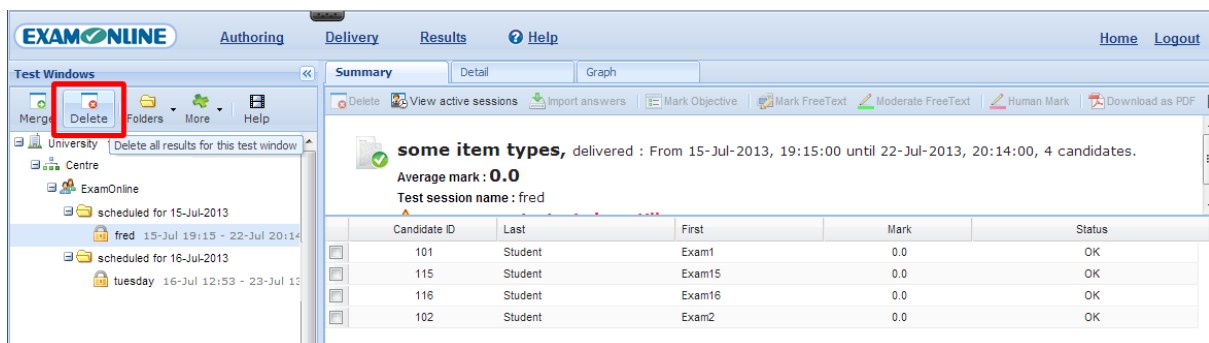


Once all the files have finished uploading (may take a little time if there are a lot of files to upload), click on the **Import** button to import the answer files into the database. Any machine marked questions (multiple choice, etc) will automatically be marked during the import. The Results App will then refresh and show the imported answers.

Deleting test results


System administrators can delete test results either for an entire test window or for individual candidates.

To **delete all candidate results for a test window**, select the test window you wish to delete, then click on the **Delete** button on the toolbar of the test windows panel, as highlighted below.



Deleting test results cannot be undone, so you will be prompted to check that you are sure you want to delete.

To **delete the results for individual candidates**, first select the candidates in the summary tab, then click on Delete, as shown below.

Summary					
Detail					
Graph					
<input type="checkbox"/> Delete <input type="checkbox"/> View active sessions <input type="checkbox"/> Import answers <input type="checkbox"/> Mark Objective <input type="checkbox"/> Mark FreeText <input type="checkbox"/> Moderate FreeText <input type="checkbox"/> Human Mark <input type="checkbox"/> Download as PDF					
 some item types , delivered : From 21-Jun-2013, 18:07:00 until 22-Jun-2013, 22:15:00, 5 candidates. Average mark : 6.6 Test session name : some item types					
	Candidate ID	Last	First	Mark	Status
<input type="checkbox"/>	101	Student	Exam1	7.0	1 questions unmarked
<input checked="" type="checkbox"/>	112	Student	Exam12	7.0	1 questions unmarked
<input checked="" type="checkbox"/>	113	Student	Exam13	7.0	1 questions unmarked
<input type="checkbox"/>	114	Student	Exam14	6.0	1 questions unmarked
<input type="checkbox"/>	115	Student	Exam15	6.0	1 questions unmarked

Deleting test results cannot be undone, so you will be prompted to check that you are sure you want to delete.

The Candidate's View

This section gives a brief overview of the ExamOnline candidate interface.

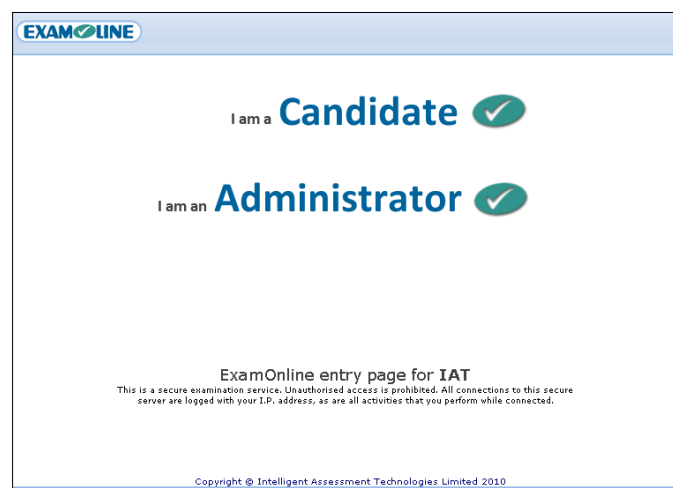
URLs for Candidates

See also the section on using the ExamOnline Browser Lock Down.

Logging in for Scheduled Tests

There are two ways to deliver a test in ExamOnline : you can **schedule a test** for future delivery, or you can run an **invigilated test** immediately (see the section on the **Delivery App**).

For scheduled tests, candidates log in via the main entry page for your organisation, as shown below.



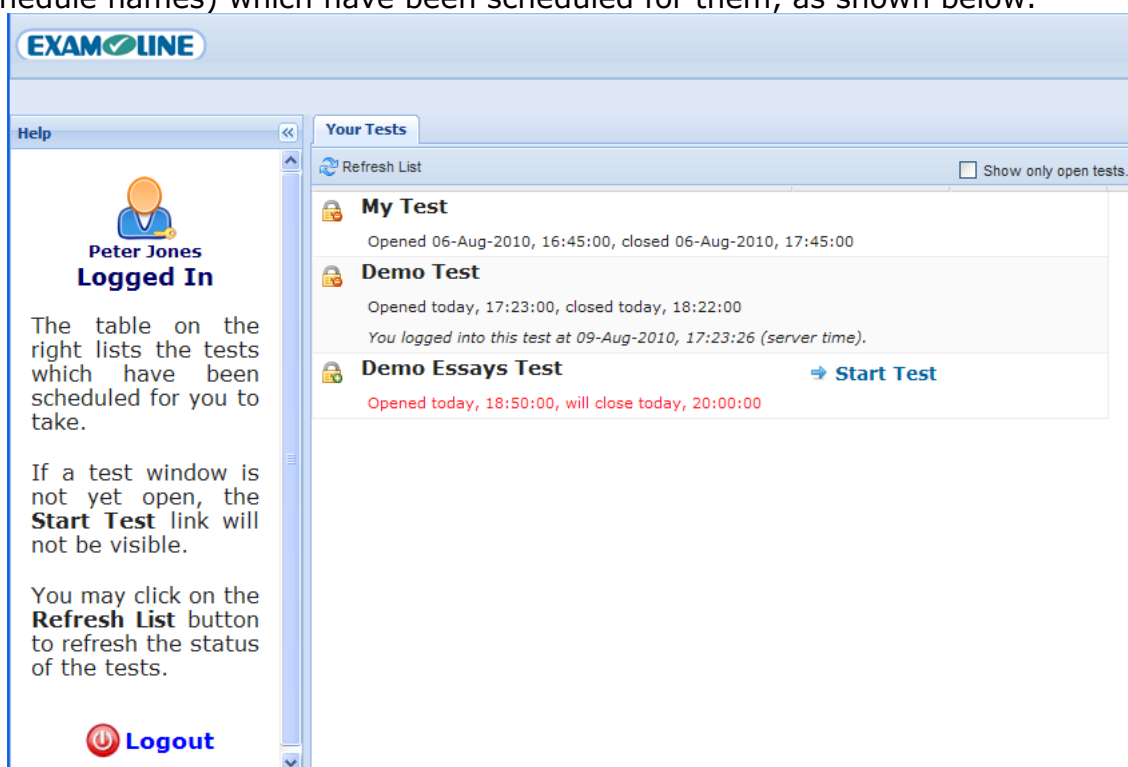
This page provides a common gateway for both administrator and candidate logins. The URL is typically of the form

http://yourserver/org/yourorganisationname

IAT will inform you of the exact URL when your account / installation is set-up.

Note that before candidates can log in, the candidate login / password details must have been uploaded to the system (see the section on **Selecting and Uploading Candidate Groups for Scheduled Tests**).

When candidates login they are presented with a list of tests (shown as the schedule names) which have been scheduled for them, as shown below.



They can start a test by clicking on the **Start Test** link. After they have completed a test, they will be returned to this page. Depending on the parameters which were set for the test when it was scheduled, they may or may not then be allowed to re-enter the test, or to view their results. See the section on **Delivering Scheduled Tests**.

Logging in for Invigilated Tests

ExamOnline also supports a unique model to support immediate delivery of a test where a supervised group of candidates are assembled in one place (i.e. the test is invigilated, or proctored). This is referred to as an **invigilated test**.

The login procedure for invigilated tests is different (See the section on **Delivering an Invigilated Test**), and candidates must use a different login URL. Again, the

exact URL will be provided by IAT when your account / installation is set-up, but typically it will be of the form

http://yourserver/studentLogin.jsp

Note that when logging in to an invigilated test :

Firstly, candidates log in to a holding page using a unique ID:

- Candidates **must enter a unique ID**. Typically this will be a matriculation ID or email address, but **it must be unique to the candidate**.

Secondly, to begin the invigilated test:

- Candidates will log in using the class login and class password created by the administrator when the test window is opened.

ExamOnline Browser Lock Down

ExamOnline tests are delivered though a standard web browser. When you want to deliver tests in ultra-secure mode (i.e. so that candidates are unable to print, copy, go to another URL, or access other applications during the test), you must use a locked down browser.

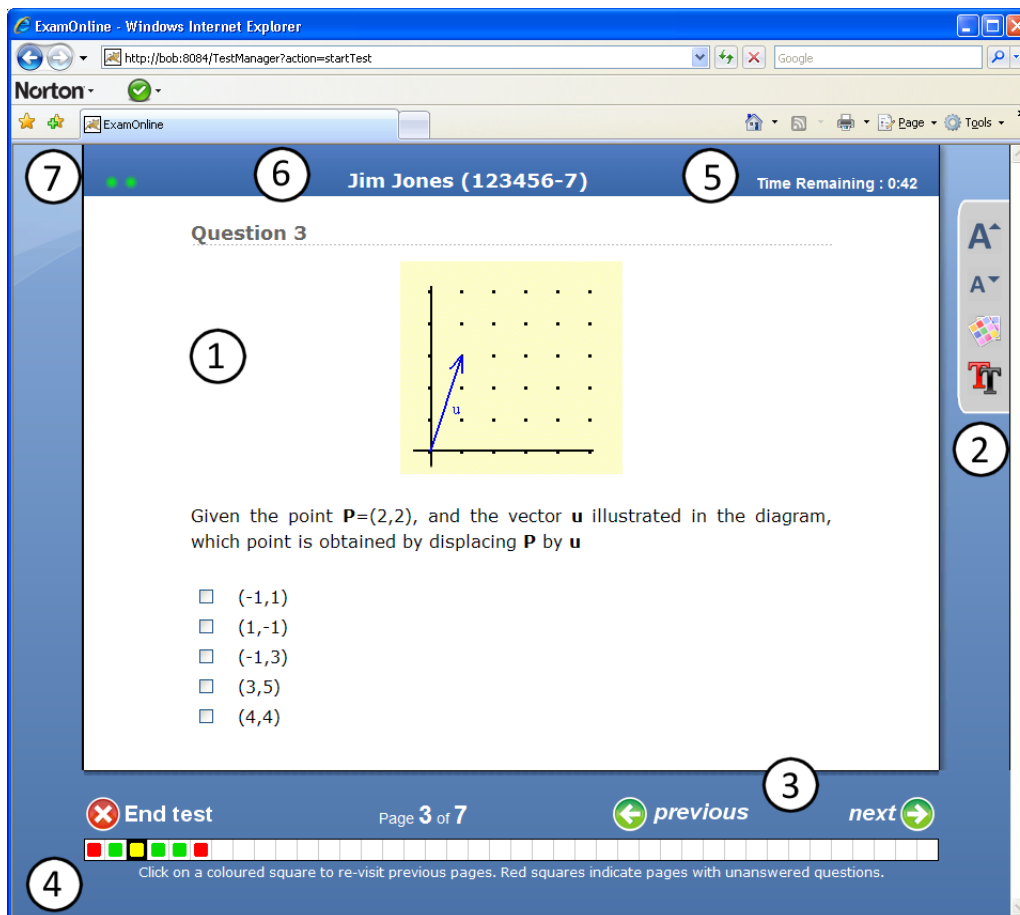
There are commercially available locked down browsers which you can use with ExamOnline. However ExamOnline comes bundled with its own browser lock down technology for Microsoft Windows. This is available at no extra cost, but must be configured specifically for your installation / account. Please contact Intelligent Assessment Technologies to ask for this feature to be set up. There is no charge for this.

The Test Interface

The ExamOnline test interface has been carefully designed and refined to make the examination process as robust as possible. Specifically:

- After login, the entire test is downloaded to the candidate computer. No further communication with the server is required except to save student responses;
- There is an automatic 'autosave' functionality built in, which saves candidate responses to the server every 20 seconds or so;
- A local copy of the candidate response is kept in memory, and if the candidate's account settings permit, also on disk. Candidate responses are also saved to the server asynchronously. If the network / server is temporarily unavailable, synchronisation is re-established with the server when the network / server becomes available again.

The test interface is shown below.

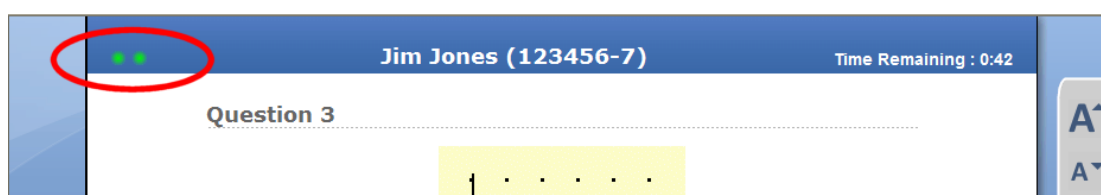


The annotated areas in the image are as follows :

1. Questions appear in the centre of the screen. The window is automatically re-sized to take advantage of the available screen area.

2. The accessibility panel. From here candidates can easily change the background colour, the text colour, and the text size.
3. **Next** and **Previous** navigation buttons.
4. The **navigation bar**, an additional navigation aid with one coloured cell representing each page of questions (where each page typically, but not always, contains one question). A red cell means that there are unanswered questions on the page, a green that all questions on that page have been answered. A yellow cell indicates the current page. Candidates can click on the cell to jump to the page.
5. The time remaining in the test.
6. The candidate name and ID. Where a candidate name is particularly long, or screen width is limited, only the ID may be shown.
7. The status "lights". This area is for the benefit of invigilators and is explained below.

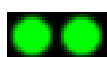
At the top left of the main test window, there are two status "lights", as indicated in the screenshot below.



From left to right, these lights are status indicators of :

- **The server 'save' status.** This light indicates the status of the last save to the server of candidate answers. Green indicates OK, red that there was a problem (yellow means no save yet attempted).
- **The local disk status.** This light indicates whether the client machine is able to save candidate answers to the local hard drive. Green means yes, red means no. Yellow means no save yet attempted.

One of the jobs of the invigilator therefore is to keep an eye on these indicator lights on candidate's PCs as they patrol the examination. Here is what to look out for :



All is OK.

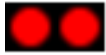


The local disk status light is red. Saving answers to the local disk is not allowed by the candidates account settings. This is not a problem in itself and the system can continue to operate happily. However for maximum robustness it is recommended that candidates account settings are

configured to allow browser to persist cookies.



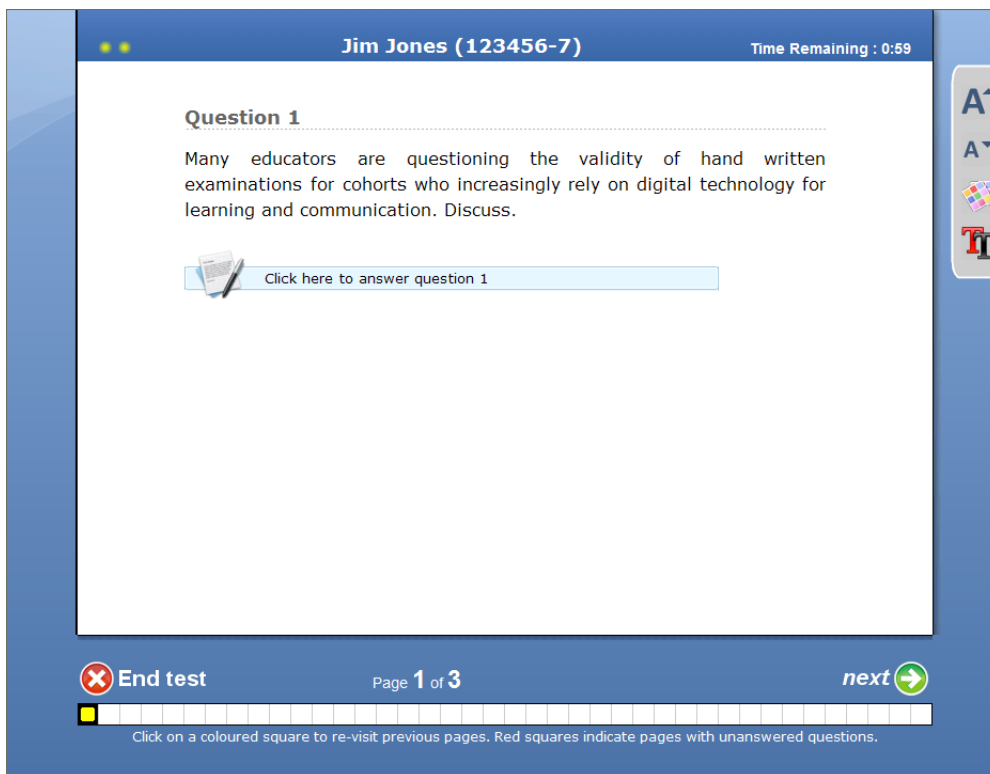
The server save status light is red. This indicates that there is a problem with the network or the server and some action needs to be taken – see the **Invigilation Guide** (separate document to the User Guide) for more details.



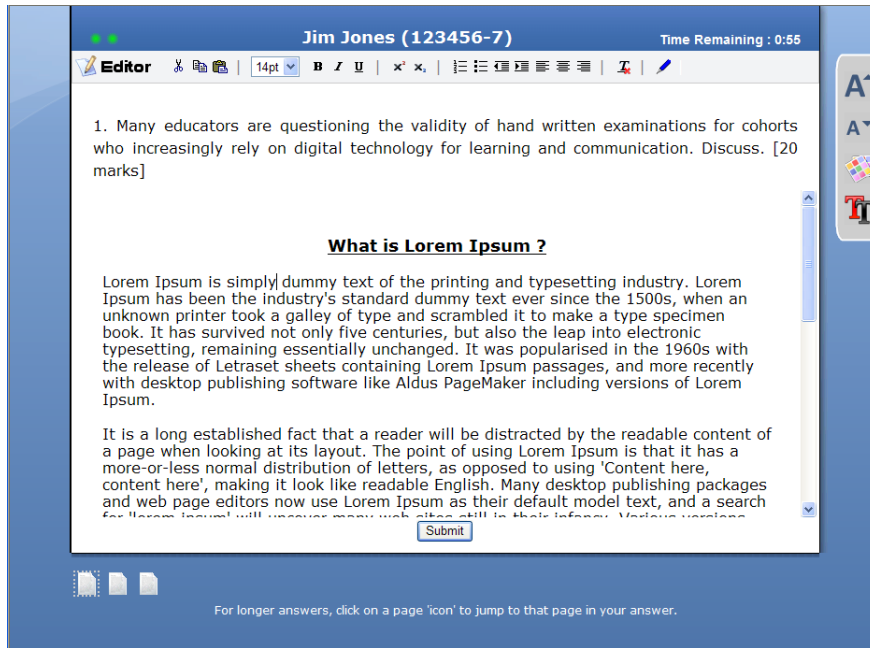
Support for Essay Questions

ExamOnline has unique support for essay type questions. Candidates enter their essay using an intuitive and familiar word processor interface, which supports formatting and cut and paste. Candidate answers are automatically saved every 20 seconds or so. The system is tolerant to network and server failures, automatically re-synchronising when the network / server are restored, without the candidate being aware of any problem.

The main examination screen for the candidates is the examination document previously authored by an administrator. Students answer each essay question by clicking on a link next to the respective question text, as shown below.



When clicking on the link, candidates are presented with a screen providing a simple and familiar word processor interface, as shown below.



This supports:

- Composing text;
- Copy/cut-and-paste;
- Font styles;
- Bulleting;
- Numbering;
- Text alignment.

When the candidate has finished answering this question (for now, since they can always return to it), they click on the **Submit** button. This will return them to the page of test questions. The link to answered essay questions shows an approximate count of the words they have entered in their answer, as indicated below.

Question 1

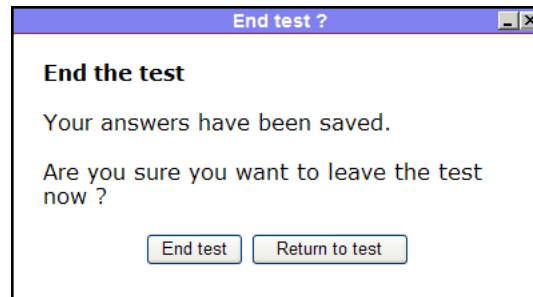
Many educators are questioning the validity of hand written examinations for cohorts who increasingly rely on digital technology for learning and communication. Discuss.

Click here to edit your answer to question 1

503 words (approx) in your current answer

Leaving a Test

To leave a test, candidates click on the **End Test** button at the bottom left of the screen. There is a confirmation dialog which lets them know that their answers have been saved and asks them to confirm their choice, as shown below.



If they choose to end the test, their test session will be closed and the test interface will close. Depending on the browser they are using, they may subsequently be asked to click another link or button to close the browser window.

System Administration

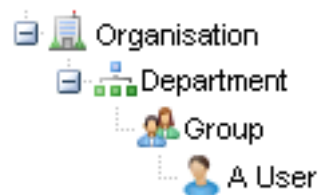
System administration can only be carried out by a user with system administrator privileges. Other admin users will not be allowed to access the system administration pages. Typically IAT will configure one of your Admin accounts to be a system administrator when your account is set up. This user will then be able to create other system administrators as required (see below)

User Accounts

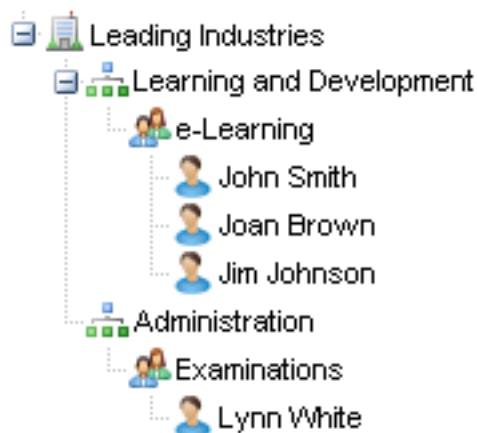
The system administration app allows you to create and manage user accounts for ExamOnline administrators (referred to as 'admin users'). Note that you do not use the system administration app to create candidate accounts – see the section on **Selecting and Uploading Candidate Groups for Scheduled Tests**.

Begin by clicking on the **System Settings** link from the Control Panel.

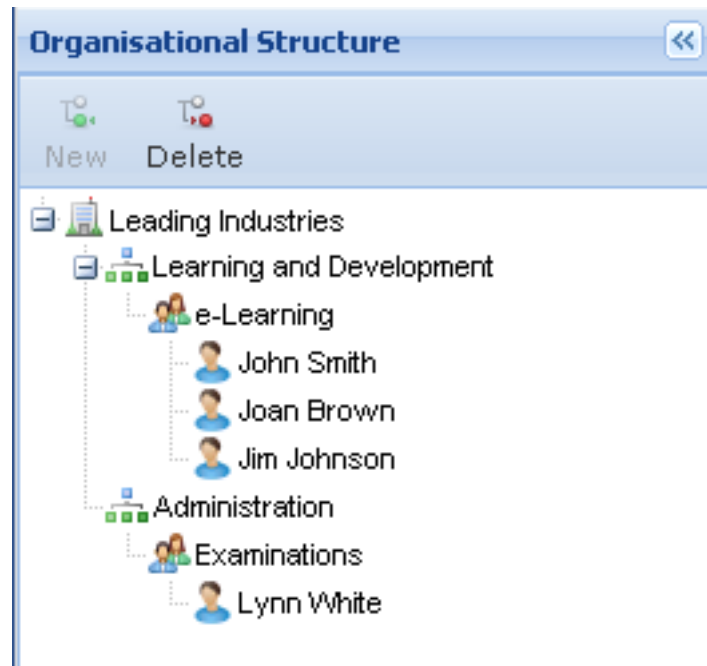
ExamOnline allows you to organise admin users according to a hierarchy which can reflect that of your own organisation. ExamOnline supports 3 levels of hierarchy : **Organisation**, **Department**, and **Group**. Each organisation can contain multiple departments, each department can contain multiple groups, and each group can contain multiple users. This hierarchy is illustrated below.



A more realistic example (for an organisation called 'Leading Industries') is shown below. There are 2 departments ('Learning and Development' and 'Administration'). Learning and Development has one group (e-Learning) with 3 users. Administration has one group (Examinations) with one user.



The system administration app allows you to add or delete departments, groups, and users using the **New** and **Delete** buttons on the toolbar, shown below.



Adding a department : To add a new department, click on the organisation name ('Leading Industries' in the example above) and click on the **New** button. In the right hand panel, enter a suitable name for the department, and click on the **Save changes** button in the right hand panel.

Adding a group : To add a new group, click on the relevant department name (e.g. 'Administration' in the example above) and click on the **New** button. In the right hand panel, enter a suitable name for the group, and click on the **Save changes** button in the right hand panel.

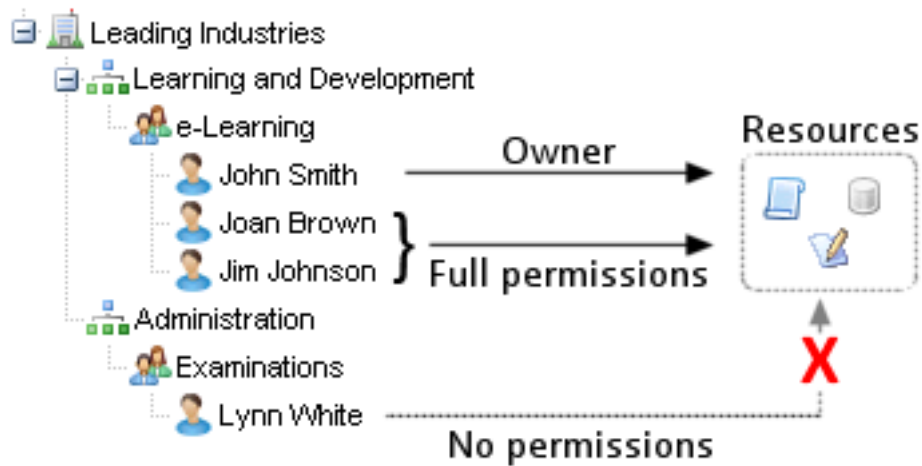
Adding an admin user : To add a new admin user, click on the relevant group name (e.g. 'Examinations' in the example above) and click on the **New** button. In the right hand panel, enter the details for the new user, and click on the **Save changes** button in the right hand panel. Note that you must set a password for the user which obeys the following rules :

- Is at least 8 characters long
- Contains at least one digit (0 – 9)
- Contains at least one upper case letter
- Contains at least one lower case letter

Users created as a **system administrator** will be able to access the system administration pages, and create other system administrators.

Access Control

When a user creates a new question, question bank or test document, they are said to be the **owner** of that resource. Accordingly, they can read, write (i.e. edit), and delete it. ExamOnline also sets and enforces default permissions on other users' access to the resources. This is summarised in the diagram below.



Basically, other admin users in the same group have full permissions on the resource (i.e. they too can read, write, and delete it). Admin users in the same department but different groups have no permissions on the resource (i.e. they cannot 'see' the resource at all). Similarly, admin users in other departments have no permissions on the resource.

Downloading item statistics or candidate answers

ExamOnline allows you download items statistics and/or candidate answers in an Excel spreadsheet. The following table indicates what may be downloaded for each question type.

Question type	Download type
Multiple choice	Item statistics
Multiple selection	
Select Best/Worst	
Matching	
Ranking	
Short answer	Candidate answers
Gap fill	
Numeric	
Multiple Gap-fill	
Essay / Extended answer	

Both item statistics and candidate answers are downloaded as Excel spreadsheets.



Tip :When downloading candidate answers to essay questions, you may find them easier to read if you copy them from the downloaded Excel file into a Word document.

The following sections explain how to download items statistics and/or candidate answers for:

- An individual question
- A test document
- A test window

Downloading statistics and/or candidate answers for an individual question

In the **Authoring App**, click on the **Question Banks** tab, then click on the question you want to download the statistics or answers for, then on the **Tools** menu, click on **Download item statistics** as shown below.

Type	Marks	Modified	Marking
Multiple Choice	1	12-03-2010	Computer
Multiple Choice	1	22-04-2010	Computer
Multiple Choice	1	01-07-2010	Computer
Multiple Selection	1	21-07-2010	Computer

For multiple choice or other questions where the candidate selects an answer, the download shows the number of times each response has been selected by candidates and the corresponding figure as a percentage, as shown below.

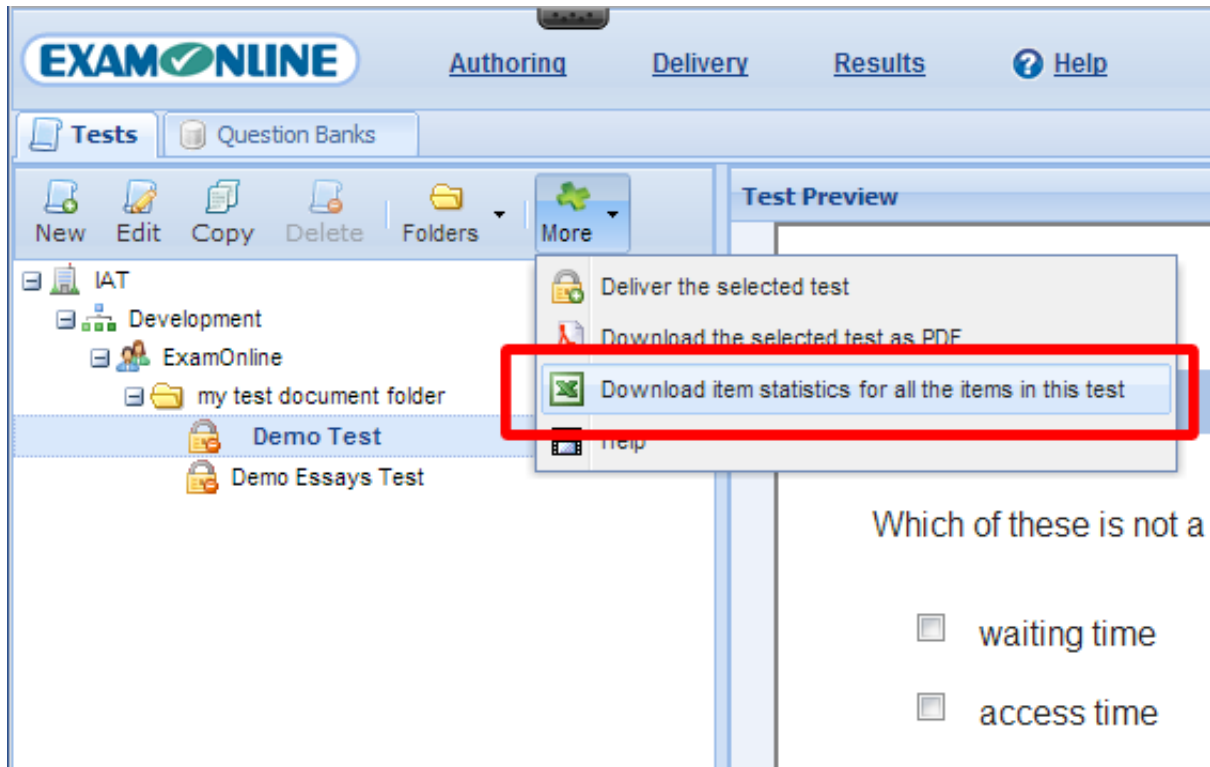
Question ID:	Another sample MCQ		
Question:	Given the point $P=(2,2)$, and the vector u illustrated in the diagram, which point is obtained by displacing P by u		
Answers	Count	Percentage	
(-1,1)	2	10.5%	
(1,-1)	2	10.5%	
(-1,3)	1	5.3%	
(3,5)	14	73.7%	
(4,4)	0	.%	

For questions where the candidate generates an answer, the download shows the raw answers provided by candidates, as shown below.

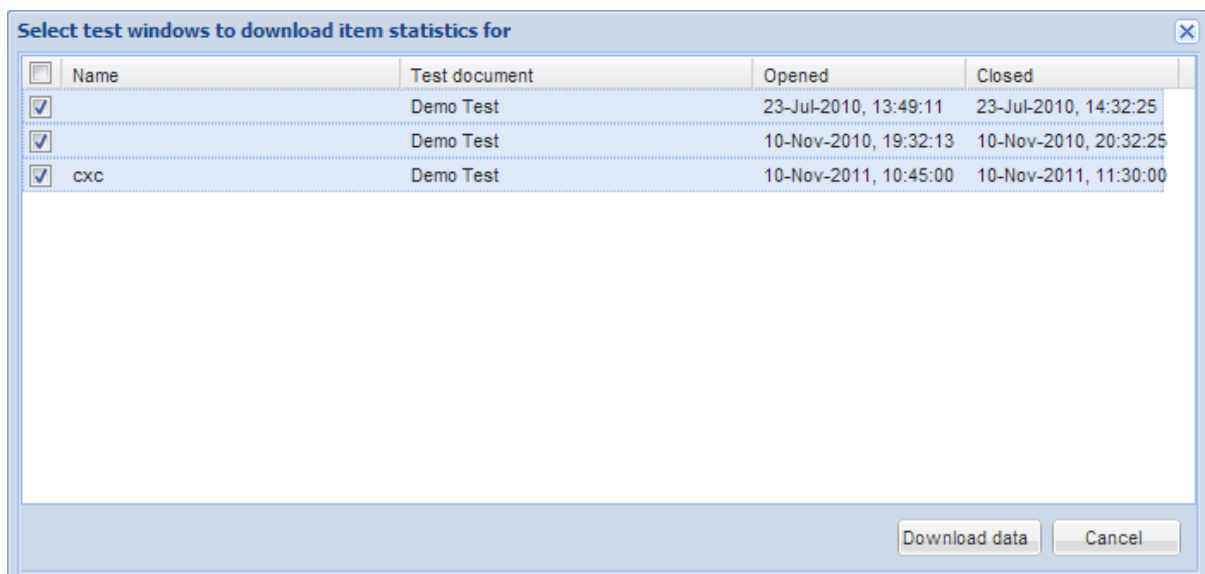
Question ID:	Maths gap-Fill		
Question:	For a function of several variables, what is the name given to the calculation of its derivative with respect to one of those v		
Answers			
differentiation			
differentiation			
differentiation			
partial differentiation			
differentiation			
partial differentiation			
partial differentiation			
partial differentiation			
partial differentiation			
partial differentiation			
differentiation			
partial differentiation			
partial derivative			
partial derivative			
partial differentiation			

Downloading statistics and/or candidate answers for a test document

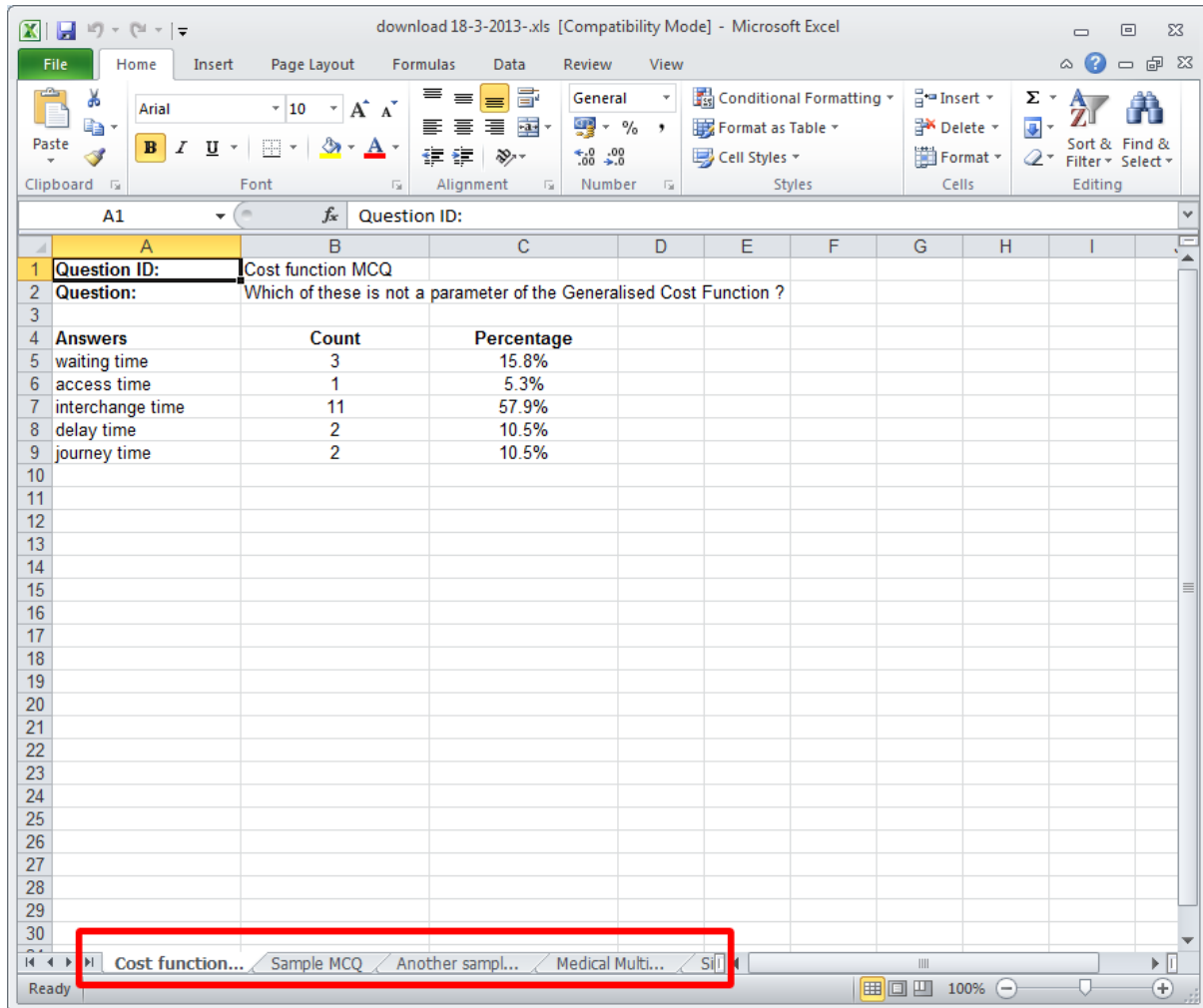
In the **Authoring App**, click on the **Tests** tab, then click on the test you want to download the statistics or answers for, then on the **More** menu, click on **Download item statistics for all the items in this test** as shown below.



You will then be prompted to choose the test windows you want to download data for (see below). All will be selected by default, but you can use the checkboxes to specify the test windows which are of interest.

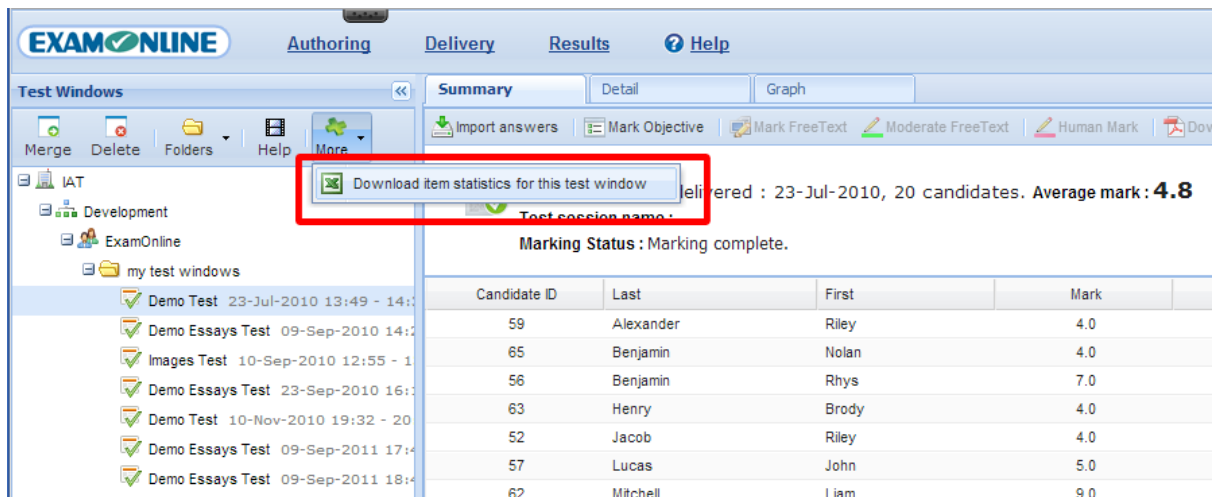


When you download statistics or answers for an entire test, the data/answers for each question in the test are shown on a separate worksheet, as shown below.



Downloading statistics and/or candidate answers for a test window

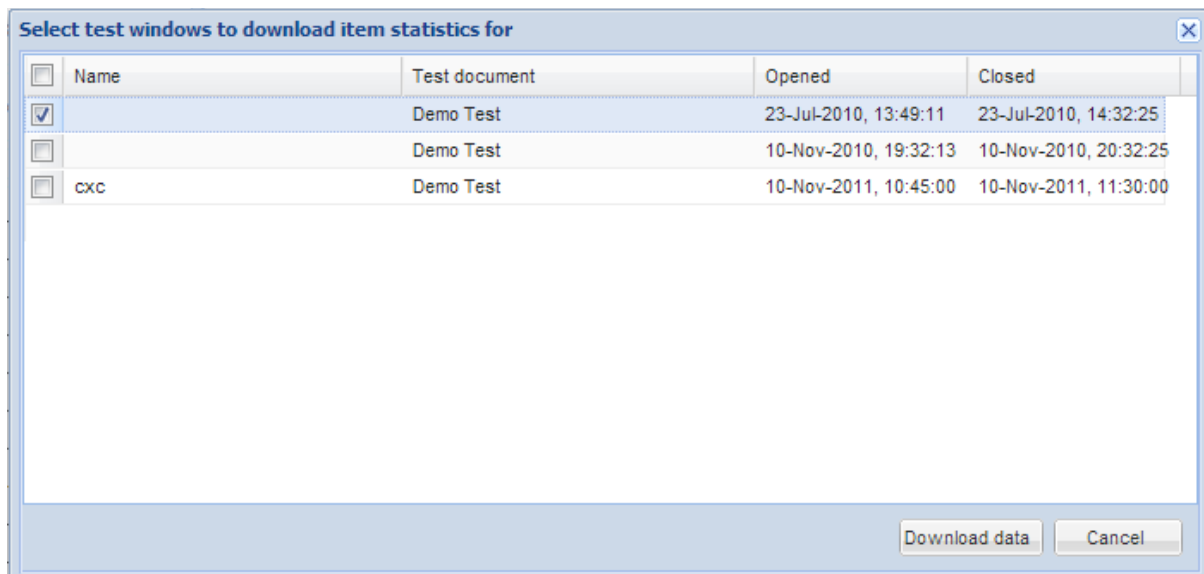
In the **Results App**, click on the test window you want to download the statistics or answers for, then on the **More** menu, click on **Download item statistics for this test window** as shown below.



The screenshot shows the EXAMONLINE Results App interface. The 'More' menu is open, and the option 'Download item statistics for this test window' is highlighted with a red box. The main window displays a summary for a test window delivered on 23-Jul-2010 to 20 candidates with an average mark of 4.8. The marking status is 'Marking complete'. Below this, a table lists candidate details and their marks.

Candidate ID	Last	First	Mark
59	Alexander	Riley	4.0
65	Benjamin	Nolan	4.0
56	Benjamin	Rhys	7.0
63	Henry	Brody	4.0
52	Jacob	Riley	4.0
57	Lucas	John	5.0
62	Mitchell	Liam	9.0

You will then be prompted to choose the test windows you want to download data for (see below). By default, only the currently selected window is selected in the pop-up window, but you have the option to use the checkboxes to specify other test windows which used the same test document.



The dialog box 'Select test windows to download item statistics for' is shown. It contains a table with columns for Name, Test document, Opened, and Closed. The first row is selected, and the 'Download data' button is visible at the bottom right.

<input type="checkbox"/>	Name	Test document	Opened	Closed
<input checked="" type="checkbox"/>		Demo Test	23-Jul-2010, 13:49:11	23-Jul-2010, 14:32:25
<input type="checkbox"/>		Demo Test	10-Nov-2010, 19:32:13	10-Nov-2010, 20:32:25
<input type="checkbox"/>	CXC	Demo Test	10-Nov-2011, 10:45:00	10-Nov-2011, 11:30:00

When you download statistics or answers for a test window, the data/answers for each question in the test are shown on a separate worksheet, as shown below.

download 18-3-2013- (2).xls [Compatibility Mode] - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View

Clipboard Font Alignment Number Styles Cells Editing

Question ID: Cost function MCQ

Question: Which of these is not a parameter of the Generalised Cost Function ?

Answers	Count	Percentage
waiting time	1	6.3%
access time	1	6.3%
interchange time	10	62.5%
delay time	2	12.5%
journey time	2	12.5%

Cost function... Sample MCQ Another sampl... Medical Multi... Sil

Available Demos

The list of available Flash demos is shown below.

General
Introduction to ExamOnline
The Authoring App
The Delivery App
The Results App
The Candidate Test Interface
Support for Essay Questions
Support for Hand-Drawn Sketches
'Show Me' Demos
Authoring App
How to create a question bank
How to create a multiple choice question
How to create a multiple selection question
How to create a numeric question
How to create a gap-fill question
How to create an essay question
How to create a test document
Delivery App
Scheduling a Test for Delivery
Running an invigilated test immediately
Uploading candidate groups to ExamOnline
Results App
Human Marking Essay Answers

All of these demos are available from the ExamOnline help system, and many are available directly from the "video help" buttons which can be found appropriately located with the apps.